EuGMS European Union Geriatric Medicine Society
Fostering geriatric medicine across Europe

AKADEMİK GERİATRİ DERNEĞİ

INTERNATIONAL ASSOCIATION OF GERONTOLOGY AND GERIATRICS
Founded 1950

IOF International Osteoporosis Foundation

5. Uluslararası ve
16. Akademik Geriatri Kongresi

27 Eylül-1 Ekim 2023

Bilkent Kongre Merkezi
Ankara

100

TÜRKİYE CUMHURİYETİ'NİN YÜZÜNCÜ YILI

Bildiri Kitabı

AKADEMİK GERİATRİ DERNEĞİ

Bilimsel Sekreterya

Dr. Volkan Atmış
volkanatmis@hotmail.com

Dr. Güzin Çakmak
drguzincakmak@gmail.com

Dr. Ahmet Çiğiloğlu
cigiloglu@yahoo.com

Dr. Aslı Tufan Çinçin
aslitufan@yahoo.com

Web: https://www.akademikgeriatri.org/

SERENAS

Organizasyon Sekreteryası

Serenas Uluslararası Turizm Kongre Organizasyon A.Ş.
Adres: Hilal Mah. Cezayir Cad. No:13, 06550 Yıldız, Çankaya – Ankara / Türkiye
Tel: +90 312 440 50 11
E-posta: info@akademikgeriatri2023.org
Web: www.serenas.com.tr

Değerli meslektaşlarımız ve Geriatri ile ilgili tüm sağlık çalışanı arkadaşlarımız,

Akademik Geriatri Derneği tarafından düzenlenen 5.Uluslararası ve 16.Akademik Geriatri Kongresi 27 Eylül – 01 Ekim 2023 tarihlerinde Bilkent Kongre Merkezi, Ankara'da gerçekleştirilecektir.

Ülkemizde yaşlı nüfus 2021 verilerine göre 8 milyonun üzerine çıkmış ve toplam nüfusa oranı %9.7'ye yükselmiştir. Yaşlı nüfustaki bu hızlı artış, sağlık sisteminin her basamağındaki hekimlerin ve tüm sağlık çalışanlarının daha sık yaşlı hastalar ile karşılaşacağı anlamına gelmektedir.

Kongremizde Geriatri alanında sık karşılaşılan sorunlara yaklaşım multidisipliner bir bakış açısıyla güncellenecek ve son bir yıl içinde Geriatri alanında yapılan akademik çalışmalar paylaşılacaktır.

Demans, kırılganlık, malnütrisyon, sarkopeni, düşme, polifarmasi, depresyon, osteoporoz gibi geriatrik sendromlar ve diyabet, hipertansiyon, hiperlipidemi, osteoartrit gibi yaşlıda sık görülen hastalıklarda kronik hastalıkların yanı sıra, mediko-legal yaklaşımlar ve geroteknoloji kongremizde aydınlatılmaya çalışılan diğer konular arasında olacaktır.

İnterdisipliner ekip anlayışı içinde multidisipliner bir yaklaşımı amaçlayan Geriatri biliminin amacına uygun olarak farklı disiplinlerden konuşmacılar ve konularla, yaşlı sağlığına kapsamlı bir bakış ve güncelleme sunulacaktır. Uluslararası nitelikte olacak kongremizin yapılacak sunumlar ile daha üst bir bilimsel boyuta taşınacağı ve ayrıca sunum yapan katılımcıların akademik çalışmalarına da fayda sağlayacağını düşünmekteyiz.

Yaşlı sağlığı ile ilgilenen başta geriatristler olmak üzere, iç hastalıkları uzmanları, aile hekimleri ve uzmanları, nöroloji uzmanları, psikiyatri uzmanları, fizik tedavi uzmanları, hemşireler, fizyoterapistler, ergoterapistler, diyetisyenler ve sosyal hizmet uzmanları ile huzurevi ve bakımevi, palyatif bakım merkezi çalışanları ve yöneticilerinin kongremize katılımlarından mutluluk duyacağız.

Düzenleme kurulu olarak siz değerli katılımcılarımıza kaliteli bir bilimsel program sunmak, akademik çalışmalarınıza destek olmak arzusundayız. Sizleri aramızda görmekten mutluluk duyacağız.

Saygılarımla,

Prof. Dr. Zeynel Abidin ÖZTÜRK

KONGRE BAŞKANI

Prof. Dr. Zeynel Abidin Öztürk

BİLİMSEL SEKRETERYA

Dr. Volkan Atmış

Dr. Güzin Çakmak

Dr. Ahmet Çiğiloğlu

Dr. Aslı Tufan Çinçin

DÜZENLEME KURULU

Dr. Sibel Akın

Dr. Sevgi Aras

Dr. Teslime Atlı

Dr. Volkan Atmış

Dr. Güzin Çakmak

Dr. Ahmet Çiğiloğlu

Dr. Aslı Tufan Çinçin

Dr. Ülev Deniz Suna Erdinçler

Dr. Meltem Gülhan Halil

Dr. Mehmet Akif Karan

Dr. Gülistan Bahat Öztürk

Dr. Zeynel Abidin Öztürk

Dr. Hacer Doğan Varan

27 Eylül 2023, Çarşamba			
10:00-12:30	**ANITKABİR ZİYARETİ**		
Salon A		**Salon B**	
13:00-13:30	**Yara Bakım Kursu Kayıt**	**13:30-14:00**	**Sarkopeni-İntraartiküler Girişimlerde USG Kursu Kayıt**
13:30-17:30	**YARA BAKIM KURSU** **Yara Bakımı ve Doku Onarımı Derneğinin Değerli Katkılarıyla** ***Kurs Koordinatörleri:*** *Teslime Atlı, Gözde Şengül Ayçiçek*	**14:00-17:30**	**SARKOPENİ-İNTRAARTİKÜLER GİRİŞİMLERDE USG** ***Kurs Koordinatörleri:*** *Meltem Gülhan Halil, Özgür Kara*
13:30-13:50	**Kronik Yara Kavramı ve Değerlendirilmesi** *Gözde Şengül Ayçiçek*	**14:00-14:30**	**İntraartiküler, Periatriküler ve Kas Enjeksiyonlarına Giriş** *Bayram Kaymak*
13:50-14:10	**Yara Temizliği** *Hatice AYHAN*	**14:30-15:30**	**İntraartiküler, Periatriküler ve Kas Enjeksiyonları Pratik Ders** *Bayram Kaymak, Özgür Kara*
14:10-14:30	**Yarada Debridman Uygulamaları** *Toygar Sarı*	**15:30-15:45**	**ARA**
14:30-14:50	**Yara Örtüleri ve Ürün Seçimi** *Gökay Terzioğlu*	**15:45-16:30**	**Sarkopenide Ultrasonografi, Elastografi ve Bilimsel Araştırmalarda Yeri** *Murat Kara*
14:50-15:00	**Tartışma**	**16:30-17:30**	**Sarkopenide Ultrasonografi ve Elastografi Pratik Ders** *Murat Kara, Özgür Kara*
15:00-15:30	**ARA**		

27 Eylül 2023, Çarşamba		
Salon A		**Salon B**
15:30-15:50	**Negatif Basınçlı Yara Tedavisi Uygulamaları** *H. Erhan Güven*	
15:50-16:10	**Basınç Yaraları Oluşum ve Önleme** *Kurtuluş Köklü*	
16:10-16:30	**Yara ve Diyabet** *Şule Canlar*	
16:30-16:50	**Yara ve Palyatif Bakım** *Olgun Deniz*	
16:50-17:00	**Tartışma**	
17:00-17:30	**Öneriler ve Kapanış**	
17:30-18:00	**ARA**	
18:00-18:30	**Açılış Konuşmaları** *Sunucu: Güzin Çakmak* *Konuşmacılar: Teslime Atlı (Akademik Geriatri Derneği Başkanı), Zeynel Abidin Öztürk (5. Uluslararası ve 16. Akademik Geriatri Kongresi Başkanı)*	

28 Eylül 2023, Perşembe			
Salon A		**Salon B**	
08:00-09:00	**Sözlü Bildiri Oturumu 1** ***Oturum Başkanları:*** *Sibel Çavdar, Tuğçe Emiroğlu Gedik* **0P-10, 0P-11, 0P-12, 0P-13, 0P-14, 0P-16, 0P-17**	**Sözlü Bildiri Oturumu 2** ***Oturum Başkanları:*** *Ayşe Dikmeer Büşra Yürümez* **OP-25, OP-27, OP-29, OP-30, OP-31, OP-32**	
09:00-10:30	**PANEL: Demans** ***Oturum Başkanları:*** *Deniz Suna Erdinçler, Mehmet Akif Karan*	**09:00-10:30**	**PANEL: Osteoporoz** ***Oturum Başkanları:*** *Gülistan Bahat Öztürk, Volkan Atmış*
09:00-09:30	**Alzheimer Hastalığında Güncel Tarama ve Tanı Yöntemleri** *Pınar Soysal*	**09:00-09:45**	**Osteoporoz: Epidemiyoloji, Etiyoloji ve Tanısal Yöntemler** *Tuğba Erdoğan*
09:30-10:00	**Alzheimer Hastalığı Medikal Tedavisinde Neredeyiz? Önümüzdeki Süreçte Neler Yapabileceğiz?** *Ayşe Bingöl*	**09:45-10:30**	**Osteoporoz Tedavisinde Güncel Yaklaşımlar** *Dilek Gogas*
10:00-10:30	**Alzheimer Dışı Demanslarda Yenilikler** *Esen Saka Topçuoğlu*		
10:30-10:45	**ARA**		
10:45-12:00	**PANEL: Diyabetes Mellitus, Hipertansiyon** ***Oturum Başkanı:*** *İlker Taşçı*	**10:45-12:00**	**PANEL: Malnutrisyon** ***Oturum Başkanları:*** *Zekeriya Ülger, Emine Sumru Savaş*
10:45-11:10	**Yeni Ajanlar (SGLT) Işığında Yaşlıda Diyabet Yönetimi** *Sevim Güllü*	**10:45-11:10**	**Demans Hastalarında Nutrisyon Desteğinin İncelikleri** *Remzi Bahşi*
11:10-11:35	**Yaşlı Bireylerde Hipertansiyon Yönetimi** *Gülistan Bahat Öztürk*	**11:10-11:35**	**Bası Yarası Olan Hastada Beslenmenin Önemi ve Öneriler** *Hasan Öztin*
11:35-12:00	***Dislipidemi ve Ateroklerotik Kardiyovasküler Hastalıkların Önlenmesi: Güncel Yaklaşımlar*** *Banu Evranos*	**11:35-12:00**	**Sarkopenik Disfaji** *Cemile Özsürekçi*

28 Eylül 2023, Perşembe			
	Salon A		**Salon B**
12:00-13:00	 **UYDU SEMPOZYUMU** **Oturum Başkanı:** *Teslime Atlı* **Geriatrik Hasta Grubunda Beslenme İhtiyaçları ve Kas Kaybı** *Zeynel Abidin Öztürk* **Geriatrik Hasta Gruplarında Beslenme Durumunun Değerlendirilmesi ve Tedavisi** *Meltem Gülhan Halil*		
13:00-14:00	**ÖĞLE YEMEĞİ**		
14:00-14:45	**PANEL: Geriatristin Sık Karşılaştığı Durumlar** ***Oturum Başkanları:*** *Alper Döventaş, Ayşe Karan*	**14:00-14:45**	**PANEL: Sağlıklı Yaşlanma** ***Oturum Başkanları:*** *Bülent Saka, Özgür Kara*
14:00-14:20	**Geriatrik Hastanın Kabusu: Düşme** *Birkan İlhan*	**14:00-14:20**	**Glutatyon, Koenzim Q10, Curcumin Yararlı Mı?** *Yelda Öztürk*
14:20-14:40	**Akut Faz Reaktanı Yüksekliği ile Gelen Yaşlı Hastaya Yaklaşım** *Ali Mert*	**14:20-14:40**	**Geriatrik aşılama: Neredeyiz? Neler Yapmalıyız?** *Filiz Akçay Demirdağ*
14:45-15:00	**ARA**		
15.00-16.00	 **UYDU SEMPOZYUMU** **Geriatride Malnütrisyon: Güçlendirilmiş Yaklaşım** **Oturum Başkanı:** *Dr. Zeynel Abidin Öztürk* **Konuşmacı:** *Dr. Zekeriya Ülger*		
16:00-16:15	**ARA**		

28 Eylül 2023, Perşembe		
SALON A		
16:15-17:15	**PANEL: Geriatride Güncellemeler** ***Oturum Başkanları:*** *Aslı Çurgunlu, Aslı Kılavuz*	
16:15-17:15	**Son 1 Yıl İçerisinde Geriatride Değişiklikler, Güncellemeler** *Ahmet Yalçın, Cafer Balcı*	
17:15-18:15	**PANEL: Geriatride Beklentiler ve Çözüm Önerileri** ***Oturum Başkanları:*** *Güzin Çakmak, Mustafa Cankurtaran*	
17:15-17:35	**SUT ve Geriatri: Çözüm Önerileri** *Özlem Yılmaz*	
17:35-17:55	**Yaşam Merkezleri ve Geriatri: Beklentiler ve Çözüm Önerileri** *Serdar Ceylan*	
17:55-18:15	**Genç Geriatristler: Beklentiler ve Çözüm Önerileri** *Ayşe Dikmeer*	

28 Eylül 2023, Perşembe		
	Salon C	**Salon D**
08:00-09:00	**Sözlü Bildiri Oturumu 3** ***Oturum Başkanları:*** *Bilal Katipoğlu, Fatma Özge Kayhan Koçak* **OP-01, OP-02, OP-03, OP-04, OP-05, OP-06, OP-07, OP-08, OP-09**	**Sözlü Bildiri Oturumu 4** ***Oturum Başkanları:*** *Büşra Can, Süheyla Çöteli* **OP-18, OP-19, OP-21, OP-22, OP-23, OP-24**

29 Eylül 2023, Cuma		
	Salon A	**Salon B**
08:00-09:00	**Sözlü Bildiri Oturumu 5** ***Oturum Başkanları:*** *Mert Eşme, Sinan Arı* **OP-41, OP-42, OP-43, OP-44, OP-45, OP-46, OP-47, OP-48, OP-49, OP-59**	***Sözlü Bildiri Oturumu 6*** ***Oturum Başkanları:*** *Emine Gemci, Pelin Ünsal* **OP-60, OP-62, OP-63, OP-64, OP-65, OP-66, OP-99**
09:00-10:30	**PANEL: Yaşlı Bireylerde Hareket Bozukluklarına Yaklaşım** ***Oturum Başkanları:*** *Teslime Atlı, Aslı Tufan Çinçin*	**PANEL: Depresyon/Şizoaffektif Bozukluklar/ Uyku Bozuklukları** ***Oturum Başkanları:*** *Berrin Karadağ, Sevgi Aras*
09:00-09:30	**Hareket Bozukluklarında Hikaye ve Fizik Muayene** *Ayşe Bora Tokçaer*	**Yaşlı Bireylerde Depresyon ve Güncel Yaklaşımlar** *Tuğba Erguvan Kızıl*
09:30-10:00	**Tremora Yaklaşım** *Rıza Sonkaya*	**Yaşlı Bireylerde Elektrokonvulsif Tedavinin Yeri** *Özlem Aki*
10:00-10:30	**Parkinson Hastalığı Tedavisinde Güncel Yaklaşımlar** *Cenk Akbostancı*	**Yaşlı Bireylerde Uyku Bozuklukları ve Güncel Yaklaşımlar** *Hacer Doğan Varan*
10:30-10:45	**ARA**	
10:45-11:30	**PANEL: Palyatif Bakım** ***Oturum Başkanları:*** *Meltem Uyar, Zeynel Abidin Öztürk*	**PANEL: Evde Bakım ve Bakımevleri** ***Oturum Başkanları:*** *Murat Varlı, İbrahim Halil Türkbeyler*
10:45-11:00	**Geriatrik Palyatif Bakım: Demans Hastasında Zorluklar ve Stratejiler** *Pınar Tosun Taşar*	**Türkiye ve Dünya'da Evde Bakım Modelleri** *Emine Gemci*
11:00-11:15	**Palyatif Bakımda Dün, Bugün ve Yarın** *Mehmet Yürüyen*	**Türkiye'de Özel Bakımevleri, Sorunlar ve Öneriler** *Vildan Kandemir*
11:15-11:30	**Palyatif Bakımda Akılcı İlaç Kullanımı** *Hilal Özkaya*	**Alzheimer Hasta ve Yakınları İçin Yeni Bir Umut: Moral Evi** *Sencer Ganidağlı*
11:30-12:30	**UYDU SEMPOZYUMU** **İnkontinansın Yaşlının Yaşam Kalitesi ve Sağlığı Üzerine Etkileri** *Aslı Tufan Çinçin*	
12:30-13:30	**ÖĞLE YEMEĞİ**	

29 Eylül 2023, Cuma		
Salon A		**Salon B**
13:45-14:45	**Zor Vakalar, Zor Kararlar** ***Oturum Başkanları:*** *Burcu Balam Doğu, Cemal Kızılarslanoğlu* *Ayşe Daylan* *Büşra Yürümez* *Pelin Ünsal*	
14:45-15:00	**ARA**	
15:00-15:30	**Deneysel Sarkopeni Modelleri** *Nuray Yazıhan*	
15:30-16:00	AMGEN **UYDU SEMPOZYUMU** **İlk ve Tek İkili Etki Gösteren Kemik Yapım Ajanı** **EVENİTY Şimdi Türkiye'de!** *Meltem Gülhan Halil*	
16:00-16:15	**ARA**	
16:15-17:15	**COVID-19 Sonrası Yaşlılık** ***Oturum Başkanları:*** *Sevnaz Şahin, Fatih Tufan*	**Yaşlanan Erkekte Androjen Eksikliği** ***Oturum Başkanları:*** *Burçak Polat, Cafer Balcı*
16:15-16:45	**COVID-19 Pandemisinin Yaşlı Bireyler Üzerinde Etkileri** *Mustafa Kemal Kılıç*	**Yaşlanan Erkekte Androjen Eksikliği** *Berna İmge Aydoğan*
16:45-17:15	**Yaşlılarda Long COVID** *Ekin Oktay Oğuz*	**Yaşlanan Erkekte Androjen Replasman Tedavisi** *Arif İbiş*
18:30	**Geriatri Board Sınavı !**	

Salon C		Salon D
08:00-09:00	**Sözlü Bildiri Oturumu 7** ***Oturum Başkanları:*** *Meltem Koca, Duygu Erbaş Saçar* **OP-33, OP-34, OP-35, OP-36, OP-37, OP-38, OP-39, OP-40, OP-80**	**Sözlü Bildiri Oturumu 8** ***Oturum Başkanları:*** *Serdar Ceylan, Emin Taşkıran* **OP-61, OP-51, OP-52, OP-53, OP-54, OP-55, OP-56, OP-57, OP-58, OP-74, OP-73**

30 Eylül 2023, Cumartesi			
Salon A		**Salon B**	
08:00-09:00	**Sözlü Bildiri Oturumu 9** ***Oturum Başkanları:*** *Cemile Özsürekçi, Ekin Oktay Oğuz* **OP-75, OP-76, OP-77, OP-78, OP-79, OP-81, OP-82**	**Sözlü Bildiri Oturumu 10** **Oturum Başkanları:** *Olgun Deniz, Tuğba Turgut* **OP-91, OP-92, OP-93, OP-94, OP-96, OP-97, OP-98**	
09:00-10:30	**PANEL: Sarkopeni** ***Oturum Başkanları:*** *Mustafa Cankurtaran, Selim Nalbant*	**09:00-10:30**	**PANEL: Yaşlıda Sık Görülen Problemler** ***Oturum Başkanı:*** *Hüseyin Doruk*
09:00-09:30	**Yaşlıda Sarkopeni: Patofizyoloji ve Tanı** *Sibel Akbaş*	**09:00-09:20**	**Yaşlı Bireylerde Anemi Yönetimi** *Ahmet Çiğiloğlu*
09:30-10:00	**Bağırsak Mikrobiyotası ve Sarkopeni İlişkisi** *Bülent Saka*	**09:20-09:40**	**Yaşlı Bireylerde Dispepsi** *F. Sena Dost*
10:00-10:30	**Sarkopeni Tedavisinde Güncel Yaklaşımlar** *Mert Eşme*	**09:40-10:00**	**Yaşlı Bireylerde Baş Dönmesi KBB Gözüyle** *Canset Aydın*
		10:00-10:20	**Yaşlı Bireylerde Baş Dönmesi Nörolog Gözüyle** *Mine Sorgun*
10:30-10:45	**ARA**		
10:45-11:30	**PANEL: Kırılganlık Sendromu** ***Oturum Başkanları:*** *Umut Safer, Özlem Karaarslan Cengiz*	**10:45-11:30**	**PANEL: Geriatri ve Gelecek** ***Oturum Başkanları:*** *Güneş Arık, Zeynep Dilek Erzengin*
10:45-11:00	**Kırılganlık Sendromu: Patofizyoloji, Kırılganlık Modelleri ve Tanısal Yaklaşımlar** *Aslı Kılavuz*	**10:45-11:00**	**Önümüzdeki Süreçte Toplumlarda Geriatrik Dönüşümün Yansıması Nasıl Olacak ?** *Burcu Özdemir Ocaklı*
11:00-11:15	**Kırılganlık Sendromu Yönetimi: Güncel Yaklaşımlar ve Gelecekteki Hedefler** *Rana Tuna Doğrul*	**11:00-11:15**	**İnovatif Geriatride Beklentilerimiz** *Veysel Suzan*
11:15-11:30	**Kırılganlık ve Kanser: Kanser Tanı ve Tedavisinde Kırılgan Hastaya Yaklaşım** *Firuzan Fırat Özer*	**11:15-11:30**	**Yapay Zekanın Geriatride Yeri** *Nadir Yalçın*

30 Eylül 2023, Cumartesi			
Salon A		**Salon B**	
11:30-12:30	**The COST Action Promoting Geriatric Medicine in Countries Where it is Still Emerging (PROGRAMMING) Nedir? Başvuru Süreçleri-Deneyim Paylaşımı** ***Oturum Başkanı:*** *Gülistan Bahat Öztürk* ***Konuşmacılar:*** *Sumru Savaş, Yelda Öztürk, Meltem Koca*		
12:30-13:30	**ÖĞLE YEMEĞİ**		
13:30-14:30	**PANEL: Mikronütrientler ve Hastanede Nütrisyon** ***Oturum Başkanları:*** *Meltem Gülhan Halil, Mutlu Doğanay*	**13:30-14:30**	**PANEL: Osteoartrit** ***Oturum Başkanları:*** *Vildan Binay Safer, Berna Göker*
13:30-14:00	**Yaşlılarda Mikronütrientlerin Önemi ve Değerlendirilmesi** *Kürşad Gündoğanı*	***13:30-14:00***	**Osteoartriti Ne Kadar İyi Tanıyoruz ?** *Nilay Şahin*
14:00-14:30	**Hastanede Nütrisyon** *Osman Abbasoğlu*	**14:00-14:30**	**Osteoartritli Hastada Ağrıyla Başa Çıkma Yöntemleri** *Güneş Arık*
14:30-14:45	**ARA**		
14:45-15:30	**PANEL: Obezite ve Nutrisyon** ***Oturum Başkanları*****:** *Hakan Yavuzer, Ahmet Yalçın*	**14:45-15:30**	**PANEL: Afet Durumlarında Yaşlılara Yönelik Hizmetler** ***Oturum Başkanları:*** *Sibel Akın, Pınar Tosun Taşar*
14:45-15:05	**Sarkopenik Obezite Tanımı ve Tanı** *Serdar Özkök*	**14:45-15:00**	**3. Basamak Sağlık Kuruluşlarında Afet Yönetimi** *Sumru Savaş*
15:05-15:25	**Sarkopenik Obezitede Nutrisyonel Planlama** *Volkan Atmış*	**15:00-15:15**	**Afet Durumlarında Yaşlı Hastalarda Nelere Dikkat Edelim ?** *Güzin Çakmak*
		15:15-15:30	**Afet Gerontolojisi** *İsmail Tufan*
15:30-16:45	**Kongreden Eve Götürelecek Mesajlar** *Didem Karaduman, Gülçin Özalp, Tuğba Turgut, Emin Taşkıran*		
16:45-17:30	**ARA**		
17:30-18:30	**KAPANIŞ TÖRENİ**		

30 Eylül 2023, Cumartesi		
	Salon C	**Salon D**
08:00-09:00	**Sözlü Bildiri Oturumu 11** ***Oturum Başkanları:*** *Eyyüp Murat Efendioğlu,* *Ercüment Öztürk* **OP-67, OP-68, OP-69, OP-70, OP-71** **OP-72, OP-26**	**Sözlü Bildiri Oturumu 12** ***Oturum Başkanları:*** *Hande Selvi Öztorun, Gülru Avcı* **OP-83, OP-84, OP-85, OP-86, OP-87, OP-88** **OP-89, OP-90**

01 Ekim 2023, Pazar	
Salon A	
09:00-10:00	**Panel: Akılcı İlaç Kullanımı** ***Oturum Başkanları:*** *Yusuf Yeşil, Funda Datlı Yakaryılmaz*
	Yaşlılarda Akılcı İlaç Kullanımı *Neziha Erken*

OP-01

EVALUATION OF CLINICAL, LABORATORY AND TREATMENT RESULTS OF OUR PATIENTS WITH MULTIPLE MYELOMA, OVER EIGHTY YEARS OLD

Adem Erdoğan[1], Hava Üsküdar Teke[2], Fatih Yaman[2], Neslihan Andıç[2], Filiz Yavaşoğlu[1], Eren Gündüz[1]

OP-02

THYROID STIMULATING HORMONE LEVEL BY AGE GROUPS IN GERIATRIC POPULATION

Metin Sökmen[1], Ayşegül Uçkun[1], Murat Varlı[1], Ahmet Yalçın[1], Volkan Atmış[1]

OP-03

SHOULD TSH LEVELS BE MAINTAINED LOW NORMAL IN ELDERLY PATIENTS?

Metin Sökmen[1], Volkan Atmiş[1], Özge Baş Aksu[1], Helin Yesin, Ahmet Yalçin[1], Murat Varli[1]

OP-04

Bahar Bektan Kanat[1], Gulru Ulugerger Avci[1], Osman Faruk Bayramlar[2], Veysel Suzan[1], Gunay Can[3], Ilker Inanc Balkan[4], Sermin Borekci[5], Bora Korkmazer[6], Yalim Dikmen[7], Gokhan Aygun[8], Deniz Suna Erdincler[1], Hakan Yavuzer[1], Alper Doventas[1]

OP-05

ASSOCIATION OF SARCOPENIA, OSTEOPOROSIS, OBESITY, AND OSTEOSARCOPENIC OBESITY TO VERTEBRA FRACTURES AND FALLS IN OLDER ADULTS

Burcu Eren Cengiz[1], Sibel Akın[1], Yavuz Sultan Selim Akgul[1], Nurhayat Tuğra Ozer[1], Derya Kocaslan[1], Neziha Ozlem Deveci[1]

OP-06

A STUDY WITH A SMALL SAMPLE OF CENTENARIANS IN THE COMMUNITY: LIFESTYLE AND CLINICAL CHARACTERISTICS

Candeniz Avcı[1], Neslihan Kayahan Satış[1], Mehmet İlkin Naharcı[1]

OP-07

VALIDITY AND RELIABILITY OF THE TURKISH VERSION OF THE STANFORD PROXY TEST FOR DELIRIUM

Ebru Cagri Cakir Ozden[1], Dursun Elmas[2], Korhan Kollu[2], Eda Ferahkaya[3] Sevim Bozkus Ulusal[4], Munevver Demirel[4], Jose R. Maldonado[5], Muhammet Cemal Kizilarslanoglu[6]

OP-08

FACTORS ASSOCIATED WITH MAJOR ECG CHANGES IN ELDERLY OUTPATIENTS: AN OBSERVATIONAL STUDY

Ertuğrul Demirel[1], Rıdvan Erten[1], Erhan Özenç[1], Kamile Sılay[1], Güneş Arık[1], Hande Selvi Öztorun[1], Rana Tuna Doğrul[1]

OP-09

THE RELATIONSHIP BETWEEN SERUM KLOTHO PROTEIN LEVELS AND MUSCLE STRENGTH AND FUNCTIONS IN THE ELDERLY

Serhat Yıldırım[1], Zekeriya Ülger[1], Gözde Şengül Ayçiçek[1], Üçler Kısa[1], Ercan Tekin[1]

OP-10

THE ASSOCIATION BETWEEN SMOKING STATUS AND CHRONIC DISEASE IN OLDER PATIENTS

Gulru Ulugerger Avci[1], Deniz Suna Erdincler[1]

OP-11

THE EFFECT OF FASTING ON GERIATRIC SYNDROME, CHRONIC DISEASE AND METABOLIC PARAMETERS OF THE OLD AGED

Okay Kılınç[2], Hatice Turgut Şahin [1], Helin Yesin [1], Volkan Atmış [1], Ahmet Yalçın[1], Murat Varlı[1]

OP-12

FINGER TAPPING TEST; COULD IT BE A NEW MARKER FOR FRAILTY?

Hemrin Kavak[1], Busragul Yılmaz[1], Fatma Kaplan Efe[1], Hande Selvı Oztorun[1], Rana Tuna Dogrul[1], Gunes Arık[1], Kamile Sılay[1]

OP-13

EPIDEMIOLOGICAL ANALYSIS OF CRITICALLY-ILL ELDERLY PATIENTS IN TURKIYE

Suayip Birinci[1], Mehmet Yildirim[2]

OP-14

THE EPIDEMIOLOGIC ANALYSIS OF ADULT INTENSIVE CARE UNIT ADMISSIONS IN 2022 IN TURKEY

Mustafa Mahir Ulgu[1], Mehmet Yildirim[2]

OP-16

THE RATE OF OSTEOSARCOPENIA IN ELDERLY INDIVIDUALS LIVING IN NURSING HOME AND ITS RELATIONSHIP WITH FRAILTY

Özlem Karaarslan Cengiz[1], Funda Datlı Yakaryılmaz[2]

OP-17

FREQUENCY OF INSOMNIA AND RELATED FACTORS IN PATIENTS AGED 65 AND OVER APPLYING TO THE INTERNAL MEDICINE CLINIC

Özge Balıkçı[1], Özlem Karaarslan Cengiz[2]

OP-18

CAN THE NUTRITION INDEX CONUT PREDICT THE RISK OF DEATH IN ELDERLY PATIENTS WITH DECOMPENSATED HEART FAILURE? 'AN IN-HOSPITAL MORTALITY STUDY'

Ayşe Nur Özkaya İbiş[1], Çağatay Tunca[1]

OP-19

EVALUATION OF COGNITIVE FUNCTIONS WITH FINGER TAPPING TEST

Büşra Betül Çağır[1], Fatma Kaplan Efe[1], Hande Selvi Öztorun[1], Rana Tuna Doğrul[1], Güneş Arık[1], Kamile Sılay[1]

OP-21

IS NORMAL WEIGHT OBESITY ASSOCIATED WITH COGNITIVE DYSFUNCTION IN OLDER ADULTS? AN ANALYSIS USING DIFFERENT CUT-OFFS

Cansu Atbas[1], Didem Karaduman[1], Zeynep Ozge Ozdemir[2], Busra Ozcimen[2], Huseyin Sayın[2], Merve Hafızoglu[1], Zeynep Sahiner[1], Ibrahim Ileri[1], Ayse Dikmeer[1], Meltem Koca[1], Yelda Oztürk[1], Merve Guner[1], Arzu Okyar Bas[1], Serdar Ceylan[1], Mert Esme[1], Cafer Balcı[1], Meltem Halil[1], Mustafa Cankurtaran[1], Guliz Erdem[3], Burcu Balam Dogu[1]

OP-22

INVESTIGATION OF THE RELATIONSHIP BETWEEN MULTIMORBIDITY AND FRAILTY, MALNUTRITION AND HOSPITAL CLINICAL OUTCOMES IN HOSPITALIZED OLDER PATIENTS

Cihad Altunyaprak[1], İbrahim Güney[2], Muhammet Cemal Kızılarslanoğlu[3]

OP-23

APPROPRIATENESS OF PALLIATIVE CARE REFERRAL IN A TERTIARY HOSPITAL IN TURKEY

Dilara Dönmez Güler[1], Esra Ateş Bulut[1]

OP-24

EVALUATION OF NUTRITIONAL STATUS IN GERIATRIC HEMODIALYSIS PATIENTS

Doğu Karahan[1], İrem Pembegül[2]

OP-25

THE PREDICTIVE ABILITY OF DIFFERENT MALNUTRITION ASSESSMENT TOOLS ON CLINICAL OUTCOMES IN OLDER PATIENTS IN AN INTENSIVE CARE UNIT

Faruk Karakaş[1], Korhan Kollu[1], Dursun Elmas[1], Ömer Özberk[1], İbrahim Güney[1], Ayşegül Altunkeser[1], Muhammet Cemal Kızılarslanoğlu[1]

OP-26

RELATIONSHIP BETWEEN FAT MASS INDEXES AND RELATED CLINICAL CONDITIONS IN OLDER ADULTS

Firuzan Fırat Özer[1], Sami Bahçebaşı[2], Banu Açmaz[2]

OP-27

FATTY LIVER DISEASE AND ALPHA-CLOTHO LEVELS IN A GERIATRIC POPULATION

Helin Yesin[1], Aysegul Uckun[1], Yavuz Metin[1], Ahmet Yalcin[1], Nuray Yazıhan[1], Murat Varlı[1], Volkan Atmis[1]

OP-29

THE RELATIONSHIP BETWEEN SARCOPENIA AND HEMOGLOBIN, ALBUMIN AND CREATININE VALUES IN THE GERIATRIC POPULATION

Kübra Erdoğan[1]

OP-30

THE RELATIONSHIP BETWEEN THE USE OF ACETYL SALICYLIC ACID (ASA) AND ANEMIA DUE TO MINOR HEMORRHAGE

Mercan Tastemur[1], Gunes Arık[1], Kamile Sılay[1]

OP-31

THE BODY-MASS INDEX AND WAIST CIRCUMFERENCE CUT-OFFS THAT PREDICT HIGH FAT PERCENTAGE IN OLDER ADULTS

Ozge Can Ceylan[1], Serdar Ozkok[1], Cihan Kilic[1], Humeyra Ozalp[1], Mehmet Akif Karan[1], Gulistan Bahat[1]

OP-32

COMPARISON OF DIAPHRAGM ELASTICITY IN GERIATRIC PATIENTS WITH AND WITHOUT SARCOPENIA

Seriyye Allahverdiyeva[1], Eda Çeker[2], Esra Çataltepe[2], Fatih Güngör[2], Mahi Nur Cerit[1], Hacer Doğan Varan[2], Suna Özhan Oktar[1], Halit Nahit Şendur[1]

OP-33

THE RELATIONSHIP BETWEEN ULTRASONOGRAPHIC MUSCLE MEASUREMENTS AND ANTHROPOMETRY IN A PALLIATIVE UNIT.

Ayfer Durak[1]

OP-34

EFFECTS OF STRESS AND ENVIRONMENTAL ENRICHMENT ON BEHAVIOR, LEARNING AND NEUROBIOLOGICAL MARKERS IN AGED RAT BRAIN

Duygu Sultan Oran[2], Evren Eraslan[1]

OP-35

THE INFLUENCE OF HAVING CHILD AND NUMBER OF CHILDREN ON CHRONIC DISEASES AND GERIATRIC SYNDROMES

Eda Çeker[1], Esra Çataltepe[1], Ayşe Fadıloğlu[1], Fatih Güngör[1], Nermin Karakurt[1], Hacer Doğan Varan[1]

OP-36

PLASMA ALPHA KLOTHO LEVELS IN IDIOPATHIC PARKINSON DISEASE PATIENTS

Ahmet Yalçın[1], Emine Gemci[2], Büşra Yürümez[3], Volkan Atmış[1], Murat Varlı[1]

OP-37

YAŞLI TİP 2 DİYABETES MELLİTUS TANILI HASTALARDA SGLT-2 İNHİBİTÖRÜ KULLANIMI İLE SARKOPENİ İLİŞKİSİNİN DEĞERLENDİRİLMESİ

Eren Yılmaz[1], Mehmet Ayhan Karakoç[2], Esra Çataltepe[3], Eda Çeker[3], Fatih Güngör[3], Ayşe Fadıloğlu[3], Meriç Coşkun[2], Hacer Doğan Varan[3]

OP-38

THE RELATIONSHIP BETWEEN INFLAMMATORY MARKERS AND ANXIETY IN THE POSTCOVID PERIOD

Erhan Ozenc[1], Velihan Cayhan[2], Hande Selvı Oztorun[1], Rabia Kıpel[3], Busenur Akbay[3], Rana Tuna Dogrul[1], Kamile Sılay[4], Güneş Arık[1]

OP-39

POST-DISCHARGE MENTAL HEALTH FACTORS IN INPATIENT COVID-19 PATIENTS

Erhan Ozenc[1], Velihan Cayhan[2], Hande Selvı Oztorun[1], Rana Tuna Dogrul[1], Gunes Arık[1], Kamile Sılay[3]

OP-40

THE PREVALENCE OF SOCIAL FRAILTY AND RELATED FACTORS IN TURKISH OLDER ADULTS

Esra Cataltepe[1], Eda Ceker[1], Ayse Fadiloglu[1], Fatih Gungor[1], Nermin Karakurt[1], Hacer Dogan Varan[1]

OP-41

INAPPROPRIATE MEDICATION USE IN OLDER INPATIENTS ACCORDING TO THE TIME CRITERIA: A MULTICENTER, CROSS-SECTIONAL STUDY FROM TÜRKİYE

Gulistan Bahat[1], Serdar Ozkok[1], Birkan Ilhan[2], Tugba Erdogan[1], Duygu Erbas Sacar[1], Meryem Merve Oren[3], Bahar Tekin[4], Timur Selçuk Akpinar[4], Rana Tuna Doğrul[5], Kamile Silay[5], Suna Burkuk[6], Meltem Halil[6], Fatma Erol[7], Sumru Savas[7], Sevnaz Sahin[7], Pinar Arman[8], Deniz Suna Erdincler[8], Emine Gemci[9], Sevgi Aras[9], Murat Varli[9], Melike Yazici[10], Suna Avci[10], Busra Can[11], Asli Tufan[11], Banu Ozulu Turkmen[12], Betul Gulsum Yavuz Veizi[13], Mehmet Ilkin Naharci[13], Ilker Tasci[14], Gozde Sengul Aycicek[15], Zekeriya Ulger[15], Funda Salgur[16], Huseyin Doruk[17], Umut Karabay[2], Mehmet Akif Karan[1]

OP-42

CLINICAL VALIDATION OF SARC-F BY PROXY AS A PRACTICAL TOOL TO EVALUATE SARCOPENIA IN DEPENDENT OLDER ADULTS

Serdar Ozkok[1], Meryem Merve Oren[2], Caglar Ozer Aydin[1], Humeyra Ozalp[1], Cihan Kilic[1], Yasagul Koc[3], Hafize Dogan[4], Onder Yuksel Eryigit[5], Mehmet Akif Karan[1], Gulistan Bahat[1]

OP-43

EXAMINING THE RELATIONSHIP BETWEEN OBESITY AND METABOLIC DISEASES IN OLDER ADULTS: IS OBESITY OR SARCOPENIC OBESITY THE PROBLEM?

Serdar Ozkok[1], Zeynep Fetullahoglu[1], Cihan Kilic[1], Mehmet Akif Karan[1], Gulistan Bahat[1]

OP-44

ETIOLOGY STUDIES, RESULTS AND MORTALITY IN PATIENTS ADMITTED TO THE GERIATRICS SERVICE FOR WEIGHT LOSS

Serap Boz[1], Mercan Taştemur[1], Arzu Nevin Dağdemir[1], Özgür Öcal[1], Hande Selvi Öztorun[1], Rana Tuna Doğrul[1], Güneş Arık[1], Kamile Sılay[1]

OP-45

INVESTIGATION OF FACTORS AFFECTING THE NUMBER OF FALLS IN PATIENTS TO THE GERIATRICS OUTPATIENT CLINIC

Rıdvan Erten[1], Ertuğrul Demirel[1], Atacan Aras[1], Hande Selvi Öztorun[2], Rana Tuna Doğrul[1], Güneş Arık[1], Kamile Sılay[2]

OP-46

RAPID MALNUTRITION ASSESSMENT WITH QUESTIONING ANOREXIA OF AGING/WEIGHT LOSS: HOW USEFUL ARE THESE QUESTIONS IN DETECTING GLIM-DEFINED MALNUTRITION?

Zeynep Fetullahoglu[1], Serdar Ozkok[2], Pinar Kucukdagli[3], Cihan Kilic[1], Mehmet Akif Karan[1], Gulistan Bahat Ozturk[1]

OP-47

MODIFIED FRAILTY INDEX -11 TO PREDICT PROGNOSIS AFTER ACUTE CORONARY SYNDROME IN OCTOGENARIAN POPULATION

Zehra Güven Çetin [1]

OP-48

INVESTIGATION OF FACTORS DETERMINING QUALITY OF LIFE AND FRAILTY IN PATIENTS VISITING GERIATRICS OUTPATIENT CLINIC : A CROSS-SECTIONAL FIELD STUDY

Zumrud Mehti[1], Funda Salgur[2], Huseyin Doruk[1]

OP-49

COMPARISON OF SARC-F AND ISHII SCORE IN SCREENING FOR SARCOPENIA IN OLDER ADULTS WITH TYPE 2 DIABETES MELLITUS: WHICH SCRENING TOOL SHOULD WE USE?

Yavuz Sultan Selim Akgül[1], Burcu Eren Cengiz[1], Gülşah Güneş Şahin[2], Derya Koçaslan[1], Neziha Özlem Deveci[1], Sibel Akın[1]

OP-52

THE EFFECTIVENESS OF A FALL DETECTION DEVICE IN OLDER NURSING HOME RESIDENTS: A PILOT STUDY

Büşra Can[1], Aslı Tufan[1], Şevval Karadağ[2], Nurdan Şentürk Durmuş[1], Mümine Topçu[3], Berrin Aysevinç[3], Songül Çeçen Düzel[3], Sevda Dağcıoğlu[4], Nazire Afşar Fak[5], Ali Serdar Fak[3]

OP-53

THE RELATIONSHIP BETWEEN HAND GRIP STRENGTH AND FINGER TAPPİNG TEST IN GERIATRIC PATIENTS

Büşragül Yılmaz[1], Güneş Arık[1], Hande Selvi Öztorun[1], Rana Tuna Doğrul[1], Leyla Aydın[2], Kamile Sılay[1]

OP-54

MALNUTRITION ASSESSED BY GLIM CRITERIA USING SIX DIFFERENT APPROACHES FOR REDUCED MUSCLE MASS: WHICH VERSION IS BETTER ASSOCIATED WITH MORTALITY?

Caglar Ozer Aydin[1], Serdar Ozkok[2], Birkan Ilhan[2], Nefise Seker[3], Pinar Kucukdagli[2], Ozlem Yilmaz[2], Cihan Kilic[2], Mehmet Akif Karan[2], Gulistan Bahat[2]

OP-55

THE EFFICACY OF NINTENDO WII FIT AND INSPIRATORY MUSCLE TRAINING ON PHYSICAL PERFORMANCE AND SARCOPENIA IN OLDER ADULTS WITH HEART FAILURE

Cihan Kılıç[1], Rengin Demir[2], Zerrin Yiğit[2], Serdar Özkök[1], Gülistan Bahat Öztürk[1], Mehmet Akif Karan[1]

OP-56

ASSESSMENT OF ANXIETY IN CAREGIVERS OF PATIENTS WITH PRESSURE ULCERS

Eyüp Sami Akbas[1]

OP-57

A SNAPSHOT OF THE GERIATRIC TYPE II DIABETIC PATIENTS

Mehmet Göl[1], Kazım Ersin Altınsoy[2], Sedat Özdemir[3], İbrahim Halil Türkbeyler[4]

OP-58

LOW WAIST TO HIP RATIO IS ASSOCIATED WITH PHYSICAL FRAILTY IN OLDER ADULTS

Nirgul Bilger[1], Esra Cataltepe[1], Eda Ceker[1], Ayse Fadiloglu[1], Fatih Gungor[1], Nermin Karakurt[1], Hacer Dogan Varan[1]

OP-59

DECREASED LIMITS OF STABILITY PREDICTS FALL RISK IN COMMUNITY-DWELLING OLDER ADULTS: A 2-YEAR FOLLOW-UP STUDY FROM A UNIVERSITY HOSPITAL

Kubra Baba[1], Merve Guner[2], Semra Topuz[3], Serdar Ceylan[2], Arzu Okyar Bas[2], Cafer Balcı[2], Burcu Balam Dogu[2], Mustafa Cankurtaran[2], Meltem Gülhan Halil[2]

OP-60

MORTALITY PREDICTION OF THE CLINICAL FRAILTY SCALE IN COMMUNITY-DWELLING OLDER ADULTS

Merve Hafızoğlu[1], Arzu Okyar Baş[1], Didem Karaduman[1], Zeynep Şahiner[1], Cansu Atbaş[1], Mert Eşme[1], Burcu Balam Doğu[1], Meltem Gülhan Halil[1], Mustafa Cankurtaran[1], Cafer Balcı[1]

OP-61

INTRINSIC CAPACITY AND FRAILTY RELATIONSHIP IN OLDER ADULTS FROM AN AGEING COUNTRY

Serdar Ceylan[1], Merve Güner[1], Arzu Okyar Baş[1], Yelda Öztürk[1], Meltem Koca[1], Burcu Balam Doğu[1], Meltem Gülhan Halil[1], Mustafa Cankurtaran[1], Cafer Balcı[1]

OP-62

FRAILTY AND COMPREHENSIVE GERIATRIC EVALUATION IN OLDER PATIENTS WITH PSORIASIS: A CASE-CONTROL STUDY

Zeynep şahiner[1], Merve Güner[1], Serdar Ceylan[1], Merve Hafızoğlu[1], Cansu Atbaş[1], Didem Karaduman[1], Arzu Okyar Baş[1], Yasemin Polat Özer[1], Cafer Balcı[1], Burcu Balam Doğu[1], Meltem Gülhan Halil[1], Mustafa Cankurtaran[1]

OP-63

EVALUATION OF OXIDATIVE STRESS PARAMETERS IN OLDER PATİENTS WITH URINARY INCONTINENCE

Zeynep şahiner[1], Serdar Ceylan[1], Merve Güner[1], Didem Karaduman[1], Merve Hafızoğlu[1], Cansu Atbaş[1], İbrahim İleri[2], Ayşe Dikmeer[3], Arzu Okyar Baş[1], Cafer Balcı[1], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1]

OP-64

EVALUATION OF THE LONG-TERM EFFECTS OF PNEUMOCOCCAL VACCINE IN OLDER ADULTS : A SINGLE-CENTER STUDY

Yasemin Polat Özer[1], Zeynep Şahiner[1], Merve Güner[1], Kerim Çayıröz[2], Lütfü Kılıç[2], Mert Eşme[1], Cafer Balcı[1], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1]

OP-65

INVESTIGATION OF THE RELATIONSHIP OF TWO DIFFERENT PROBABLE SARCOPENIA AND DEPRESSION IN GERIATRIC OUTPATIENTS

Meriş Esra Bozkurt[1]

OP-66

INVESTIGATION OF THE EFFECTS OF LOWER EXTREMITY TELEREHABILITATION ON PHYSICAL AND EMOTIONAL STATUS IN PATIENTS WITH SARCOPENIA

Nurten Gizem Tore[1], Esra Çataltepe[2], Deran Oskay[1], Berna Göker[3], Hacer Doğan Varan[2]

OP-67

EVALUATION OF DELIRIUM INCIDENCE AND ITS RELATIONSHIP WITH MORTALITY IN HOSPITALIZED GERIATRIC PATIENTS

Damla Unal Toprak[1], Tugce Emiroglu Gedik[2], Alper Doventas[1], Deniz Suna Erdincler[1]

OP-68

THE PREVALENCE OF PROBABLE SARCOPENIA IDENTIFIED BY CHAIR-STAND TEST AND ASSOCIATED FACTORS IN OLDER OUTPATIENTS

Emine Asci Civelek[1], Meris Esra Bozkurt[1], Serdar Ozkok[1], Zeynep Fetullahoglu Durmus[1], Mehmet akif Karan[1], Gulistan Bahat[1]

OP-69

SARCOPENIC OBESITY VS SARCOPENIA BY USING TWO ALTERNATIVE ADJUSTMENT METHODS FOR LOW MUSCLE MASS:WHICH ONE BETTER PREDICTS POOR PHYSICAL PERFORMANCE?

Ezgi Pinar[1], Serdar Ozkok[2], Cihan Kilic[1], Humeyra Ozalp[1], Mehmet Akif Karan[1], Gulistan Bahat[1]

OP-70

PREVALENCE OF OSTEOSARCOPENIA - TERTIARY CENTRAL OUTPATIENT CLINIC RESULTS

Gulcin Ozalp[1], Meris Esra Bozkurt[1], Zeynep Fetullahoglu[1], Tugba Erdogan[1], Cihan Kılıc[1], Serdar Ozkok [1], Gulistan Bahat Ozturk[1], Mehmet Akif Karan[1]

OP-71

RELATIONSHIP BETWEEN BLOOD TYPE AND SYMPTOMS OF SARS-COV-2 INFECTION

Mercan Taştemur[1], Hilal Heybeli[1], Kamile Sılay[1], Rana Tuna Doğrul[1], Hande Selvi Öztorun[1], Güneş Arık[1]

OP-72

ASSOCIATION BETWEEN INFLAMMATORY PARAMETERS AND ABO BLOOD GROUPS IN COVID-19 PATIENTS AGED 65 YEARS AND OVER

Hilal Heybeli[1], Mercan Taştemur[1], Kamile Sılay[1], Rana Tuna doğrul[1], Hande Selvi Öztorun[1], Erhan Özenç[1], Atacan Aras[1], Güneş Arık[1]

OP-73

THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY LEVEL AND COGNITIVE HEALTH FOR ACTIVE AGING

Önder Yüksel Eryiğit[1], Mustafa Hakan Yılmaztürk[2], Bilal Yıldırım[2], Tülay Aytekin Aktaş[3], Lizge Beyaztaş[3–4], Orhan Gazi Kocamış[3], Hafize Doğan[3]

OP-74

FACTORS RELATED TO HIGH FALL RISK IN NURSİNG HOME RESIDENTS ACCORDING TO MORSE SCALE

Önder Yüksel Eryiğit[1], Mustafa Hakan Yılmaztürk[2], Bilal Yıldırım[2], Tülay Aytekin Aktaş[3], Lizge Beyaztaş[3–4], Orhan Gazi Kocamış[3], Hafize Doğan[3], Bülent Saka[5]

OP-75

INAPPROPRIATE DRUG USAGE IN OLDER PATIENTS STAYING IN AN INTENSIVE CARE UNIT AND ITS RELATIONSHIP WITH CLINICAL OUTCOMES

Muhammed Kürşad Mavuş[1], Dursun Elmas[1], İbrahim Güney[1], Muhammet Cemal Kızılarslanoğlu[1]

OP-76

THE RELATIONSHIP BETWEEN SARCOPENIA, SARCOPENIA RELATED QUALITY OF LIFE AND ULTRASOUND FINDINGS OF RECTUS FEMORIS MUSCLE IN OLDER OUTPATIENTS

Ahmet Yalçın[1], Yavuz Metin[2], Mürsel Karadavut[1], Melih Gaffar Gözükara[3], Sinan Arı[1], Emine Gemci[1], Büşra Yürümez[1], Seher Yiğit[1], Volkan Atmış[1], Sevgi Aras[1], Murat Varlı[1]

OP-77

INCIDENTAL FINDINGS DETECTED IN ABDOMINOPELVIC ULTRASOUND IN GERIATRIC INDIVIDUALS: SINGLE CENTER EXPERIENCE

Sinan Arı[1], Yavuz Metin[2], Volkan Atmış[1], Ahmet Yalçın[1], Seher Yiğit[1], Murat Varlı[1]

OP-79

VALIDITIY AND RELIABILITY OF THE FIVE-ITEM SOCIAL FRAILTY INDEX IN THE TURKISH POPULATION

Nermin Karakurt[1], Esra Çataltepe[1], Eda Çeker[1], Ayşe Fadıloğlu[1], Fatih Güngör[1], Hacer Doğan Varan[1]

OP-80

THE ASSOCIATION BETWEEN ANTICHOLINERGIC BURDEN AND FRAILTY STATUS: A CROSS-SECTIONAL STUDY

Neslihan Kayahan Satış[1], Mehmet İlkin Naharcı[1]

OP-81

INVESTIGATION OF GERIATRIC ASSESSMENT PARAMETERS IN THE ELDERLY WITH ADVANCED CHRONIC KIDNEY DISEASE

Münir Okumuş[1], Ertugrul Erken[2], İlyas Öztürk[2], Neziha Erken[3], Orçun Altunören[2]

OP-82

THE ASSOCIATION SARCOPENIA AND SARCOPENIC OBESITY WITH URINARY İNCONTINENCE

Neziha Özlem Deveci[1], Sibel Akın[1], Yavuz Sultan Selim Akgül[1], Burcu Eren Cengiz[1], Derya Koçaslan[1], Kamil Deveci[2]

OP-83

POLYPHARMACY-RELATED ORTHOSTATIC INTOLERANCE SYNDROME IN COMMUNITY-DWELLING OLDER ADULTS

ARZU Okyar Baş[1], Yelda Öztürk[1], Merve Güner[1], Serdar Ceylan[1], Süheyla Çöteli[1], Meltem Koca[1], Zeynep Kahyaoğlu[1], Mert Eşme[1], Cafer Balcı[1], Burcu Balam Duğu[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1]

OP-84

THE ASSOCIATION OF ANTICHOLINERGIC LOAD AND OXIDATIVE STRESS: THIOL-DISULFIDE HOMEOSTASIS AND ISCHEMIA MODIFIED ALBUMIN

Didem Karaduman[1], Cansu Atbaş[1], Merve Hafızoğlu[1], Zeynep Şahiner[1], İbrahim İleri[2], Ayşe Dikmeer[3], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Cafer Balcı[1], Meltem Gülhan Halil[1]

OP-85

PROGNOSTIC NUTRITIONAL INDEX AS A PREDICTOR OF SHORT- AND LONG-TERM OUTCOMES IN END-STAGE SOLID CANCER PATIENTS IN PALLIATIVE CARE

Irem Kirac Utku [1], Deniz Sevindik Gunay[1]

OP-86

HANDGRIP ASYMMETRY IS AN INDEPENDENT INDICATOR OF FRAILTY IN COMMUNITY-DWELLING OLDER ADULTS

Merve Güner[1], Serdar Ceylan[1], Arzu Okyar Baş[1], Meltem Koca[1], Yelda Öztürk[1], Burcu Balam Doğu[1], Meltem Gülhan Halil[1], Mustafa Cankurtaran[1], Cafer Balcı[1]

OP-87

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF CARBON MONOXIDE INTOXICATION IN THE ELDERLY

Mursel Karadavut[1], Busra Akpınar[1], Mustafa Utlu[1], E.fusun Karasahın[2], Aslı Leyla Tahıroglu[3], Hatice Karabulut[4], Sultan Tuna Akgol Gur[3], Pinar Tosun Tasar[1]

OP-88

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF SUICIDE IN THE ELDERLY

Mustafa Talip Sener[1], Mursel Karadavut[2], E. Fusun Karasahın[3], Busra Baydemır Kılınc[4], Pinar Tosun Tasar[2]

OP-89

FACTORS AFFECTING FALL HISTORY AND FALL RISK IN GERIATRIC PATIENTS

Nadir Yalçın[1], Meltem Halil[2]

OP-90

CLINICAL, BIOCHEMICAL, AND ULTRASONOGRAPHIC MUSCLE MASS PARAMETERS ASSOCIATED WITH MORTALITY IN PALLIATIVE CARE PATIENTS AGED 80 YEARS AND OLDER

Nezahat Muge Catikkas[1]

OP-91

SCREENING OROPHARYNGEAL DYSPHAGIA IN OLDER ADULTS: A RISK FACTOR FOR IN-HOSPITAL MORTALITY WITH COVID-19 INFECTION?

Nurdan Şentürk Durmuş[1], Büşra Can[1], Çiğdem Alkaç[1], Birkan İlhan[2], Aslı Tufan[1]

OP-92

COMPARISON OF DIAGNOSTIC ACCURACY OF SARC-F, SARC-CALF AND ISHII'S TEST FOR DIAGNOSIS OF SARCOPENIA IN HOSPITALIZED OLDER PATIENTS.

Ahmet Yalcin[1], Busra Gokce[2], Gorkem Turhan[2], Oguzcan Gumuscubuk[1], Volkan Atmis[1], Murat Varli[1]

OP-93

THE FREQUENCY AND THE PROGNOSTIC IMPORTANCE OF SARCOPENIA IN PATIENTS WITH LOCAL ADVANCED OR METASTATIC GASTRIC CANCER

Oguzcan Gumuscubuk[1], Mutlu Hizal[2], Burak Bilgin[2], Bulent Akinci[2], Didem Sener Dede[2], Bulent Yalcin[2], Mehmet Ali Nahit Sendur[2]

OP-94

RELATIONSHIP BETWEEN CONUT SCORE AND OUTCOMES IN PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION

Yusuf Ziya Sener[1], Pelin Unsal[2], Goksel Guven[3]

OP-95

DETERMINING THE RELATIONSHIP BETWEEN NUTRITIONAL STATUS AND BALANCE STATE IN PATIENTS ADMITTING TO THE GERIATRIC POLICY CLINIC

Sedat Özdemir[1], İbrahim Halil Türkbeyler[1]

OP-96

CAN SARCOPENIA BE A CONTRIBUTING FACTOR TO THE DEPENDENCE ON ACTIVITIES OF DAILY LIVING IN OLDER ADULTS WITH DEPRESSION?

Sencer Ganidağlı[1]

OP-97

ASSOCIATION OF THE PHASE ANGLE, MUSCLE STRENGTH, AND MUSCLE MASS BY DIFFERENT CALCULATIONS IN DIABETIC AND NON-DIABETIC OLDER PATIENTS

Sibel Çavdar[1], Fatma Özge Kayhan Koçak[2], Sumru Savaş[1]

OP-98

SUBCLINICAL THYROID DYSFUNCTION AND FUNCTIONAL CAPACITY IN OLDER ADULTS

Tuba Soysal[1], Sibel Akın[1], Firuzan Fırat Özer[1], Nurdan Şentürk Durmuş[1], Bilge Müge Gökçekuyu[1], Serdar Şahin[2]

OP-99

HEALTHY AGEING: HERPES ZOSTER INFECTION AND THE ROLE OF THE ADJUVANTED RECOMBINANT ZOSTER VACCINE

Desmond Curran[1], Timothy Mark Doherty[1], Nicolas Lecrenier[1], Thomas Breuer[1], Cihan Yesiloglu[2]

PP-02

PITFALLS IN HYPERNATREMIA MANAGEMENT: A CASE REPORT

Zeynep Dilek Erzengin[1], Mehmet Aybars Aydın[1]

PP-04

VACUUM-ASSISTED CLOSURE TREATMENT FOR AN OLDER PATIENT

Elif Gürel çayır [1], Pınar Sırmatel Bücük[1], Deniz Can Aydoğan[1], Sumru Savaş[1], Sevnaz Şahin[1], Zeliha Fulden Saraç[1]

PP-06

A PREDICTABLE SIDE EFFECT OF TRIMETHOPRIM SULFOMETHOXAZOL; ACUTE KIDNEY INJURY

Atacan Aras[1], Erhan Ozenc[1], Mercan Tastemur[1], Hilal Heybeli[1], Hande Selvi Oztorun[1], Rana Tuna Dogrul[1], Gunes Arik[1], Kamile Silay[1]

PP-07

POTENTIAL STAKEHOLDERS TO PROMOTE GERIATRIC MEDICINE FOR NON-GERIATRICIAN HEALTHCARE PROFESSIONALS FOR COST ACTION CA21122-PROGRAMMING

Sumru Savas[1], Nilüfer Demiral Yılmaz[2], Özge Kayhan Koçak[1], Elif Güngör[1], Karolina Piotrowicz [3], Sofia Duque[4], Marina Kotsani[5]

PP-08

RECURRENT DIABETIC KETOACIDOSIS DUE TO QUETIAPINE USE IN A GERIATRIC PATIENT

Ela Güven Avcı[1]

PP-09

ACUTE RENAL FAILURE DUE TO PALBOCICLIB USE IN A GERIATRIC PATIENT

Ela Güven Avcı[1]

PP-10

ATYPIC PSYCHOSIS OR CHRONIC DELIRIUM?

Hatice Turgut Şahin [1], Barış Örs[2], Helin Yesin[1], Volkan Atmış[1], Ahmet Yalçın[1], Murat Varlı[1]

PP-11

MYELOFIBROSIS-ASSOCIATED OSTEOSCLEROSIS IN AN OLDER PATIENT: A CASE REPORT

Merve Yılmaz Kars[1], Mustafa Hakan Doğan[1], Taha Ulutan Kars[2], Ayşe Dikmeer[1], Muhammet Cemal Kızılarslanoğlu[1]

PP-12

TO TREAT OR NOT TO TREAT: A CASE STUDY OF BIPHOSPHONATES FOR OSTEOPOROSIS

Mehmet Aybars Aydın[1], Zeynep Dilek Erzengin[1], Celalettin Buğra Atayeter[2]

PP-13

LATE METASTASIS OF RENAL CELL CARCINOMA IN AN OLDER PATIENT: A CASE REPORT

Mustafa Hakan Doğan[1], Merve Yılmaz Kars[1], Ayşe Dikmeer[1], Muhammet Cemal Kızılarslanoğlu[1]

PP-14

AKUT KIDNEY INJURY AND DEATH AFTER GENTAMICIN TREATMENT

Erhan Ozenc[1], Atacan Aras[1], Mercan Tastemur[1], Hilal Heybelı[1], Hande Selvı Oztorun[1], Rana Tuna Dogrul[1], Gunes Arık[1], Kamile Sılay[2]

PP-15

DOES AGING OF THE THYROID GLAND BEGIN AT MIDLIFE? INSIGHTS FROM THE ISPARTA MENOPAUSE AND HEALTH STUDY

Zeynep Dilek Erzengin-Aydın[1], Banu Kale[2]

PP-16

LAPOROSCOPIC SLEEVE GASTRECTOMY IN AN ELDERLY PATIENT: A CASE REPORT

Büşra CEYLAN[1], İlknur Gökçe YILDIRIM[2]

PP-20

A CASE OF ATYPICAL PRESENTATION CHOLANGITIS IN ADVANCED AGE

Arzu Nevin Dagdemir[1], Mercan Tastemur[1], Serap Boz[1], Hande Selvi Oztorun[1], Rana Tuna Dogrul[1], Günes Arık[1], Kamile Sılay[1]

PP-21

ALL AMYLASE ELEVATIONS ARE NOT ACUTE PANCREATITIS IN AN OLDER ADULT WITH ABDOMINAL PAIN

Murat Pehlivan[1], Elif Gecegelen[1], Meltem Gülhan Halil[1], Burcu Balam Doğu[1], Cafer Balcı[1], Mert Eşme[1], Onur Keskin[2], Mustafa Cankurtaran[1]

PP-22

A RARE CASE : BISPHOSPHONATE RELATED OSTEONECROSIS OF THE JAW

Murat Pehlivan[1], Mustafa Levent[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1], Burcu Balam Doğu[1], Mert Eşme[1], Cafer Balcı[1]

PP-23

DIAGNOSTIC CHALLENGE OF AN ADVANCED STAGE DEMENTIA CASE

Emin Taşkıran[1], Bilge Taşkıran[2]

KONUŞMACI METİNLERİ

Zor Vakalar, Zor Kararlar – 2

Dr. Büşra YÜRÜMEZ

Giriş: Eşlik eden hastalıkların sıklığı gençlere göre daha fazla olan yaşlı hastalar, hastalık ve semptom kontrolü için düzenli olarak birçok ilaç kullanmaktadır. İleri yaşlarda, farmakokinetik ve farmakodinamik süreçlerde olan değişiklikler, ilaç yan etkilerine artmış duyarlılık, ilaç-ilaç etkileşiminde artış gibi nedenlerle ilaç reçeteleme ve medikal tedavi takibi kapsamlı bir değerlendirme gerektirir. Çoklu ilaç kullanımı (polifarmasi), önerilen medikal tedaviye uyumu zorlaştırma, ilaç yan etkilerinin sıklığını, hastane yatışlarını ve olumsuz klinik olayları arttırma gibi sonuçlara neden olur. Hekimler endikasyonu olmayan ilaç kullanımı, ilaç-ilaç etkileşimi göz ardı edilerek reçeteleme, tedavi süresinin olması gerekenden uzun veya kısa tutulması, reçeteleme kaskadı gibi uygunsuz ilaç kullanımı açısından dikkatli olmalıdır.

Vaka sunumu: 75 yaşında kadın hasta acil servise 12 saat önce başlayan üşüme-titreme, aşırı terleme ve halsizlik nedeniyle getirildi. Fizik muayenesinde vücut sıcaklığı 39,2 derece, kan basıncı 140/90 mmHg, nabız hızı 115/dk, oksijen saturasyonu %94 olarak ölçüldü. Nörolojik muayenesinde bilinç açık, ajite, yer-zaman-kişi oryantasyonu tam, kooperasyon kısıtlı olarak değerlendirildi ve alt ekstremite reflekslerinde artış saptandı. Hastanın özgeçmişinde hipertansiyon, diyabet, depresyon ve osteoporoz tanılarının olduğu, düzenli olarak vildagliptin+metformin kombinasyonu, insülin glarjin, kandesartan, indapamid, alendronat (haftada bir), sertralin 100 mg/gün kullanmakta olduğu öğrenildi. Bir ay önce düşme sonrası kalça kırığı nedeniyle hastane yatışı olduğu öğrenilen hastaya son zamanlarda bacak ve dizlerinde ağrı olması nedeniyle tramadol tedavisi önerilmiş. Hastanın yapılan laboratuvar tetkiklerinde böbrek ve karaciğer fonksiyon testlerinde ve CRP'de hafif yükseklik saptandı. EKG'de sinüs taşikardisi görülen hastada yapılan EEG ve kranial görüntülemesinde akut bir patoloji saptanmadı. Etiyolojiyi belirlemek için hasta yakını ilaç, destek ürünleri, bitkisel ilaç kullanımı açısından tekrar sorgulandığında hastaya önceki gün idrar yolu enfeksiyonu ön tanısıyla ampirik siprofloksasin tedavisi başlandığı öğrenildi. Düzenli SSRİ kullandığı bilinen hastada yakın zamanda eklenen serotonerjik etkili ilaçlar, akut başlangıç ve klinik belirtiler göz önüne alındığında serotonerjik sendrom gelişmiş olabileceği düşünüldü. Hastanın kullandığı serotonerjik etkili ilaçların kesilmesi ve uygun destek tedavisi verilmesi sonrası semptomlarında düzelme olduğu görüldü.

Tartışma: Serotonin sendromu (SS), serotonin sentezinde artış, metabolizmasında azalma, geri alım inhibisyonu gibi farklı mekanizmaların sonucu olarak presinaptik aralıkta serotonin artışıyla seyreden klinik durumdur. Serotonerjik ilaçların tek başına terapötik veya yüksek dozda kullanılmasıyla görülebileceği gibi bu ilaçların kombinasyonuyla da ortaya çıkabilir. Monoamin oksidaz inhibitörleri, SSRI, SNRI, opiyat türevi ağrı kesiciler, triptanlar, bazı atipik antipsikotikler ve flukonazol/ siprofloksasin/ linezolid gibi bazı antibiyotiklerin kombinasyonlarında SS görülebilir. Klinik belirtiler uykusuzluk, ajitasyon, konfüzyon, bulantı, ishal, taşikardi, hipertermi, reflekslerde artış, tremor, kas rijiditesi gibi geniş bir spektrumda olabilir. SS, bir dışlama tanısı olarak değerlendirilmekte olup akut gelişen bir tabloda detaylı bir hikaye ve fizik muayene ile SS tanısı koymak mümkündür. Geriatrik popülasyonda SSRI kullanımının yaygın olması ve artmış polifarmasi/uygunsuz ilaç kullanımı nedeniyle SS, dikkat edilmesi gereken bir durumdur. Polifarmasinin olumsuz klinik sonuçları göz önüne alındığında geriatrik bireylerde yeni ilaç reçete ederken mutlaka dikkatli olunması, yaşlılara özgü uygunsuz ilaç kullanımı kılavuzlarından yararlanılması, mevcut medikal tedavinin yan etki ve ilaç-ilaç etkileşimleri açısından yakın takip edilmesi önerilmektedir.

Sonuç: Geriatrik bireyler ilaçların yan etkilerine daha duyarlıdır ve yeni gelişen her semptom, aksi ispatlanana kadar, ilaç yan etkisi olarak değerlendirilmelidir. Mümkün olduğunca tedaviye düşük dozlarla başlanması, doz artışının yavaş yapılması önerilmektedir. Her vizitte, kullanılan bütün ilaçlar gözden geçirilmeli, polifarmasi ve uygunsuz ilaç kullanımından kaçınılmalıdır.

Yaşlılarda Long COVID

Dr. Ekin Oktay OĞUZ

Ankara Etlik Şehir Hastanesi, Geriatri Kliniği

SARS COV-2 enfeksiyonu dünya çapında güncel verilerle 6.9 milyondan fazla ölüme yol açmıştır. COVID-19 pandemisi sonrası değişik tanımlar semptomlar da hayatımıza girmiştir. Bunlardan en sık duyulanı long COVID durumudur.

Long COVID veya post covid durumunu WHO (Dünya Sağlık Örgütü) Sars COV 2 enfeksiyonuyla başlayan ve devam eden veya 3 ay sonra ortaya yeni çıkan ve en az 2 hafta süren semptomlar olarak tanımladı, ayrıca bu semptomlar alternatif bir tanı ile açıklanamayacak semptomlar olarak tanımlar.

Yaklaşık 5 milyon kişinin long COVID durumundan etkilendiği tahmin edilmektedir. Yapılan çalışmalarda akut donemde hastanede yatmayanların%10-30'unda, hastanede yatanların %50-70'inde, akut enfeksiyon sonrası aşılananların %10-12'sinde görülmektedir.

Long COVID aslında çoklu organ hastalığıdır. Santral sinir sistemi ve/veya periferik sinir sistemi tutulumu ile beraber pulmoner, kardiyovaskuler, psikiyatrik, endokrin, hematolojik, renal, gastrointestinal, dermatolojik, veya immünolojik semptomlardır.

Risk faktörleri ağır akut hastalık, komorbiditeler (diyabet ve kronik kalp hastalığı), İnvaziv mekanik ventilasyon tedavisi almak ve uzun yoğun bakım yatışıdır.

Kırılganlık yaşlılarda birden çok sistemde fizyolojik olarak çıkan bir sendromdur. Yapılan bir çalışmada COVID-19 nedeniyle hastaneden yatanların yaklaşık %30'u frail hale gelmektedir.

Long COVID de görülen en sık semptomlar halsizlik, hafızada azalma, bas dönmesi,tat veya koku kaybı, depresyon ve anksiyetedir. Bu semptomlar günlük hayatı etkileyecek düzeyde görülür.

Bir çok çalışma yaşla beraber long COVID görülme sıklığının arttığını göstermektedir.

Çin' de yapılan bir kohortta 60 yaş üzeri COVID-19 nedeniyle hospitalize olan hastaların taburculuk sonrası 1 yıl içinde bilişsel gerileme riski artmış bulunmuştur.

Halsizlik ve kısa nefes alma kronik yorgunluk sendromunun da bulgularındandır ve long COVID de özellikle yaşlılarda sık görülür.

COVID-19 ayrıca komorbiditeleri ağırlaştırabilir. Yaşlılarda yaygın olarak görülen kardiyovasküler hastalıklar, solunum hastalıkları, nörodejeneratif durumlar gibi kronik rahatsızlıkları tetikleyebilir veya şiddetlendirebilir ve temel yaşam aktivitelerinde fonksiyonel düşüşe ve kırılganlığa yol açabilir.

Sağlık çalışanları ve özellikle geriatristler uzun süreli ilgili semptomları kırılganlığın bulguları demeden önce tanıda long COVID'i göz önünde bulundurmalıdır. Hastaların kalıcı semptomlarının değerlendirilmesi ve yönetimine erken ve multidisipliner yaklaşılmalıdır. Fiziksel, psikolojik ve fonksiyonel sekellerin ele alınması, ve araştırılması long COVİD'in etkisini azaltacak ve yaşlı insanların sağlığını ve yaşam kalitesini iyileştirecektir.

Kaynaklar

1. Greenhalgh T, Knight M, A'Court C, Buxton M, Husain L. Management of post-acute covid-19 in primary care. BMJ 2020;370:m3026. doi: 10.1136/bmj.m3026 pmid: 32784198 3
2. Sudre CH, Murray B, Varsavsky T, et al. Attributes and predictors of long-covid: analysis of covid cases and their symptoms collected by the Covid Symptoms Study app. MedRxiv [preprint].
3. Ceban F, Ling S, Lui LMW, et al. Fatigue and cognitive impairment in postCOVID-19 syndrome: a systematic review and meta-analysis. Brain Behav Immun 2022; 101: 93–135
4. Al-Aly Z, Bowe B, Xie Y. Long COVID after breakthrough SARS-CoV-2 infection. Nat Med 2022; 28: 1461–67
5. Parotto M, Gyöngyösi M, Howe K, et al. Post-acute sequelae of COVID-19: understanding and addressing the burden of multisystem manifestations Lancet Respir Med 2023; published online July 17.
6. Liu Y-H, Chen Y, Wang Q-H, et al. One-year trajectory of cognitive changes in older survivors of COVID-19 in Wuhan, China: a longitudinal cohort study. JAMA Neurol 2022; 79: 509–17.)

Türkiye ve Dünya'da Evde Bakım Modelleri

Dr. Emine GEMCİ

Evde bakım terimi ülkeler ve sektörler arasında çok farklı anlamlandırılmaktadır. Dahil edilen hizmetler ülkeler arasında önemli ölçüde değişiklik gösterebilir. Evde bakımla ilgili pek çok çalışma, evde bakımın faaliyetlerini, hedeflerini ve hatta hedef gruplarını tanımlama konusunda kesinlikten yoksundur. Dünya Sağlık Örgütü'ne göre (WHO) evde bakım, hastalara kendi ikamet yerlerinde sağlanan bir dizi sağlık ve sosyal destek hizmetidir. Sağlık Bakanlığı ise Evde sağlık hizmetini, gerek teşhis ve tedavi sonrası bakım sürecinde, gerek kronik bir hastalığın takibinde yatağa tam bağımlı olan hastaların ihtiyacı olan sağlık hizmetlerinin ev ortamında ve bu konuda eğitimli personel ile sunulması olarak tanımlar. Türkiye'de 'Evde Bakım Hizmetleri Sunumu Hakkında Yönetmelik' 10 Mart 2005 tarihli 25751 sayılı Resmi Gazete'de yayınlanarak, yürürlüğe girmiştir.

Evde bakım hizmetleri evde sağlık ve evde sosyal destek hizmetleri olara sınıflanabilir. Türkiye'de verilen evde bakım hizmetlerinden Aile ve Sosyal Hizmetler Bakanlığı (ASHB), evde sağlık hizmetlerinden ise Sağlık Bakanlığı sorumludur. Sağlık Bakanlığı tarafından 2005 yılında yayınlanan "Evde Bakım Yönetmeliği"ne istinaden açılan özel sektöre ait organizasyonlar tarafından da evde bakım hizmetleri verilmektedir.

Koruyucu önleyici yaklaşımlar, tedavi, yara bakımı, ağrı yönetimi, ilaç takibi, rehabilitasyon hizmetleri ve palyatif tedavi/bakım evde sağlık hizmetleri kapsamına girerken; günlük yaşam aktivitelerinin (GYA), desteklenmesi, enstrümental günlük yaşam aktivitelerinin (EGYA) desteklenmesi, toplumsal hayata katılım aktiviteleri, ev temizliği, yemek tedariki, sosyal yardımlar ve taşıma ise evde sosyal destek kapsamındadır. Evde Sağlık Hizmeti Sunumu Hakkında Yönetmelik en son 2 Haziran 2023 tarihinde güncellenmiştir. Bu yönetmelikte evde sağlık hastası tanısı konmuş hastalıklar sebebiyle cihaza, yatağa veya eve bağımlı olan ya da yaşlılığından dolayı sağlık hizmetine ulaşımda zorluk yaşayan birey olarak tanımlanmıştır. Yeni yönetmelikte sağlıklı yaş alma merkezleri (YAŞAM) ile, uzaktan sağlık hizmeti de yer bulmuştur. Yeni yönetmeliğe göre;

80 yaş ve üzeri hizmet talep eden tüm yaşlılar,

Sağlık kurulu raporu ile belgelenmiş kronik hastalığı bulunan ve günlük yaşam aktiviteleri skoru yönünden tam bağımlı veya ileri derecede bağımlı olarak nitelendirilen 65 yaş ve üzeri hastalar,

Hastalığı sebebiyle cihaza ve/veya eve bağımlı hastalar,

Palyatif bakım hizmeti almış ve tıbbi bakımının evde yapılması uygun görülen hastalar,

Hastaneden taburcu olurken hekimi tarafından evde sağlık hizmeti sunulması uygun görülen ve tedavi planı yapılan sürekli tıbbi bakım hizmeti alması uygun görülen hastalar,

Sağlık tesisinden taburculuk sonrası otuz güne kadar tıbbi bakıma ihtiyacı olan ve hastaneden taburcu olurken hekimi tarafından süreli tıbbi bakım hizmeti alması gereken bireyler, evde sağlık hizmetinden yararlanabilir. Hekim, hemşire ve bakım elemanı çekirdek ekibi oluştururken, ihtiyaca göre ekipte fizyoterapist, diyetisyen, psikolog, sosyal hizmet uzmanı, ergoterapist (iş ve uğraş terapisti), diş hekimi, din adamı, eczacı/farmakolog, podolog, odyolog, dil-konuşma terapisti ve hukukçu yer alabilir. Ülkemizdeki evde bakım uygulama modellerinde her bir disiplindeki personelin alanında diplomalı olması yeterli görülmekte,bakım elemanları ise eğitim standardı olmayan ve genellikle vasıfsız elemanlardan veya yurt dışından ülkemize gelen göçmenlerden oluşmaktadır.

Ülkelerden evde bakım örneklerine aşağıda yer verilmiştir:

Norveç: Norveç, Avrupa'nın en kapsamlı evde bakım sistemlerinden birisine sahiptir ve bunlar, merkezi hükümetin belirlediği bir mevzuat uyarınca yerel makamlar tarafından sunulur. Hizmet sunumunda özel sektör ve aileler çok az rol üstlenir. Önleyici ev ziyaretleri kapsamında belediyelerdeki sağlık çalışanları, sağlık davranışlarını ve başa çıkma mekanizmalarını desteklemek için 80 yaş ve üzeri herkesi ziyaret eder. Bu ziyaretler sırasında, yaşlıların ihtiyaç duydukları özel bakım öğrenilir. Eğer yaşlının günlük hayat faaliyetleriyle ilgili yardıma ihtiyacı varsa, bu durum evde bakım sistemine iletilir.

Hollanda: Hollanda gayri safi yurtiçi hasılanın (GSYİH) %3,7'sine tekabül eden uzun süreli bakıma (USB) yönelik kamu harcaması ile Ekonomik Kalkınma ve İşbirliği Örgütü (OECD) içinde 1. sırada yer alır. Hollanda devleti yaşlılar ve USB ihtiyaç duyan kişilerden sorumludur. İnformal bakım çok küçük bir paydayı oluşturur. Hollanda sigorta sistemi kişisel bakım, hemşirelik bakımı, yardım, tedavi ve huzurevinde kalmayı da içeren kapsamlı bir hizmetler paketinden oluşur. Bir diğer sistem Wmo ise, evde yardımı, evlere yemek servisi, ev düzenlemelerini ve ulaşımı kapsar.

Birleşik Krallık (UK): İngiltere'nin refah modeli, sadece hizmetleri kendi başlarına satın almaya maddi gücü yetmeyen en korunmasızların kamunun finanse ettiği bir 'arta kalan' modelidir. USB'ın mali sorumluluğunun büyük bir kısmı, bireye aittir. UK arta kalan USB modeli, her zaman toplumdaki en yoksulu hedeflemiştir. UK, yaşlılar çoğunlukla çocuklar ve eşler tarafından bakılır. Gönüllü örgütler, yerel konseyler, sağlık makamları ve özel kuruluşlar dahil olmak üzere, karışık bir piyasa, USB sağlar.

Almanya: Almanya'da, sağlık hizmetleri kalitesi genel olarak çok yüksektir. USB sigortası kurum bakımı (genellikle büyük maliyet paylaşımıyla), ayni evde bakımı veya nakdi yardımları kapsar. Hizmetler, ev işlerinde yardımdan, doktor tarafından reçete edilen tedavi edici bakım hizmetlerine kadar değişen hemşirelik ve sosyal hizmetleri içerir.

İtalya: İtalya'da USB için yapılan kamu harcaması oldukça düşük olup, 2008 yılında 65 yaş üstü kişiler için yapılan USB harcaması GSYİH'nın sadece %1,12'lik kısmını oluşturmaktadır. İtalya aile üyelerinin ve yabancı ücretli bakıcıların yaşlılara yardıma daha çok katılım sağladıkları Avrupa ülkelerinden biridir. İtalya'da %5'in altında ve Norveç'te %20 olan kurumda veya evde bakılan yaşlı yüzdesi nedeniyle, İtalya, hem huzurevinde hem de evde bakım kullanımı açısından en düşük oranlara sahip ülkelerdendir.

Amerika Birleşik Devletleri (ABD): ABD'de, evde bakımın çoğunun gayri resmidir. Bakımın önemli bir kısmını aileler sağlar. Evde sağlık bakımı genellikle Medicaid, Medicare gibi sigorta ya da hastanın kendi kaynaklarından karşılanır. 65 yaş üstü bireylerin belirli süreler için sağlık hizmeti harcamaları geri ödenirken, uzun süreli olarak yalnızca rehabilitasyon hizmetleri geri ödenmektedir.

GYA'yı destekleyen USB hizmetleri sağlık sigortasının geri ödeme kapsamında bulunmamaktadır. Yaşlı bakım hizmetleri veren kuruluşların tamamına yakını ticari, azınlıkta kalan bir kısmı ise gönüllü yardım kuruluşudur.

Japonya: Geleneksel Japon yapısı nedeniyle yaşlı bakımının sağlanmasındaki birincil sorumluluk ailenin üzerindedir. Bakım sigortası sistemi önceliği 65 yaş ve üstündekilere verir. Evde bakım için yapılan masrafların büyük bir kısmı sigorta tarafından karşılanır. Japonya'da evde bakım hizmetleri ev temizliği, ev işleri, kişisel bakım, gündüz bakım, geçici bakım hizmeti ve hemşire ziyaretlerini içerir.

Kaynaklar

1. Türkiye Yaşlı Sağlığı Raporu: Güncel Durum, Sorunlar Ve Kısa-Orta Vadeli Çözümler R Editörler Prof. Dr. Mehmet Akif KARAN Prof. Dr. İlhan Satman Aralık, 2021 İSTANBUL
2. WHO Study Group on Home-Based Long-Term Care (1999: Ma'ale Hachamisha, Israel) & World Health Organization. (2000). Home-based long-term care: report of a WHO study group. World Health Organization.
3. World Health Organization. (2015).World report on ageing and health. World Health Organization.

Pain Management in Patients with Osteoarthritis

Dr. Güneş ARIK

Ankara Bilkent Şehir Hastanesi Geriatri Kliniği

The prevalence of Osteoarthritis (OA) is increasing all over the world. Its frequency in the general population is 16% and affects more than 1/3 of individuals aged 65 and over. OA is a significant cause of disability and a significant burden on both the patient and healthcare expenses. Pain and functional limitations are the biggest problems for the patient.

Pain is a multidimensional process that is affected by non-cartilaginous structures, subchondral bone, synovium and periarticular structures, as well as environmental and psychological factors. Over time, pain becomes chronic with peripheral and central sensitization of nociceptive pathways. It causes sleep disorders, mood deterioration, depression, and functional loss in daily activities and work life.

The approach to pain in osteoarthritis should be a safe and patient-centered treatment approach based on scientific evidence. The patient's needs and goals should be determined and the process should be monitored at regular intervals.

Treatment

- There is no targeted treatment yet that reduces progression,
- Structural damage is irreversible and progressive, going to joint prosthesis is almost inevitable,
- Current treatments for pain also have serious side effects,
- Guideline recommendations consist of RCT, systematic review, meta-analysis results and generally expert opinions,
- Non-pharmacological, pharmacological and surgical treatment approaches are available. In this section, non-pharmacological and pharmacological treatment approaches will be discussed.

1- Non-pharmacological Treatment:

- Patient education and self-management are essential.
- Lifestyle changes and weight loss are strongly recommended.
- Exercise (walking, muscle strengthening, thai chi, swimming, aquatic exercise) is very effective.
- Assistive devices, braces, and taping may be useful in knee OA.
- Thermal modalities, hot application, infrared, therapeutic ultrasound are mildly effective but short-lived methods.
- Balneotherapy/SPA (in multiple joint osteoarthritis) is recommended if possible.
- Transcutaneous Electrical Nerve Stimulation and Neuromuscular Electrical Stimulation (TENS and NMES) may be effective on short-term pain, but their effect is temporary and is not routinely recommended.
- Acupuncture is only included in the American College of Rheumatology (ACR) guideline as a recommendation based on low evidence depending on the situation, and is not recommended in other guidelines. Dry needling is not recommended.
- Pulse Electromagnetic Field Therapy (PEMA) is not recommended.
- Tai Chi is beneficial and recommended.

2- Pharmacological Treatment

- Acetaminophen: While it was recommended as the first choice in old guidelines, it is no longer recommended as the first choice. Its effect is limited and short-term, it has hepatotoxicity, and it is recommended to be used cautiously in the current Eular, ACR and Nice guidelines. However from geriatrition point of view it is still a good option for geriatric patients.

- **Nonsteroidal Anti-Inflammatory Drugs**
- Chronic use should be avoided in geriatric patients.
- Indomethacin and Ketorolac should be avoided in geriatric patients according to Beers Criteria.
- The most commonly used is Ibuprofen and the other most commonly used with a safer cardiovascular (CV) risk is Naproxen.
- Diclofenac increases cardiovascular risk and is most highly associated with hepatic laboratory abnormalities.
- While GI complications are less with Cox-2 selective Celecoxib, CV risk is higher.

Patients should be informed about OA and the benefits and harms of treatment.

- **Topical Nonsteroidal Anti-Inflammatory Drugs:**
- Topical NSAIDs are recommended for knee osteoarthritis. They are well tolerated.
- Recommended for hand OA in selected patients depending on the condition.
- Topical diclofenac gel passes into the systemic circulation in very small amounts and recommended.

- **Capsaicin:**
- It was found to be superior in reducing pain compared to placebo.
- Recommended for hand OA.
- Evidence is inconclusive for Knee and Hip.

- **Corticosteroids (Intra-Articular):**
- Intra-articular steroid treatment provides temporary improvement in knee osteoarthritis and can be applied 3-4 times a year.
- Eular recommends for hand OA, it can be tried especially for painful interphalangeal joints.
- It is contraindicated in injection site infection, sepsis and patients with prosthesis.

- **Intra-Articular Hyaluronic Acid Injection:**
- The ACR guideline finds it appropriate to use knee and hip OA for people aged 75 and over who cannot take oral NSAIDs. Eular states that the effect size for the knee is low, but it can be tried.

- **Glucosamine and Chondroitin Sulfate:**
- Glucosamine has been found to be slightly superior to placebo in some studies. There is a risk of bias in studies and glucosamine is not recommended by current guidelines.
- If used, crystallized glucosamine sulfate (1,500 mg/day) can be given.
- Chondroitin is recommended by Eular for hand OA (1200 mg/day). However, its effect is temporary.

- **Diacerein:**
- Symptomatic slow-acting drugs (SYSADOA) have anti-inflammatory, anti-catabolic and pro-anabolic properties on cartilage and synovial membrane.
- It is superior to paracetamol, has a better side effect profile, can cause diarrhoea.
- It may be an option for knee and hip OA who cannot use NSAIDs and paracetamol. It is not recommended in current guidelines.

- **Intra-articular Platelet-Rich Plasma Injection:**
- Contains platelet-derived growth factors and promotes healing.
- Growth factors reduce the activation of nuclear factor-KB, an important pathogen that plays a role in the pathogenesis of OA.
- It also inhibits the production of matrix metalloproteinase 13 stimulated by interleukin (IL)- 1B and tumor necrosis factor (TNF) alpha.
- However, it does not have a standard application and does not work adequately, and the guides do not recommend it.

- **Duloxetine (SNRI):**
- Central sensitization in chronic pain occurs with a disruption in the serotonin-norepinephrine balance. Duloxetine, an antidepressant, is effective in this case. It is also effective in accompanying neuropathic pain. It is recommended on a situational basis.

- **Tramadol**
- Tramadol is a weak opioid agonist. It has a synergistic effect when taken with acetaminophen.
- Opioids other than tramadol are not recommended in the treatment of OA.

- **Stem Cell Treatment:**
- Although Invivo regenerative effect has not been demonstrated, its pain-reducing effect has been demonstrated.
- No significant side effects were detected.
- Although it is not currently recommended in the guidelines for knee OA, it is already implemented in many centers.
- Can be tried situationally for hand OA.

- **Emerging treatments:**
- The aim of future biological treatments is to reduce catabolic activity and/or increase anabolic activity in order to reduce joint destruction, thereby slowing or stopping the progression of the disease.
- Many mediators play a role in this catabolism-anabolism imbalance. Among these mediators, those involved in both destruction and pain pathogenesis are IL-1, IL-6, TNF-α, prostanoids and PGE2, FGF-2 and protein kinase C-∂ (PKC-∂). is. IL-1 is one of the most studied and detailed cytokines in OA. The phase 2 study of lutikizumab (anti-IL 1alpha/beta inhibitor) was not successful.
- Anti-NGF therapies are promising. They prevent nociceptive neurons from transmitting pain.
- Lorecivivint is a wnt inhibitor. Wnt signaling is particularly involved in the induction of matrix metalloproteinases (MMP1, MMP3 and MMP13) by chondrocytes and synovial tissue in response to mechanical stress and pro-inflammatory cytokines. Wnt pathway inhibition prevents cartilage degradation. Phase 1,2 and 2b studies were found successful.
- Sprifermin (FGF) is a growth factor and has an anabolic effect. Phase 1 and 2 studies were found successful. A dose-dependent increase in tibiofemoral cartilage thickness was demonstrated after 2 years of intra-articular use of 100 mcg every six months.
- The cathepsin K inhibitor MIV-711 (medivi) has been found to reduce cartilage loss in animal studies.

New drugs are under development and ongoing studies are promising. The important thing is to diagnose osteoarthritis early and start early treatment. Today, non-pharmacological methods are more effective than pharmacological methods.

The Nutritional Importance and Advice for Pressure Ulcers

Dr. Hasan ÖZTİN

- 60-70% of occurrences consist of people over the age of 65.
- It has been found that 39% of patients who get pressure ulcers (PU) in the hospital are those aged 65 and over, and 24.7% of individuals aged 70 and over develop pressure sores (1).
- Pressure sores are associated with morbidity and mortality.
- It causes patient pain, a higher risk of infection, and a longer stay in the hospital.
- Increases health-care consuming
- Reduces the quality of life for patients and their families
- The rate of nosocomial infection is increasing.
- Why is PU more common in the elderly:
    - Aging-related sebum production, decreased skin thickness and collagen synthesis, increased elastin loss, and cell loss more than structure cause the skin to become drier, more sensitive, less elastic, and more quickly injured. (2)
    - Decreased appetite, unfavorable weight loss, lactose intolerance, frequent occurrence of acute gastrointestinal problems, drug use that reduces appetite and increases nutrient losses, decreased ability to concentrate urine, conscious fluid restriction due to urinary incontinence and dysphagia, and decreased sense of thirst, excessive C. Vitamin deficiency and difficulty to feed alone are two nutritional problems that contribute to the development of pressure ulcers and inhibit wound healing in the elderly.
- Elderly people are important considerations because risk factors for developing pressure ulcers, such as old age, immobility, diabetes, peripheral vascular disease, and malnutrition, are more prevalent in the elderly.
- Collagen and elastin concentrations in the dermis decrease with age.
- Reduced ability to regenerate epidermal cells
- As we age, our skin's perfusion decreases.
- Sensory loss is also a factor in ulcer formation.
- The incidence of incontinence increases with age.

Nutritional recommendations for pressure ulcers

Consumption of energy

- A low BMI and weight loss increase the frequency of pressure sores.
- As body fat tissues decrease, the natural protective covering on the bones thins, increasing vulnerability to pressure and soft tissue damage. (3)
- It is believed that malnourished elderly people are more prone to pressure ulcers, and that malnutrition is the most important risk factor for pressure ulcers in older individuals cared for at home. (4)
- suggests assessing patients with the Mini Nutritional Assessment-Short Form (MNA-SF).
- When assessing a patient's nutritional status, consider body weight, height, and BMI, history of unwanted weight loss or gain, history of food intake, dental and oral health, difficulty swallowing, food-drug interactions, ability to access and prepare food, cultural interaction, and biochemical findings.
- Morbidly obese people are three times more likely to get pressure sores than normal people, and morbid obesity causes pressure sores to develop. Obesity, on the other hand, is expected to lower the risk of pressure sores, particularly in the elderly, and may be protective against the development of pressure sores. Obesity decreases the risk

of pressure ulcers in the elderly. It is also regarded to be beneficial in the prevention of pressure sores. (5)(6) o In older individuals with mild stress, NPUAP and EPUAP recommend an energy intake of at least 30-35 kcal/kg/day. If nutrient needs cannot be satisfied through diet, fortified foods and/or high-energy, high-protein oral nutritional supplements should be utilized between meals.

- Enteral or parenteral nutritional assistance should be explored when oral intake is insufficient.
- Physical and pharmacological constraints that cause immobility, as well as diarrhea caused by tube feeding, may increase the incidence of pressure ulcers in older people.

Carbohydrates:

- Glucose is the main supply of energy for collagen formation. Ensuring enough carbohydrate intake is more effective than generating energy from protein and fat. (9)
- 55-60% of total daily energy consumption
- Fibroblastic formation and mobility, leukocyte activity, mitosis, protein synthesis are all required to support cellular processes such as hormone and growth factor secretion.
- Carbohydrate type and proportion are critical in diabetics and those on corticosteroids. Hyperglycemia continues to disturb the generation of leukocytes, which are critical immune cells in the wound healing process, increasing the risk of infection and impairing wound healing (10).

Protein consumption

- It helps in cell proliferation, collagen and connective tissue synthesis, and wound healing. Stage 4 wounds can result in protein loss of up to 50 grams per day.
- Protein consumption must be increased in the elderly due to a decline in anabolic response with aging as well as the inflammatory and catabolic processes associated with acute and chronic illnesses.
- In people at risk of pressure ulcers, npuap and epuap recommend a daily protein intake of 1.25 to 1.5 g/kg. Protein consumption of 1.5-2.0 g/kg per day in individuals with stage III/IV pressure ulcers(11).
- Serum albumin levels less than 3.1 g/dl are associated with a higher risk of wound formation and healing. (12)
- Protein consumption varies according to the severity of the pressure ulcers, associated disorders (CKD, diarrhea), the individual's nutritional state, and tolerance to the prescribed nutritional intervention.
- It is critical to assess renal functions.
- Protein requirements per day based on pressure sore stage (13)
    - 1-1.4 g/kg per day for stages 1-2;
    - 1.5-2.0 g/kg (max. 2.2 g/kg) per day for stages 3-4

Glutamine

- Functions as a power source for fibroblasts and epithelial cells and is crucial for immune system activity and wound healing
- It can be administered at a maximum dose of 0.57 g/kg/day. (14)
- Its usage in sepsis and multiorgan failure is unclear.

Arginine

- Arginine was recommended by ESPEN.
- Stimulates insulin secretion, ensures amino acid delivery to tissues, and promotes protein creation in cells.
- It promotes blood flow in the wound area by producing nitric oxide and functions as a mediator in the immunological response.
- It promotes wound healing by increasing collagen synthesis via proline synthesis, influencing microvascular and perfusion alterations, and activating T cells and growth hormone.
- A daily intake of 4.5-9 g has been demonstrated to accelerate wound healing(15).
- It is not advised in patients suffering from sepsis and multiorgan failure. It results in hemodynamic instability.

L-carnosine, -alanine, and L-histidine

- It increases fibroblast durability, boosts endothelial cell nitric oxide production, and protects against oxidative stress. (16)

Collagen

- Supplements containing collagen have been found to enhance wound healing. (17)

Fatty acids

- Eicosonoids, when isolated from n-3 and n-6, function an essential role as inflammatory indicators required to trigger wound healing. (18)
- The n-6:n-3 ratio should be less than 10:1 during the inflammatory process (19).
- Applying olive oil topically has been shown to be useful in curing pressure sores in individuals receiving home care. (20)

Water

- Dehydration is common as a result of decreased thirst, decreased ability to concentrate urine, and decreased memory. (21) The demand grows as a result of factors such as fever, diarrhea, vomiting, increased perspiration, and wound fluid loss.
- For elderly adults with pressure sores, the NPUAP advises 1 mL/kcal/day fluid consumption. (22)
- Hydration is essential for pressure ulcer healing because dehydration inhibits the delivery of oxygen, nutrients, and immune cells to the tissue.
- 30-40 mL/kg, 1500 mL per day, or 1 mL per day calorie should be administered.

Vitamine C

- It is a cofactor in the hydroxylation of proline and lysine.
- Normal daily requirements are 90 and 75 mg/d for Stage I and Stage II ulcers, respectively, and 1000-2000 mg/d for Stage III and IV ulcers.
- Above 2000 mg/day, there is little impact on wound healing. High doses cause diarrhea.
- In renal failure, the dosage should be lowered. It is the cause of stone creation. (23)

Zinc

- It features potent antioxidant effects.
- Plays a function in collagen synthesis, DNA and RNA synthesis, and cell regeneration. (24)
- Because zinc is delivered through albumin, it is reduced in situations of hypoalbumiemia (malnutrition, trauma, sepsis, and infection).
- It is required for cell growth, replication, and protein synthesis.
- Men need 11mg per day, while women need 8mg. In the case of zinc shortage, 40 mg should be taken daily. (25)

References

1. Rasero L. Advances in Skin & Wound Care 2015;28(10):461-64. Gardiner JC, International Wound Journal 2016;13(5):809-20)
2. House KW, Johnson TM. Prevention of Pressure Ulcers. In: Th omas DR, Compton GA (eds),Pressure Ulcers in the Aging Population. New York: Springer; 2014: p 27-43
3. House KW, Johnson TM. Prevention of Pressure Ulcers. In: Th omas DR, Compton GA (eds), Pressure Ulcers in the Aging Population. New York: Springer; 2014: p 27-43
4. Iizaka S, Okuwa M, Sugama J, Sanada H. Th e impact of malnutrition and nutrition-related factors on the development and severity of pressure ulcers in older patients receiving home care. Clinical Nutrition 2010;29(1):47-53
5. (Ness SJ, Hickling DF, Bell JJ, Collins PF. Th e pressures of obesity: Th e relationship between obesity, malnutrition and pressure injuries in hospital inpatients. Clinical Nutrition 2018;37(5):1569-74
6. Compher C, Kinosian BP, Ratcliff e SJ, Baumgarten M. Obesity reduces the risk of pressure ulcers in elderly hospitalized patients. Th e Journals of Gerontology Series A 2007;62(11):1310-2
7. House KW, Johnson TM. Prevention of Pressure Ulcers. In: Th omas DR, Compton GA (eds),Pressure Ulcers in the Aging Population. New York: Springer; 2014: p 27-43
8. Teno JM, Gozalo P, Mitchell SL, Kuo S, Fulton AT, Mor V. Feeding Tubes and the Prevention or Healing of Pressure Ulcers. Archives of Internal Medicine 2012;172(9):697-701
9. Doley J. Nutrition Management of Pressure Ulcers. Nutrition in Clinical Practice 2010;25(1):50-60
10. Ireton-Jones C, Liepa GU. Carbohydrates and Wound Healing. In: Molnar J (ed), Nutrition and Wound Healing. New York: CRC Press Taylor & Francis Group; 2007. p15-24
11. Cox J, Rasmussen L. Enteral nutrition in the prevention and treatment of pressure ulcers in adult critical care patients. Crit Care Nurse 2014;34:15-27
12. Montalcini T, Moraca M, Ferro Y, Romeo S, Serra S, Raso MG, et al.Nutritional parameters predicting pressure ulcers and short-termmortality in patients with minimal conscious state as a result oftraumatic and non-traumatic acquired brain injury. J Transl Med 2015;13:305
13. Cox J, Rasmussen L. Enteral nutrition in the prevention and treatment of pressure ulcers in adult critical care patients. Crit Care Nurse 2014;34:15 27
14. ZieglerTR, Benfell K, Smith RJ, Young LS, Brown E, Ferrari-Baliviera E,et al. Safety and metabolic effects of L-glutamine administration in humans. JPEN J Parenter Enteral Nutr 1990;14:137S-46S
15. Brewer S, Desneves K, Pearce L, Mills K, Dunn L, Brown D, et al. Eff ect of an arginine-containing nutritional supplement on pressure ulcer healing in community spinal patients. Journal of Wound Care 2010;19(7):311-6
16. Sakae K, Agata T, Kamide R, Yanagisawa H. Eff ects of L-carnosine and its zinc complex (Polaprezinc) on pressure ulcer healing. Nutrition in Clinical Practice 2013;28(5):609-16
17. Yamanaka H, Okada S, Sanada H. A multicenter, randomized, controlled study of the useof nutritional supplements containing collagen peptides to facilitate the healing of pressureulcers. Journal of Nutrition & Intermediary Metabolism 2017;8:51-59

18. Turek JJ. Fat and Wound Healing. In: Molnar J (ed), Nutrition and Wound Healing. New York: CRC Press Taylor & Francis Group; 2007. p 27-39
19. .Turek JJ. Fat and Wound Healing. In: Molnar J (ed), Nutrition and Wound Healing. New York: CRC Press Taylor & Francis Group; 2007. p 27-39
20. Lupianez-Perez I, Morilla-Herrera JC, Ginel-Mendoza L, Martin-Santos FJ, Navarro-Moya FJ, Sepulveda-Guerra RP, et al. Eff ectiveness of olive oil for the prevention of pressure ulcercaused in immobilized patients within the scope of primary health care: study protocol for arandomized controlled trial. Trials 2013;14:348
21. Doley J. Nutrition Management of Pressure Ulcers. Nutrition in Clinical Practice 2010;25(1):50-60
22. House KW, Johnson TM. Prevention of Pressure Ulcers. In: Th omas DR, Compton GA (eds),Pressure Ulcers in the Aging Population. New York: Springer; 2014: p 27-43
23. Cox J, Rasmussen L. Enteral nutrition in the prevention and treatment of pressure ulcers in adult critical care patients. Crit Care Nurse 2014;34:15-27
24. Stephens P, Thomas DW. The cellular proliferative phase of the wound repair process. J Wound Care 2002;11:253-61
25. Osland EJ, Ali A, Isenring E, Ball P, Davis M, Gillanders L.AustralasianSociety for Parenteral and Enteral Nutrition guidelines forsupplementation of trace elements during parenteral nutrition. Asia Pac J Clin Nutr. 2014;23:545-54

Sarkopeni Tedavisinde Güncel Yaklaşımlar

Dr. Mert EŞME

Hacettepe Üniversitesi İç Hastaliklari Anabilim Dalı, Geriatri Bilib Dalı

Yunanca "et" sarx ve "kayıp" anlamına gelen penia'dan gelen sarkopeni, yaşlanma, yeme alışkanlıkları, fiziksel hareketsizlik ve hatta başka bir hastalığın neden olduğu kas kütlesi kaybıyla ilgili çok faktörlü bir durumdur(1,2).

Sarkopeninin patofizyolojisi, kas hücrelerinin üretimi ve yıkımı arasındaki dengesizlik ile ilgilidir. Yaşlanmayla birlikte, kas hücrelerinin miktarı kademeli olarak tükenir ve anabolik uyaranlar, bunun sonucunda mitokondriyal fonksiyonda azalma, gen ekspresyonunda değişiklikler, azalan insülin duyarlılığı ve bozulmuş nöromüsküler sinyaller ile direnç oluşturur (3 4). Öte yandan, yaşla birlikte, büyüme hormonu (GH), insülin benzeri büyüme faktörü 1 (IGFI), testosteron ve östradiol gibi iskelet kası kütlesinin ve fonksiyonunun uyarılmasıyla ilgili hormonların salgılanmasının azalmasıyla ilişkili bir durum da vardır. Ayrıca miyogenez, azalmış insülin duyarlılığı ile birlikte değişen IGF-I sinyallerinden etkilenebilir. Adrenal kaynaklı dehidroepiandrosteron, tiroid hormonları ve D vitamini gibi sarkopeninin patofizyolojik süreci ile de ilişkili olabilecek diğer hormonlar, ilerleyen yaşla birlikte azalır. Yağ dokusu tarafından salınan adipokinler, yaşlanma sırasında önemli değişiklikler meydana getirir ve kas metabolizmasını ve fizyolojisini etkileyebilir. Bununla birlikte, kortizol ve anjiyotensin II gibi katabolik hormonlar, kas erimesine neden oldukları için yaşa bağlı kas atrofisini hızlandırabilir ve seviyeleri yaşla birlikte artar (5,6).

Etkilenen bireylerde düşme riski daha yüksektir, basit aktiviteleri gerçekleştirme yeteneği bozulur ve kalp hastalığı, solunum yolu hastalıkları, bilişsel bozukluk ve dolayısıyla artan hastaneye yatış riski ile ilişkili olabilir ve bunun yanı sıra ekonomik olarak artmış maliyete neden olur. Sarkopenik hastalarda tedavi ilaçsız ve ilaç bazlı olabilir. Sarkopeninin terapötik yaklaşımı için şu anda onaylanmış tek bir ilacın kullanılması konusunda fikir birliği yoktur. Öte yandan, beslenme açısından, amino asit takviyesi veya protein açısından zengin diyetler ile hipertrofik yanıt arttırılabilir. Ayrıca, kreatin gibi takviye kullanımı da bu cevaba katkıda bulunabilir. Fiziksel egzersiz, aerobik veya kas direnci uygulaması ve dengeli beslenme, hastalığı iyileştirmek için, sadece kas hipertrofisi için değil, aynı zamanda iskelet sisteminin metabolik ve enerjik bakımı için de vazgeçilmezdir. Bazı hastalarda kas kütlesini artırmak için hormon uygulaması da kullanılmaktadır(7,8) .

Sarkopeni, yaşlanmaya bağlı kas kütlesi kaybıyla ilişkili multifaktöriyel bir hastalıktır ve obezite, diyabet ve kardiyovasküler hastalıklar gibi diğer patolojiler tarafından kötüleşebilir veya şiddetlenebilir. Beden eğitiminin sarkopeni tedavisi ve yönetim stratejilerinin temel bir bileşeni olması gerektiği yaygın olarak kabul edilmektedir. Bununla birlikte, besin takviyesinin, özellikle izole besinlerin rolü tartışmalıdır. Bazı beslenme desteği stratejileri, sarkopeni önleme veya iyileştirme olarak gösterilebilir. Anabolik yanıtı en üst düzeye çıkarabilen, örneğin yeterli günlük protein alımı ve gün boyunca protein tüketiminin dağılımı gibi bazı özel diyet bileşenleri için yeterli kanıt vardır. Tartışmalı sonuçlara rağmen, metformin, GLP-1, losartan, statin, büyüme hormonu ve dipeptidil peptidaz 4 inhibitörleri gibi ilaçlar da düşünülebilir ve kasları korurken sarkopenik metabolik parametrelerini değiştirebilir, kardiyovasküler hastalıklara ve sonuçlara karşı koruma sağlayabilir.

Yakın gelecekte yapılacak çalışmaların beslenme tedavisinin ne zaman ve ne zaman kullanılması gerektiğine ışık tutacağı düşünülmektedir. İlaç ve besin maddelerinin birlikte kullanımı faydalı olmakla birlikte, bu kullanımın fiziksel aktivite (mümkün olduğunda) ile birleştirilmesi durumunda sistemik etkiler de dahil olmak üzere üstün faydalı etkilerin görüleceğini vurgulanmaktadır. Bu anlamda bazı durumlarda hastanın daha hastalık tanısı konmadan yeterli besin

takviyesinden yararlanabilmesi, böylece önleyici ve kişiye özel hareket etmesi mümkündür. Bununla birlikte, müdahalelerin rollerini ve sonuçlarını değerlendirmek için farklı sarkopeni türleri ve evreleri olan hastalara özellikle odaklanarak beslenme ve farmakolojik tedavi etkilerini değerlendirmek için yeni klinik araştırmalar geliştirmeye ihtiyaç vardır.

Kaynaklar

1. Kirwan, R.; McCullough, D.; Butler, T.; Perez de Heredia, F.; Davies, I.G.; Stewart, C. Sarcopenia during COVID-19 lockdown restrictions: Long-term health effects of short-term muscle loss. Geroscience 2020, 42, 1547–1578.
2. de Oliveira Zanuso, B.; de Oliveira Dos Santos, A.R.; Miola, V.F.B.; Guissoni Campos, L.M.; Spilla, C.S.G.; Barbalho, S.M. Panax ginseng and aging related disorders: A systematic review. Exp. Gerontol. 2022, 161, 111731
3. Pár, A.; Hegyi, J.P.; Váncsa, S.; Pár, G. Sarcopenia—2021: Pathophysiology, diagnosis, therapy. Orv. Hetil. 2021, 162, 3–12
4. Guo, M.; Yao, J.; Li, J.; Zhang, J.; Wang, D.; Zuo, H.; Zhang, Y.; Xu, B.; Zhong, Y.; Shen, F.; et al. Irisin ameliorates age-associated sarcopenia and metabolic dysfunction. J. Cachexia Sarcopenia Muscle 2022.
5. Priego, T.; Martín, A.I.; González-Hedström, D.; Granado, M.; López-Calderón, A. Role of hormones in sarcopenia. Vitam. Horm. 2021, 115, 535–570.
6. Yin, M.; Zhang, H.; Liu, Q.; Ding, F.; Hou, L.; Deng, Y.; Cui, T.; Han, Y.; Chen, Y.; Huang, C.; et al. Determination of skeletal muscle mass by aspartate aminotransferase/alanine aminotransferase ratio, insulin and FSH in Chinese women with sarcopenia. BMC Geriatr. 2022, 22, 893.
7. Papadopoulou, S.K. Sarcopenia: A Contemporary Health Problem among Older Adult Populations. Nutrients 2020, 12, 1293
8. Alizadeh Pahlavani, H.; Laher, I.; Knechtle, B.; Zouhal, H. Exercise and mitochondrial mechanisms in patients with sarcopenia. Front. Physiol. 2022,

Kırılganlık Sendromu Yönetimi: Güncel Yaklaşımlar ve Gelecekteki Hedefler

Dr. Rana TUNA DOĞRUL

Ankara Bilkent Şehir Hastanesi Geriatri Kliniği

Kırılganlık yönetimi yaşlı popülasyonda, kırılganlığın değerlendirilmesi, önlenmesi ve yönetilmesine yönelik kapsamlı bir yaklaşımı ifade eder. Kırılgan hasta değerlendirmesinde geriatrist, hemşire, psikolog, sosyal hizmetler uzmanı, gerontolog, diyetisyen, fizyoterapist ve ergoterpistlerin yer aldığı interdisipliner ekip ön plandadır. Uluslararası Kırılganlık ve Sarkopeni Araştırmaları Konferansı-(*International Conference of Frailty and Sarcopenia Research (ICFSR))* 2019 yılında kırılgan hasta yönetimine dair önerileri içeren bir kılavuz yayınlamıştır ve bir sonraki kılavuzun 2024 yılında yayınlanacağını duyurmuştur. Bu kılavuza göre kırılganlığa yönelik kapsamlı bir bakım planı sistematik olarak şunları ele almalıdır: Bitkinlik nedenleri, polifarmasi, sarkopeninin tedavisi, kilo kaybının tedavi edilebilir nedenleri.

Kırılganlığı veya kırılganlık öncesi durumu olan yaşlı yetişkinler tükenme nedenleri açısından değerlendirilmelidir. Hollanda ve İtalya veri setlerinden alınan büyük ölçekli/uzun süre takipli bir çalışmasında takipte tükenmenin yaşlı yetişkinlerde ortaya çıkan ilk kırılganlık semptomu olduğunu görülmüştür. Tükenmişliğin başlıca nedensel faktörleri olan depresyon, uyku apnesi, B12 vitamini eksikliği, anemi, hipotiroidizm ve hipotansiyon açısından hastalar değerlendirilmelidir. İlaç yönetimi, kırılganlığa yönelik kapsamlı bir yönetim planının parçası olarak önerilmektedir. 37 çalışmanın meta-analizinde kırılganlığı olan yaşlı kişilerin %59'unun beş veya daha fazla ilaç kullandığı görülmüştür. Polifarmasi azaltmayı hedeflemek için uygun reçeteleme önerileri sunulmuştur. Tarama Aracı STOPP-START kriterleri veya Beers kriterleri gibi standart kılavuzlar kullanılarak yapılması tavsiye edilmektedir. STOPPFrail'de 25 madde alt grubuyla kırılgan hastada kullanılmaması gerek ilaçları ayrıca belirtilmiştir. Kırılganlığı olan tüm yaşlı kişiler görme ve işitme güçlükleri açısından değerlendirilmeli ve varsa bunlar düzeltilmelidir. Düşme riski olanların ortostatik hipotansiyon ve senkop açısından kontrol edilmesi gerekmektedir.

Kılavuzun güçlü önerisi kırılganlığı olan yaşlı insanlara çok bileşenli bir fiziksel aktivite programı sunulmalıdır (veya pre-fraillerde önleyici bileşen olarak) şeklindedir. Yalnızca kırılganlık tedavisi denemelerini içeren (ve kırılganlığı önleme çalışmalarıyla birleştirilmemiş) son sistematik incelemeler çok bileşenli eğitimin, kırılganlığı olan yaşlı yetişkinlerde kas gücü, denge, sakatlık ve düşme sonuçlarını iyileştirdiğini bildirmiştir. 2022'de SPRINTT çalışmasında 11 Avrupa ülkesinde, fiziksel zayıflığı veya sarkopenisi olan 1519 katılımcı 12 ay müdahale, 36 ay takip planlanmış, orta yoğunlukta egzersiz + Beslenme danışmanlığıyla (enerjiyi 25-30 kcal/gün ve protein alımını 1,0-1,2 g/kg/g optimize etmek için) verilmiştir. Sonuç olarak sakatlık durumunda azalma ve fiziksel performansta artış izlenmiştir. 2022 Yeni Zelanda SUPER çalışmasında fiziksel aktivite, beslenme eğitimi ve yemek pişirme programı ve kombinasyon grupları oluşturulmuş, 6 aylık takipten sonra, hem fiziksel aktivite hem de beslenme müdahaleleri bağımsız olarak kırılganlığı iyileştirmiştir. Ancak kombine müdahalede herhangi bir ek fayda gözlenmemiştir. Müdahalenin faydaları çalışmadan 2 yıl sonra bile korunmadı, bu da sürekli katılımın gerekli olduğunu vurgulanmıştır.

Kilo kaybı veya yetersiz beslenme tanısı konduğunda, kırılganlığı olan kişiler için protein/kalori takviyesi düşünülebilir (Orta düzey kanıt). Kırılganlığı olan yaşlı yetişkinler arasında, protein-enerji/protein takviyesi fiziksel performans ve güçte (yürüyüş/bacak gücü) artışların yanı sıra yürüme hızı ve kırılganlıkta iyileşmelere yol açmıştır. İleriye dönük kohort çalışmalarından elde edilen düşük düzeyli kanıtlar, geleneksel Akdeniz diyetinin toplum içinde yaşayan yaşlı bireylerde kırılganlık riskini azaltabildiğini göstermiştir. Folat, β-karoten ve A, C ve E vitaminleri gibi mikro besinlerin kırılganlığın gelişimiyle ilişkili olduğunu

bildirmektedir. Kırılganlık ve/veya kırılganlık öncesi yaşlı yetişkinlerde beslenme müdahalesi ve fiziksel aktivitenin birlikteliğinin kırılganlığı, yürüme hızınını, kavrama gücünü ve fiziksel performansı iyileştirmede etkili olduğu gösterilmiştir. Azalmış kas gücü ile kırılganlık arasındaki yakın bağlantı göz önüne alındığında, sarkopeni tedavisine yönelik stratejilerin kırılganlığı olan yaşlı yetişkinler için de benimsenmesi önerilmektedir. Kırılganlığı olan yaşlı yetişkinlere ağız sağlığının önemi konusunda bilgi verilmesini önerilmektedir. 1622 katılımcının yer aldığı 3 yıllık takip çalışmasında dişsizlik, ağız sağlığı sorunları veya ağız kuruluğu semptomları olan yaşlı yetişkinlerde kırılganlık daha yüksek olduğu gösterilmiştir.

Kırılganlık sendromu yönetiminde halihazırda tavsiye edilen farmakolojik bir tedavi yoktur. Hormon tedavisinin etkinliğine ilişkin yüksek derecede belirsizlik göz önüne alındığında kırılganlığın tedavisi için hormon tedavisini önermemektedir. D vitamini eksikliği olmadığı sürece kırılganlığın tedavisinde D vitamini takviyesi önerilmemektedir. Rastgele seçilen 25 057 VITAL deneme katılımcısının izlendiğil ortalama 5 yıllık takip çalışmasında ne D vitamini ne de omega-3 yağ asidi takviyesi, zaman içindeki ortalama kırılganlık skorlarını etkilememiştir. DO-HEALTH (2023) çalışmasında 2157 katılımcıya günlük 2.000 IU D3 vitamini, 1 g omega-3 ve egzersiz programı uygulanmıştır. 3 yıllık takipte pre-frail olma ihtimalinde üçlü müdahale etkili bulunurken ve frail olma ihtimalini hiçbir müdahale etkilememiştir. Karşılanmayan bakım ihtiyaçlarını karşılamak ve kapsamlı yönetim planına bağlılığı teşvik etmek için kırılganlığı olan tüm kişilere ihtiyaç duyulduğunda sosyal destek sunulmalıdır.

Gelecekte egzersiz rejimleri, beslenme planları ve ilaç stratejileri gibi kişiye özel müdahaleler, bireyin genetik ve sağlık profiline göre tasarlanabilir. Telesağlık ve dijital sağlık teknolojileri, kırılganlık yönetiminde çok önemli bir rol oynayacaktır. Kırılganlık yönetimi stratejilerinin, evde bakım seçenekleri ve yardımcı teknolojiler yoluyla bu tercihi desteklemesi gerekecektir.

Yaşam Merkezleri ve Geriatri: Beklentiler ve Çözüm Önerileri

Dr. Serdar CEYLAN

Türkiye Cumhuriyeti Sağlık Bakanlığı tarafından "95796091/010.06.01" sayılı "Sağlıklı Yaş Alma Merkezleri (YAŞAM)" konulu genelge yayınlanmıştır (Daha sonra Evde Sağlık Hizmetleri Genelgesi'nde de YAŞAM birimleri yer almıştır). Takibinde İl Sağlık Müdürlükleri'ne tebligatlar yapılarak projenin hayata geçirilmesi için çalışmalar başlatılması istenmiştir. Genelgede YAŞAM ekiplerinin başında geriatrist, iç hastalıkları uzmanı ya da aile hekimi uzmanı olması gerektiğini belirtmektedir. Ekipte hekim dışında hemşire, yaşlı bakım teknikeri, psikolog, diyetisyen, fizyoterapist, sosyal hizmet uzmanı ve sekreter bulunması gerekmektedir. YAŞAM biriminde görevlendirilen personelin uzaktan eğitim sistemi ile bakanlıkça belirtilen eğitimi tamamlaması esastır.

Bir YAŞAM ekibinin kapasitesi 80 yaş ve üstünde olan 300 hasta olarak belirlenmiştir. Takip edilecek hasta listeleri il sağlık müdürlükleri tarafından YAŞAM ekibine bildirilmelidir. Sonrasında YAŞAM ekibi tarafından hasta/bakımvereni aranmakta ve uygun zamanda randevu ayarlanarak hasta evinde ziyaret edilmektedir. Evinde ziyareti kabul etmeyen hastalara uzaktan erişim ile görüşme seçeneği sunulmaktadır. İlk ziyarette/görüşmede mutlaka hekim bulunması talep edilmektedir. Hasta ziyaretinde yapılması gerekenler genelgede belirtilmektedir. Hastanın hikayesi, kullandığı ilaçlar öğrenildikten, yaşamsal bulgularının tespiti ve fizik muayenesinin yanı sıra geriatrik sendromların değerlendirilmesi için objektif testlerden oluşan değerlendirme yapılması gerekmektedir. Temel ve enstrümental günlük yaşam aktiviteleri, kırılganlık durumu, beslenme durumu, kognitif değerlendirme, duygudurum sorgulanması ve sarkopeni taraması için objektif testler genelgede belirtilmiştir.

Hastaların hastaneye ulaşımında, hastane içi tetkiklerinde ve hastanın eve dönüşünde YAŞAM ekibi tarafında hastaya yardımcı olunması gerekmekte, gerekirse transferi için araç/ambulans ayarlanması yapılmalıdır. Hastalar YAŞAM ekibi tarafından değerlendirildikten sonra gerek duyulması durumunda konsültasyon ihtiyacı olan birimle de koordinasyon teşvik edilmektedir.

Kısaca yukarıda özeti yapılan genelge sonrası hastaneler bünyesinde YAŞAM ekipleri kurulmaya başlanmıştır. Her hastane eldeki imkanlarına göre farklı işleyişte YAŞAM birimleri kurmaya başlamıştır. Geriatri uzmanı çalışan çoğu hastanede geriatri uzmanı görevlendirilmiştir. Evde ziyaretleri gerçekleştiren geriatri uzmanlarının yanı sıra poliklinik hizmeti olarak YAŞAM hizmeti sunanlar olmuştur. Bunun yanı sıra geriatristler Sağlık Bakanlığı tarafından "il koordinatörü" olarak atanarak YAŞAM ekiplerindeki personelin eğitim için tanımlanmasında görevlendirilmişlerdir. Kurulacak YAŞAM ekipleri için fikirlerine başvurulmuştur.

Mevcut durumda geriatri uzmanları için standart bir YAŞAM uygulaması yoktur. Hastane yönetimlerinin verdiği talimatlara, çalışma şartlarına, hastane imkanlarına göre hizmet verilemye çalışılmaktadır. Bazı hekimler evde ziyaretler yaparken bazıları poliklinik hizmeti olarak YAŞAM hizmeti vermektedir. Bazıları ise danışman/koordinatör olarak hizmet vermektedir. YAŞAM birimlerinin standartize edilmesi öncelikli olmalıdır. Geriatri uzmanlarının evde hasta ziyareti yapmak yerine koordinatör olarak görev alması, eğitim vermesi, kompleks vakalarda görüşünün alınması daha uygun olacaktır.

İnovatif Geriatride Beklentilerimiz

Dr. Veysel SUZAN

İstanbul Eğitim ve Araştırma Hastanesi, Geriatri

Ülkemizde geriatrik bireylerin toplumdaki oranı %9.9'dur. Geriatrik bireylerin %56'sı kadın ve %64'ü genç yaşlıdır (65-74 yaş). Geriatrik bireylerin okuma yazma bilme oranı ülkemizde %85 ve internet erişim imkanı %95'tir. 65-74 yaş arası internet kullanımı 2017 yılında %11 iken, 2022 yılında bu oran %36'ya yükselmiştir. Tek başına yaşayan geriatrik bireylerin sayısı 1 milyon 641 bindir. Geriatrik bireylerin sadece %10'u huzurevi ve bakımevine gitmek istemektedir. Bu verilerden yola çıkarak geriatrik bireyler için inovasyon önemli hale gelmektedir.

İnovatif yaklaşımlardan dijital okuryazarlık- sosyal medya, tele-tıp, akıllı sağlık takip cihazları, sanal gerçeklik uygulamaları ve robotik teknoloji geriatrik bireyler için ilgi çekici alanlardır.

İnternet ve sosyal medya kullanımı gençlerin aksine geriatrik bireylerde depresif durum olasılığını %33 oranında azaltmaktadır. Yalnız yaşayan geriatrik bireylerde, bu depresif duygu durumunun azalması daha fazladır. Altmışbeş yaş ve üstü bireylerin yarısı çevrimiçi uygulamaları kullanmaktadır ve en fazla da facebook uygulamasını kullanmaktadırlar.

Tele-tıp, telekomünikasyon yöntemlerinin hastalıkların tanı, tedavisi ve takibi için uygulanması anlamına gelmektedir. Tele-tıp hizmetleri diyabet, hipertansiyon, bilişsel hastalıklar gibi hastalıkların yönetilmesinde ciddi yarar sağlayabilmektedir. Tele-tıp aynı zamanda konsültasyonlarda, pre-operatif değerlendirmede ve post-operatif takipte de kullanılabilmektedir. Senkronize ve asenkronize tele tıp olarak ikiye ayrılmaktadır. Amerikan Tele-Tıp Derneği, senkronize tele-tıbbı, canlı video konferans yöntemiyle karşılıklı bilgilerin aktarılması olarak tanımlamaktayken asenkronize tele tıbbi ise verilerin ve medikal görüntülerin belirli zaman aralıklarında iletilmesi ve saklanması olarak tanımlamaktadır. Asenkronize tele-tıp hastadan alınan veri ilgili sağlık hizmet sağlayıcısına ya da doktora iletilir; fakat bu yöntem gerçek zamanlı değildir. Sağlık çalışanları bu veriyi uygun bir zamanda değerlendirir. Asenkronize tele-tıpta özellikle tele-dermatoloji ve tele-radyoloji sık kullanılan uygulamalardır.

Akıllı sağlık takip cihazları, bireylerin sağlık verilerini izlemek ve takip etmek için kullanılan teknolojik cihazlardır. En sık kullanılan akıllı sağlık takip cihazı akıllı saatlerdir. Akıllı saaatler; düzensiz ritm bildirimi sağlayarak atriyal fibrilasyon tanısına yardımcı olmaktadır. Gelişmiş uyku mönitörü ile uykuda saturasyon düşüşlerini not almakta ve obstriktif uyku apne tanısı için yardımcı olmaktadır. Düşme durumunda düşen kişi, akıllı saatin komutuna yanıt vermezse, akıllı saat tarafından acil sağlık merkezi aranır. Bir diğer özelliği de yardım çağırmak için siren tuşuna basılırsa 80 desibellik bir ses çıkar ve 180 metreye kadar uzaklıktan duyulabilir.

Sanal gerçeklik uygulamaları ilk kez çocuk yanık hastalarında denenmiştir. Çocuk yanık hastalarına 'Snow Word' oyunu sanal gerçeklikle oynatılınca ağrılarda %35-50 oranında düşüş sağlanmıştır. Sonrasında sanal gerçeklik birçok hastalıkta uygulanmıştır. Geriatrik hastalarda özellikle demans hastalarında sanal gerçeklikle beyne egzersiz deneyimi yaşatılarak; depresyon hafifletilmiş ve yaşam kalitesi artırılmıştır. Sanal gerçeklik uygulaması demans hastası kişilerde de yaygın kabul görmektedir.

Yaşlılarda robotik teknoloji ile ilgili yapılan çalışmalarda kullanılan toplam dokuz robot tipi vardır. Bunlar; sağlık izlem, rehabilitasyon, düşme tespiti-önleme, hatırlatma, refakatçi, ev içi servis, manipülatör, tele-varlık ve eğlence robotları olarak adlandırılmaktadır. Robot yardımlı tele-rehabilitasyon; yenilikçi, etkileşimli, kontrollü, uzun süre yapılabilen ve tam olarak tekrarlanabilir tedavi alternatifleri sunar. Nöro-rehabilitasyondaki kullanımı daha yaygındır. Üst ve alt ekstremite sorunları olan yaşlıların rehabilitasyonuna önemli ölçüde katkı sağlayabilir ve rehabilitasyonun etkinliğini artırabilir.

Sonuç olarak sosyal medya kullanımının depresyon riskini düşürmesi nedeniyle; akıllı saat kullanımının da güvenliği artırması nedeniyle geriatrik bireylere tavsiye edilebilir. Düzenli olarak geriatrik bireyler için inovatif gelişimlerin takibi önemlidir.

Kaynaklar

1. Türkiye İstatistik Kurumu – İstatistiklerle Yaşlılar 2022
2. Türkiye İstatistik Kurumu- Hanehalkı Bilişim Teknolojileri Kullanım Araştırması 2023
3. Suzan V, Bektan Kanat B, Yavuzer H, Doventas A. Themes and trends for osteoporosis: the bibliometric and altmetric approach. Arch Osteoporos. 2021 Aug 19;16(1):122. doi: 10.1007/s11657-021-00983-w.
4. Cotten SR, Schuster AM, Seifert A. Social media use and well-being among older adults. Curr Opin Psychol. 2022 Jun;45:101293. doi: 10.1016/j.copsyc.2021.12.005.

Glutatyon, Koenzim Q10, Curcumin Yararlı mı?

Dr. Yelda ÖZTÜRK

Glutathione

Glutathione (GSH) is an intracellular linear tripeptide comprising of glutamic acid, cysteine, and glycine amino acids present ubiquitously in all mammalian cells. GSH is produced by the liver and is involved in many body processes, and it is the most abundant intracellular antioxidant in the body and plays an important role in health and disease. Synthesis of GSH occurs in 2 steps in which glutamic acid and cysteine are first combined to an intermediate γ -glutamylcysteine and the enzyme catalyzing this step is glutamate–cysteine ligase. In the second step, glycine is added to form the final product γ -glutamyl–cysteinyl–glycine (glutathione), and the enzyme catalyzing this step is glutathione synthetase. Glutathione concentrations decrease with age, and reduced serum concentrations are associated with poor health. Several enzymes use glutathione in reaction mechanisms and fulfill a variety of protective, defensive, synthetic, or signaling roles in cellular metabolism. Glutathione is undoubtedly part of a vast complex of cellular machinery processes. Therefore, monitoring it as a marker of specific conditions and dynamic changes has a significant value. (1) GSH has crucial functions like enhancement of immune system function, prevention of oxidative cell damage, prostaglandin synthesis, transport of metals across membranes, protein synthesis, DNA synthesis and repair, enzyme activation, redox reactions, neuro-modulator, neurotransmitter, source of neuronal glutamate, neuronal differentiation, and apoptosis. (2, 3)

The brain constitutes only 2% of the body weight but utilizes 20% of the O2 used by the whole body. Due to the high O2 utilization and poor antioxidant status, the brain is highly susceptible to oxidative stress. Amongst the major central nervous system cells, the concentration of GSH is highest in astrocytes followed by neurons. GSH plays a paramount role in brain antioxidant defense, maintaining redox homeostasis. The depletion of brain GSH has been observed in studies with aging and varied neurological disorders (Alzheimer's disease, Parkinson's disease, etc.). Therefore, GSH enrichment using supplementation is a promising avenue in the therapeutic development of these neurological disorders. (4)

There are studies to correct GSH deficiency by using GlyNAC (Glycine and N-Acetylcysteine). GlyNAC may also increase lifespan and improve multiple age-associated defects. (5) Benjamin et al. identified a novel mechanism of stem cell aging and highlight glutathione metabolism as an accessible target for reversing muscle aging. (6) In a study on mice, GlyNAC supplementation improved/corrected the brain defects and reversed age related cognitive decline. This study provided s proof of-concept that GlyNAC supplementation corrects these defects and improves cognitive function in aging.(7)

To maintain the disturbed antioxidant defense homeostasis in the brain, certain antioxidants such as GSH, vitamin C, vitamin E, and NAC were provided as a supplement to healthy as well as patients with various neurological disorders. However, it has been reported that vitamin C and E are dependent on GSH for their regeneration.(4)

There isn't enough reliable information to know what an appropriate dose of glutathione might be. Glutathione is possibly safe when used in doses up to 500 mg daily for up to 2 months. Sinha et al. supported the effectiveness of daily liposomal GSH administration at elevating stores of GSH and impacting the immune function and levels of oxidative stress. They conducted a 1-month pilot clinical study of oral liposomal GSH administration at two doses (500 and 1000 mg of GSH per day) in healthy adults.(8)

No interactions of risk level A or greater identified for GSH, so far. Supplementation is popular among some patients with chronic medical conditions, such

as HIV, type 2 diabetes mellitus, and cancer; but there is no high-quality evidence of benefit.

Gastric enzymes likely limit the action of glutathione. To circumvent these enzyme effects, glutathione is taken orally in liposomes, parenterally, transdermally, or in nebulized form. Substances such as curcumin, selenium, vitamins C and E, and N-acetylcysteine may boost endogenous production of glutathione. Foods high in glutathione include garlic, broccoli, asparagus, avocado, and spinach. Iv glutathione is popular for increasing the beauty of skin, promoting rapid recovery against chronic diseases, and slowing down the ageing process.

The side effects of glutathione supplementation are largely unknown. Gastric cramping, nausea, abdominal bloating, and allergic reactions have been reported. Chronic supplementation has been linked to low serum zinc concentrations. Inhaled glutathione has been reported to trigger asthma attacks. The US Food and Drug Administration (FDA) has warned that glutathione powders used to prepare injectable forms may contain large amounts of endotoxins that may cause myalgia, arthralgia, nausea, vomiting, and hypotension.

Coenzyme Q10

Coenzyme Q10 (CoQ10), which is present in the majority of tissues in the human body, has a key role in the process of cellular energy supply via oxidative phosphorylation within mitochondria, shuttling electrons from complexes I and II to complex III of the mitochondrial respiratory chain. It is also a powerful lipid-soluble antioxidant, protecting cell membranes from free radical-induced oxidative damage. It can be present in tissues in three different redox states: fully reduced (ubiquinol), fully oxidized (ubiquinone), and partially oxidized (semiquinone or ubisemiquinone). In addition to mitochondria, CoQ10 is present in peroxisomes, lysosomes, and the Golgi apparatus. CoQ10 has important antioxidant properties, with both a direct antioxidant effect of scavenging free radicals, and an indirect one of participating in the regeneration of other antioxidants such as ascorbic acid and alpha-tocopherol, offering protection to cells against oxidative stress processes. CoQ10 has roles in cellular energy generation, as an antioxidant and as an anti-inflammatory agent.

Although some CoQ10 is obtained from the diet, most of the daily requirement is synthesized within the body. Based on a total body pool of 2 g and an average tissue turnover time of 4 days, the human requirement for CoQ10 has been estimated at approximately, 500 mg/day.

In a systematic review and meta-analysis of 34 RCTs indicates that CoQ10 supplementation may be effective to attenuate oxidative stress status in the general population, especially in people with CAD or T2D. The supplementation of 100–150 mg/day CoQ10 is recommended for ameliorating the oxidative stress status.(9)

As an antioxidant, CoQ10 has proved to be of potential use as a treatment in diseases in which oxidative stress is a hallmark, and beneficial effects of CoQ10 have been reported in the treatment of chronic diseases. However, it is crucial to reach a consensus on the optimal dose and the use of different formulations.(10)

CoQ10 reduces cardiovascular risk factors (such as lipid and lipoprotein levels, blood pressure, or endothelial function) and cardiovascular mortality, improves glycaemic control and vascular dysfunction in type II diabetes, improves renal function in patients with chronic kidney disease, and reduces liver inflammation in patients with non-alcoholic fatty liver disease.(11, 12) It has therapeutic indications including statin-induced myopati, neurodegenerative diseases, cancer, migraine, athletic performance and male infertility.

CoQ10 has anti-inflammatory and antioxidant effects, and effects on mitochondrial dysfunction, which have been linked to the inflammatory response. In a review, it is mentioned that application of CoQ10 in infectious processes is feasible and it can present benefits that contribute to the development of a potential new therapy for infectious diseases.(13)

Clinical trials, systematic reviews, and meta-analyses have examined the safety and efficacy of CoQ10 in the treatment of human diseases. With regards to safety, the highest dose for long-term CoQ10 supplementation is 1200 mg daily. CoQ10 supplementation is considered safe and well-tolerated.

CoQ10 may reduce response to warfarin, theophylline and pro-oxidant chemotherapeutic agents. It may increase effect of antihypertensive drugs and cause to excessive decrease of arterial pressure.

Curcumin

Curcumin is the primary natural polyphenol found in turmeric. Turmeric is a spice that belongs to the ginger family. Turmeric is traditionally used for the prevention and treatment of a broad spectrum of diseases, such as metabolic diseases, respiratory diseases, anorexia, and arthritis. There is strong in vitro evidence that curcumin possesses anti-inflammatory,

antioxidant, and anti-amyloid properties. Curcumin is also used as an adjunct treatment for cancer due to its effect on induction of apoptosis and cell cycle arrest. In addition to the antitumor properties of curcumin, the beneficial effects of curcumin in the treatment of cachexia have been shown. Therefore, it has anti-catabolic potential to attenuate muscle wasting in different disorders.(14-16)

According to recent evidence, curcumin has the potential to treat sarcopenia. It supports muscle protection by maintaining satellite cell number and function, protecting the mitochondrial function of muscle cells, as well as suppressing inflammation and oxidative stress. However, more human clinical trials should be conducted to prove its efficacy and safety.(17)

Curcumin has also the potential to treat Alzheimer's disease (AD) by reducing oxidative damage in the brain. Some AD symptoms may be alleviated by the antioxidant and anti-inflammatory properties of curcumin. On the other hand, it has been discovered to destabilize preformed Aβ fibrils and limit Aβ fibril production and extension.(15)

Cox et al. reported that curcumin can improve mood and memory, as well as enable the ability to learn in healthy individuals.(18) A recent systematic review with meta-analysis investigated the effects of oral curcumin supplementation and found a significant effect on health-related quality of life. (19) Curcumin is useful for longevity via declining of oxidative stress, modulating signal transduction, and gene expression. Curcumin can extend lifespan via inhibition of lipid peroxidation, and also increases the antioxidant activities.(20)

However, curcumin has low bioavailability due to poor absorption, rapid metabolism, and equally rapid elimination. The available evidence shows that there are so many known nanoformulations with curcumin including Nano-suspensions, nanoparticles, Nanoemulsions, solid lipid particles, nanocapsules, nanospheres, and liposomes. These formulations can improve its bioavailability and curcumin can effectively be used as an adjuvant in several inflammatory and immune-mediated diseases such as atheroma plaque formation, rheumatoid arthritis, dementia, Alzheimer's disease, Parkinson's disease, Multiple sclerosis, psoriasis, epilepsy, and COVID-19.(21)

Several trials on healthy subjects have supported the safety and efficacy of curcumin. Despite this well-established safety, some negative side effects have been reported including diarrhea, nausea, headache, rash, and yellow stool. Up to 12 g/day intake of curcumin has been shown to have no harmful effects on individuals.(22)

Curcumin has biological activities, such as antioxidative, anti-inflammatory, anticancer, and anti-neurodegenerative characteristics. Future clinical experiments are now required to measure completely the capacity of curcumin in the route of administration, choice of optimal dose, and also possible drug interactions.

References

1. Vašková J, Kočan L, Vaško L, Perjési P. Glutathione-Related Enzymes and Proteins: A Review. Molecules 2023;28(3).
2. Iskusnykh IY, Zakharova AA, Pathak D. Glutathione in Brain Disorders and Aging. Molecules 2022;27(1).
3. Kumar P, Liu C, Hsu JW, et al. Glycine and N-acetylcysteine (GlyNAC) supplementation in older adults improves glutathione deficiency, oxidative stress, mitochondrial dysfunction, inflammation, insulin resistance, endothelial dysfunction, genotoxicity, muscle strength, and cognition: Results of a pilot clinical trial. Clin Transl Med 2021;11(3):e372.
4. Dwivedi D, Megha K, Mishra R, Mandal PK. Glutathione in Brain: Overview of Its Conformations, Functions, Biochemical Characteristics, Quantitation and Potential Therapeutic Role in Brain Disorders. Neurochem Res 2020;45(7):1461-1480.
5. Kumar P, Osahon OW, Sekhar RV. GlyNAC (Glycine and N-Acetylcysteine) Supplementation in Mice Increases Length of Life by Correcting Glutathione Deficiency, Oxidative Stress, Mitochondrial Dysfunction, Abnormalities in Mitophagy and Nutrient Sensing, and Genomic Damage. Nutrients 2022;14(5).
6. Benjamin DI, Brett JO, Both P, et al. Multiomics reveals glutathione metabolism as a driver of bimodality during stem cell aging. Cell Metab 2023;35(3):472-486.e476.
7. Kumar P, Osahon OW, Sekhar RV. GlyNAC (Glycine and N-Acetylcysteine) Supplementation in Old Mice Improves Brain Glutathione Deficiency, Oxidative Stress, Glucose Uptake, Mitochondrial Dysfunction, Genomic Damage, Inflammation and Neurotrophic Factors to Reverse Age-Associated Cognitive Decline: Implications for Improving Brain Health in Aging. Antioxidants (Basel) 2023;12(5).
8. Sinha R, Sinha I, Calcagnotto A, et al. Oral supplementation with liposomal glutathione elevates body stores of glutathione and markers of immune function. Eur J Clin Nutr 2018;72(1):105-111.
9. Dai S, Tian Z, Zhao D, et al. Effects of Coenzyme Q10 Supplementation on Biomarkers of Oxidative Stress in Adults: A GRADE-Assessed Systematic Review and Updated Meta-Analysis of Randomized Controlled Trials. Antioxidants (Basel) 2022;11(7).
10. Gutierrez-Mariscal FM, Arenas-de Larriva AP, Limia-Perez L, Romero-Cabrera JL, Yubero-Serrano EM, López-Miranda J. Coenzyme Q(10) Supplementation for the Reduction of Oxidative Stress: Clinical Implications in the Treatment of Chronic Diseases. Int J Mol Sci 2020;21(21).
11. Mantle D, Hargreaves I. Coenzyme Q10 and Degenerative Disorders Affecting Longevity: An Overview. Antioxidants (Basel) 2019;8(2).

12. Gutierrez-Mariscal FM, de la Cruz-Ares S, Torres-Peña JD, Alcalá-Diaz JF, Yubero-Serrano EM, López-Miranda J. Coenzyme Q(10) and Cardiovascular Diseases. Antioxidants (Basel) 2021;10(6).
13. Sifuentes-Franco S, Sánchez-Macías DC, Carrillo-Ibarra S, Rivera-Valdés JJ, Zuñiga LY, Sánchez-López VA. Antioxidant and Anti-Inflammatory Effects of Coenzyme Q10 Supplementation on Infectious Diseases. Healthcare (Basel) 2022;10(3).
14. Zarifi SH, Bagherniya M, Banach M, Johnston TP, Sahebkar A. Phytochemicals: A potential therapeutic intervention for the prevention and treatment of cachexia. Clin Nutr 2022;41(12):2843-2857.
15. Koul B, Farooq U, Yadav D, Song M. Phytochemicals: A Promising Alternative for the Prevention of Alzheimer's Disease. Life (Basel) 2023;13(4).
16. De Sousa Lages A, Lopes V, Horta J, Espregueira-Mendes J, Andrade R, Rebelo-Marques A. Therapeutics That Can Potentially Replicate or Augment the Anti-Aging Effects of Physical Exercise. Int J Mol Sci 2022;23(17).
17. Saud Gany SL, Chin KY, Tan JK, Aminuddin A, Makpol S. Curcumin as a Therapeutic Agent for Sarcopenia. Nutrients 2023;15(11).
18. Cox KHM, White DJ, Pipingas A, Poorun K, Scholey A. Further Evidence of Benefits to Mood and Working Memory from Lipidated Curcumin in Healthy Older People: A 12-Week, Double-Blind, Placebo-Controlled, Partial Replication Study. Nutrients 2020;12(6).
19. Sadeghian M, Rahmani S, Jamialahmadi T, Johnston TP, Sahebkar A. The effect of oral curcumin supplementation on health-related quality of life: A systematic review and meta-analysis of randomized controlled trials. J Affect Disord 2021;278:627-636.
20. Zia A, Farkhondeh T, Pourbagher-Shahri AM, Samarghandian S. The role of curcumin in aging and senescence: Molecular mechanisms. Biomed Pharmacother 2021;134:111119.
21. Laurindo LF, de Carvalho GM, de Oliveira Zanuso B, et al. Curcumin-Based Nanomedicines in the Treatment of Inflammatory and Immunomodulated Diseases: An Evidence-Based Comprehensive Review. Pharmaceutics 2023;15(1).
22. Hewlings SJ, Kalman DS. Curcumin: A Review of Its Effects on Human Health. Foods 2017;6(10).

Kontrolsüz Astım ve Yanlış İnhaler Kullanımı: Bir Olgu Sunumu

Dr. Pelin ÜNSAL

Ankara Etlik Şehir Hastanesi, Geriatri Kliniği

Hem dünyada hem de ülkemizde 65 yaş üstündeki nüfus giderek artmaktadır. Dünyada yaşlı nüfusun oranı 2021 yılında %9,6'iken, Türkiye'de bu oran %9,7'dir ve bu oranın yıllar içerisinde giderek artması beklenmektedir. Yaşlı hastalarda hastalıkların seyri ve semptomları daha farklı seyretmektedir. Bu semptomlar 'atipik' olarak nitelendirilse de aslında yaşlı hastaların klinik seyrinde oldukça yaygındır. Yaşlı hastalarda tek semptom olarak davranış değişikliği ya da fonksiyonellikle azalma olması ciddi bir hastalığın işareti olabilmektedir.

Birden çok ek hastalığının olması, kırılganlık, kognitif bozukluk, ileri yaş, hastalıkların atipik semptomlarla prezente olması vakaların yönetimini de zorlaştırmaktadır. Polifarmasi ve uygunsuz ilaç kullanımı da yaşlı hastalarda önemli sorunlardan biridir.

Polikliniğimizde takip ettiğimiz polifarmasi, uygunsuz ilaç kullanımı ve hafif kognitif bozukluğu olan zor bir vakanın özetini sunuyoruz. 76 yaşında kadın hasta öksürük ve nefes darlığı şikayetiyle geriatri polkliniğine başvuruyor. Dul, okuryazar değil ve çocuklarıyla birlikte yaşıyor. Öksürük son 1 haftadır giderek artmış ancak, balgam miktarında artış tarif etmiyor. Nefes darlığı eforla artıyor. Ateş tarif etmiyor. Biline hipertansiyon, astım ve osteoporoz tanıları var. Hasta ilk muayenesinde kendi kullandığı ilaçları yanında getirmemiş. Sigara ve alkol kullanımı yok. Soygeçmişinde 2 kardeşinde akciğer kanseri öyküsü var. Hastanın yapılan kapsamlı geriatrik değerlendirmesinde hafif kırılganlıkla yaşayan bir birey olduğu, günlük yaşam aktivitelerinde bağımsız, enstrümental günlük yaşam aktivitelerinde ise kısmı bağımlı olduğu izlenmiştir. Unutkanlık sorgulamasında, ev içinde sık sık eşyalarını unuttuğu, ilaç kullanımı yanlışlıklar olabileceği ve bazı zamanlar kızının hatırlatmasına ihtiyaç duyduğu anlatıldı. Hastanın kullandığı ilaçlar esomeprazole 40 mg,amlodipin 5 mg 1x1, budesonid + formoterol fumarat, salbutamol 4x1, asemetazin, vitamin B1-B6-B12 kompleksi, vitamin d3 ve zoledronik asittir. İlaç kullanımları ayrıntılı sorgulandığında hasta inhaler tedavisinin içine asemetazin kapsül ilacını koyup inhale ettiği görülmüştür. Hastanın tetkikleri sonucunda mini mental test puanı 19 bulunmultur. Yapılan ileri kognitif testler sonrasında hafif kognitif bozukluk tanısı düşünüşdü. Hastanın ilaç kullanımındaki zorluklar nedeniyle inhaler tedavisi değiştirildi, tek ilaç önerildi, ilaç kullanımının takibi kızı tarafından yapılmaya başlandı. Sonraki kontrolünde hastanın öksürük ve nefes darlığı şikayeti geriledi. Astım yaşlı hastalarda sık ancak, dispnenin yaşlanmanın normal bir süreci olarak düşülmesi nedeniyle de tanısı atlanabilmektedir. Solunum fonksiyon testlerinin yapılmasındaki zorluklar, hastaların multimorbiditesi de tanı ve takip sürecini zorlaştırmaktadır. Her hastanın kapsamlı geriatrik değerlendirmesinin yapılması, inhaler ilaç başlamadan önce hastanın sarkopeni, görme ve kognitif problemlerinin değerlendirilmesi, karmaşık tedavilerden kaçınmak anahtar noktalar olmalıdır. Ayrıca yaşlı hastalar özelinde her vizitte inhaler tedaviye uyum kontrol edilmelidir.

Kaynaklar

TUİK. İstatistiklerle Yaşlılar, 2021: Türkiye İstatistik Kurumu; 2022. (https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2021-45636)

Gibson PG, McDonald VM, Marks GB. Asthma in older adults. Lancet. 2010 Sep 4;376(9743):803-13. doi: 10.1016/S0140-6736(10)61087-2. PMID: 20816547

Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention, 2023. Updated July 2023. Available from: www.ginasthma.org

Drug Induced Parkinsonism Developing Due to Inappropriate Use Of Cinnarizine: A Case Report

Dr. Ayşe DAYLAN

Bozyaka Eğitim Araştırma Hastanesi, Geriatri, İzmir

Cinnarizine is a calcium channel blocker used in treatment of nausea, vomiting, motion sickness, tinnitus, vertigo and Meniere's disease. It acts as a labyrinthine suppressant and has peripheral anti-vasoconstrictive effects. Cinnarizine, which has been found to be associated with many receptors, can act as an L-type calcium channel blocker, H1 antihistamine property, potential nicotinic ACh receptor antagonist and pressure-sensitive potassium channel blocker(1). Extrapyramidal symptoms.can be seen as a result of blocking the dopamine D2 receptor.

A seventy-six-year-old female patient was admitted to our geriatrics outpatient clinic due to stagnation and expressionless face. She had been treated for depression many years ago, but had not been receiving treatment for the last 5 years. A detailed history revealed that she has been speaking with low monotone voice and moving slowly for the last 6 months, and she has slight tremors in both hands Also she had been using cinnarizine 3x25 mg/day continuously for vertigo for the last past year. Physical examination showed that the patient had rigidity, symmetrical bradykinesia, bradymimy and resting tremor. No cognitive impairment and depression was determined during comprehensive geriatric evaluation. She was diagnosed as Drug-related parkinsonism (DIP). Cinnarizine was discontinued and she was monitored without medication. Parkinsonism findings dissolved after 3 months of follow up period.

Any medication which interferes with dopamine transmission especially with the influence of the D2 receptor may cause parkinsonism. Although antipsychotics, antiemetics and prokinetics are often considered among the drugs that cause DIP, some dopamine-depleting agents and some medications such as valproic acid, lithium, and some calcium channel blockers can also be the cause of DIP. Cinnarizine and flunarizine are calcium channel blockers known to cause DIP. The risk is higher in old, female patients, those with pre-existing extrapyramidal diseases, those with a history of dementia and those with a family diagnosis of Parkinson's disease. DIP is often reversible, but 10% may be irreversible(2). The risk increases with long-term drug use and higher doses(3).

Clinically, bilateral symmetrical parkinsonism, both resting and postural tremor can be seen in DIP. Bradykinesia is not mandatory for certain diagnosis, and the most common finding is rigidity(2). The differential diagnosis of Parkinson's disease and DIP may not always be easy. The diagnosis, supported by the history, physical examination findings, is finalized with the improvement of the clinical picture after discontinuation of the drug thought to be the causative agent. There is no consensus on the recovery time after discontinuation of the drug to allow motor symptoms to completely eliminate and confirm the diagnosis of DIP, but a drug-free period of at least 6 months is usually recommended(4). For the treatment of DIP, drug-free follow up is recommended in mild cases, while levodopa and amantadine can be used in severe cases. Success of DIP approach will increase in these patients with a multidisciplinary team and personalized treatment.

References

1. Soto E, Vega R. Neuropharmacology of vestibular system disorders. Curr Neuropharmacol. 2010 Mar;8(1):26-40. doi: 10.2174/157015910790909511. PMID: 20808544; PMCID: PMC2866460.
2. Wilson JA, MacLennan WJ. Review: drug-induced parkinsonism in elderly patients. Age Ageing. 1989 May;18(3):208-10. doi: 10.1093/ageing/18.3.208. PMID: 2675581.
3. Erkekoğlu, P., Baydar, T., & Şahin, G. (2011). Ters ilaç reaksiyonu olarak ilaçlarla indüklenen parkinsonizm. Marmara Pharmaceutical Journal, 15(3), 110-117.
4. Bower JH, Maraganore DM, McDonnell SK, Rocca WA. Incidence and distribution of parkinsonism in Olmsted County, Minnesota, 1976-1990. Neurology. 1999 Apr 12;52(6):1214-20. doi: 10.1212/wnl.52.6.1214. PMID: 10214746.

SÖZELBİLDİRİLER

Chronic Diseases

OP-01

EVALUATION OF CLINICAL, LABORATORY AND TREATMENT RESULTS OF OUR PATIENTS WITH MULTIPLE MYELOMA, OVER EIGHTY YEARS OLD

Adem Erdoğan[1], Hava Üsküdar Teke[2], Fatih Yaman[2], Neslihan Andıç[2], Filiz Yavaşoğlu[1], Eren Gündüz[1]

[1]Eskisehir Osmangazi University Of Internal Medicine Department
[2]Eskisehir Osmangazi University Of Hematology Department

Introduction: Multiple myeloma (MM) is the second most common malignant disease of plasma cells, occurring in older adults, after lymphomas. Although MM is seen in advanced age, real-life data of patients over 80 years of age are limited.

Materials and Methods: In our study, clinical and laboratory findings, treatments and responses of 30 MM patients who were diagnosed and treated when they were 80 years of age or older, between 1 January 2010 and 1 January 2021 in ESOGUTF Internal Medicine Department, Hematology Department were evaluated.

Results: 66.7% (n=20) of the patients were male and the male/female ratio was 2. The mean age of the patients was 82.5±3.05 years (80-94). 20% (n=6) of the patients were aged 85 and over, 80% (n=24) were between the ages of 80-85. In terms of mortality, it was seen that 90% (n=27) of the patients died and 10% (n=3) were alive. The cause of mortality was unknown in 53.3% (n=16) of the patients, while 26.7% (n=8) died due to pneumonia. 63.3% (n=19) of the patients had early mortality (within 48 weeks after diagnosis) and 36.7% (n=11) had late mortality. The statistical distribution of patients according to MM type was 53.3% (n=16) IG G type, 36.7% (n=11) IG A type, 10% (n=3) light chain. Low back pain was the most common reason for admission with a rate of 40% (n=12). Again, fatigue was the second most common cause with a rate of 30% (n=9).

In terms of CRAB findings, 56.7% (n=17) of the patients had anemia, 13.3% (n=4) had hypercalcemia, 26.7% (n=11) bone lesions, 43.3% (n=13) renal failure. The statistical distributions of the patients according to the ECOG performance status, CCI comorbidity index, HCT-CI score and IMWG index are shown in Figure 1. A-B-C-D below.

Discussion: When the patients are evaluated in terms of early and late mortality, fragility and comorbidities can be considered as the cause of early mortality in this age group. A statistically significant correlation was found between normal and low albumin levels in the laboratory. Those with low albumin had an earlier mortality rate (p=0.016). It was seen that Vd was given as the first choice in 56.7% of patients and VCd was the 2 most preferred options in 13.3% of patients. It was determined that dose modification in treatment was most frequently made according to GFR and due to neutropenia.

Multipl miyelom (MM), yaşlı erişkinlerde lenfomalardan sonra ortaya çıkan ikinci en yaygın malign plazma hücreleri hastalığıdır. MM ileri yaşlarda görülmesine rağmen 80 yaş üstü hastaların gerçek yaşam verileri sınırlıdır.

Çalışmamızda 1 Ocak 2010-1 Ocak 2021 tarihleri arasında ESOGUTF İç Hastalıkları Anabilim Dalı Hematoloji Anabilim Dalı'nda 80 yaş ve üzerinde tanı ve tedavi uygulanan 30 MM hastasının klinik ve laboratuvar bulguları, tedavileri ve yanıtları değerlendirildi. Sonuçlar:Hastaların %66,7'si (n=20) erkekti ve erkek/kız oranı 2 idi. Hastaların yaş ortalaması 82,5±3,05 (80-94) idi. Hastaların %20'si (n=6) 85 yaş ve üzerinde, %80'i (n=24) 80-85 yaş aralığındaydı. Mortalite açısından hastaların %90'ının (n=27) öldüğü, %10'unun (n=3) yaşadığı görüldü. Hastaların %53,3'ünde (n=16) ölüm nedeni bilinmezken, %26,7'si (n=8) pnömoni nedeniyle öldü. Hastaların %63,3'ünde (n=19) erken mortalite (tanıdan sonraki 48 hafta içinde), %36,7'sinde (n=11) geç mortalite görüldü. Hastaların MM tipine göre istatistiksel dağılımı %53,3 (n=16) IG G tipi, %36,7 (n=11) IG A tipi, %10 (n=3) hafif zincir idi. Bel ağrısı %40 (n=12) oranı ile en sık başvuru nedeniydi. Yorgunluk yine %30 (n=9) oranı ile ikinci en sık nedendi.

66.7% (n=20) of the patients were male and the male/female ratio was 2. The mean age of the patients was 82.5±3.05 years (80-94). 20% (n=6) of the patients were aged 85 and over, 80% (n=24) were between the ages of 80-85. In terms of mortality, it was seen that 90% (n=27) of the patients died and 10% (n=3) were alive. The cause of mortality was unknown in 53.3% (n=16) of the patients, while 26.7% (n=8) died due to pneumonia. 63.3% (n=19) of the patients had early mortality (within 48 weeks after diagnosis) and 36.7% (n=11) had late mortality. The statistical distribution of patients according to MM type was 53.3% (n=16) IG G type, 36.7% (n=11) IG A type, 10% (n=3) light chain. Low back pain was the most common reason for admission with a rate of 40% (n=12). Again, fatigue was the second most common cause with a rate of 30% (n=9).

Hastalar erken ve geç mortalite açısından değerlendirildiğinde, frajilite ve komorbiditeler bu yaş grubunda erken mortalite nedeni olarak kabul edilebilir. Laboratuvarda normal ve düşük albümin seviyeleri arasında istatistiksel olarak anlamlı bir korelasyon bulundu. Albümin değeri düşük olanlarda daha erken ölüm oranı vardı (p=0.016). Hastaların %56,7'sinde ilk tercih olarak Vd verildiği ve %13,3'ünde VCd'nin en çok tercih edilen 2 seçenek olduğu görüldü. Tedavide doz modifikasyonunun en sık GFR'ye göre ve nötropeniye bağlı olarak yapıldığı belirlendi.

References

1. Dünya Nüfus Beklentileri - Nüfus Bölümü - Birleşmiş Milletler [İnternet]. [a.place 04 Haziran 2022]. Erişim adresi: https://population.un.org/wpp/
2. Mikhael JR, Dingli D, Roy V, Reeder CB, Buadi FK, Hayman SR, et al. Yeni Teşhis Edilen Semptomatik Multipl Miyelomun Yönetimi: Güncellenmiş Mayo Miyelom Tabakalandırması ve Riske Uyarlanmış Tedavi (mSMART) Konsensüs Kılavuzları 2013. Mayo Clinic Proceedings. 01 Nisan 2013;88(4):360-76.
3. Schaapveld M, Visser O, Siesling S, Schaar CG, Zweegman S, Vellenga E. 1989'dan bu yana popülasyona dayalı bir çalışma olan Hollanda'da Multipl Miyeloma'lı yaşlı hastalar arasında değil, genç hastalar arasında iyileştirilmiş sağkalım. Avrupa Kanser Dergisi. 01 Ocak 2010;46(1):160-9.
4. Fried LP, Ferrucci L, Darer J, Williamson JD, Anderson G. Sakatlık, Kırılganlık ve Komorbidite Kavramlarını Çözmek: İyileştirilmiş Hedefleme ve Bakım İçin Çıkarımlar. Gerontoloji Seri A Dergileri: Biyolojik Bilimler ve Tıp Bilimleri. 01 Mart 2004;59(3):M255-63.
5. Mina R, Lonyal S. Kök hücre transplantasyonunun multipl miyelomda hala bir rolü var mı? kanser. 15 Nisan 2019;cncr.32060.
6. Mueller S, Wilke T, Maywald U, Groth A, Heidler T, Heeg B. Yeni Teşhis Edilen Multipl Miyelom Hastalarında Gerçek Hayattaki Otolog Kök Hücre Nakli ve Genel Sağkalım Oranları: Bir Alman İddia Veri Kümesine Dayalı Bir Analiz. Sağlıkta Değer. Mayıs 2018;21:S21.

Keywords: Multiple Myeloma, geriatrics, elderly patient frail

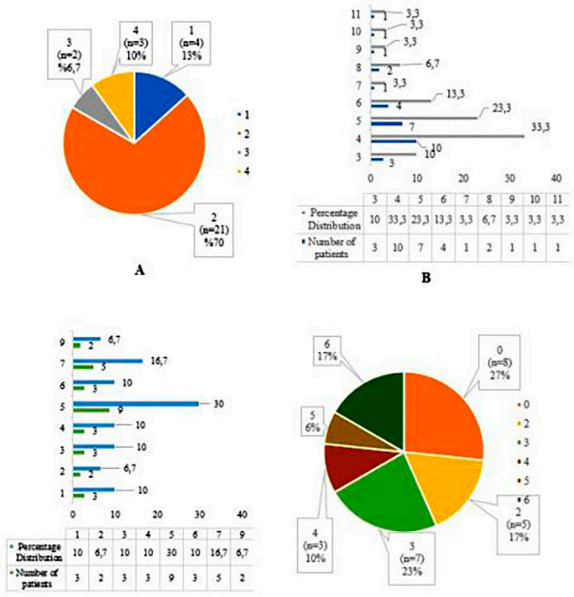


Figure 1. A: Distribution of patients by ECOG score B: Distribution of patients by CCI Score C: Distribution of patients by HCT-CI Score D: Distribution of patients by IMWG index

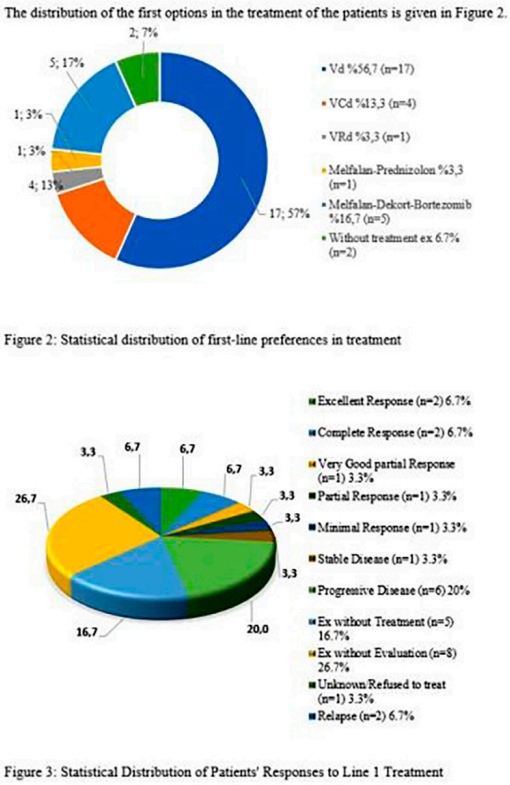


Figure 2. Statistical distribution of first-line preferences in treatment Figure 3: Statistical Distribution of Patients' Responses to Line 1 Treatment

Table 1. Laboratory values of the patients at the time of diagnosis

Parameter (unit)	*Mean±Standard Deviation*	*Minimum*	*Maximum*
Hemoglobin (g/dl)	10,05 ± 1,93	7,2	13,3
Hematocrit %	28,60 ± 7,05	4,06	40,2
MCV (fL)	89,22 ± 1,26	64,6	112,00
Absolute Neutrophil Count (10^3/uL)	4139,33 ± 1991,67	1500,00	8300,00
Absolute Lymphocyte Count (10^3/uL)	1666,33 ± 683,6	400,00	3100,00
Platelet (10^3/uL)	177500,00 ± 88356,15	49000,00	347000,00
MPV (fL)	8,42 ± 1,46	5,8	12,10
Sedimentation (mm/h)	94,7 ± 35,33	11,00	143,00
CRP (mg/L)	5,42 ± 16,15	0,3	88,70
BUN (mg/dl)	32,14 ± 18,8	0,76	86,55
Creatinine (mg/dl)	2,35 ± 2,00	0,7	8,51
GFR (ml/dk)	39,74 ± 26,96	5,00	90,00
Uric Asid (mg/dl)	6,41 ± 2,53	1,80	12,40
Total Protein (g/dl)	8,10 ± 1,44	4,84	11,60
Albumin (g/dl)	3,46 ± 0,67	1,97	4,80
Calcium (mg/dl)	9,50 ± 1,89	6,12	15,35
Phosphorus (mg/dl)	3,28 ± 0,80	1,37	5,12
Glucose (mg/dl)	105,63 ± 38,74	64,00	276,00
Lactic dehydrogenase (U/L)	327,75 ± 240,21	26,40	1066,00
Parathormone (pg/dl)	55,95 ± 108,17	2,5	599,00
Total Bilirubin (mg/dl)	0,62 ± 0,36	0,08	1,73
Direct Bilirubin (mg/dl)	0,26 ± 0,28	0,03	1,30
Ferritin (ng/dl)	637,06 ± 78,83	101,00	2447,00
B12 Vitamin (pg/dl)	447,05 ± 50,69	76,00	1276,00
Folate (ng/dl)	7,20 ± 4,06	2,21	20,00
Beta2microglobulin (mg/L)	6,51 ± 27,17	0,22	150,00
IG G (mg/dl)	3681,56 ± 6206,07	5,98	28000,00
IG A (mg/dl)	1354,57 ± 1879,82	22,00	6790,00
IG M (mg/dl)	32,40 ± 24,96	15,30	100,00
Serum Kappa/lamda	20,48 ± 31,6	0,00	106,60
Urine Kappa/lamda	8,77 ± 14,39	0,00	63,00

MCV: Mean Erythrocyte Volume, MPV: Mean Platelet Volume, CRP:C-Reactive Protein, BUN; Blood Urea Nitrogen, IG: Immunoglobulin

Chronic Diseases

OP-02

THYROID STIMULATING HORMONE LEVEL BY AGE GROUPS IN GERIATRIC POPULATION

Metin Sökmen, Ayşegül Uçkun, Murat Varlı, Ahmet Yalçın, Volkan Atmış

Ankara University Faculty Of Medicine

Aim: The elderly population is constantly increasing all over the world. Thyroid disorders are becoming more common among the elderly population as well as in the general population. Non-specific symptoms and signs of thyroid disorders in the elderly, accompanying nonthyroid illnesses and medications used make it difficult to diagnose. The emergence of agespecific reference ranges for thyroid stimulating hormone (TSH) due to the change in thyroid hormone physiology with aging also increases the difficulty of diagnosis. The relationship of TSH level in the elderly with many parameters such as cognitive functions, depression, cardiovascular events, mortality, frailty, osteoporosis has been investigated. However, studies investigating normal TSH levels by age groups are limited. The aim of our study is to determine the

TSH levels of the patients evaluated in the geriatric outpatient clinics according to age ranges.

Materials and Methods: Among the patients evaluated in the outpatient clinic of Ankara University Faculty of Medicine, Department of Geriatrics, those with any thyroid disease diagnosis, levothyroxine (LT4) treatment, previous thyroid surgery and/or radioactive iodine treatment, use of medications that may affect thyroid functions and patients with acute disease states are excluded. TSH levels of the remaining patients were statistically evaluated.

Results: Of the 212 patients included in the study, 59,4% were women. The mean age of the patients was 73. Patients were categorized into three subgroups according to age groups. 132 (62,3%) patients in the 65-74 age group, 59 (27,8%) in the 75-84 age group, and 21 (9,9%) patients in the 85 and over age group were evaluated. Patients aged 85 years and older had lower TSH levels compared to patients aged 65-74 years (p = 0.024). However, there was no statistically significant relationship between increasing age and TSH levels in general.

Conclusions: In the population aged 65 and over, TSH level does not change with increasing age. However, the TSH level is lower in very old people, aged 85 years and older, compared to people in the 65-74 age group.

Keywords: thyroid functions, geriatric patient

Table 1. fT3, fT4 and TSH Values of Participants

	Mean (±)	*Median (25th-75th percentile)*
Free T3 (n=85)	4,517 (0.597)	4.510 (4.030-4.895)
Free T4 (n=167)	15,403 (2,224)	15,300 (14,000-16,500)
TSH (n=210)	2,028 (1,296)	1,795 (1,192-2,612)

Chronic Diseases

OP-03

SHOULD TSH LEVELS BE MAINTAINED LOW NORMAL IN ELDERLY PATIENTS?

Metin Sökmen, Volkan Atmiş, Özge Baş Aksu, Helin Yesin, Ahmet Yalçin, Murat Varli

Ankara University Faculty Of Medicine

Introduction: Population is aging around the world. Many hormonal changes, which are thought to be an adaptation mechanism, are observed in old age. Changes in the hypothalamic-pituitary thyroid axis are one of them. This situation required the determination of specific threshold values for the elderly population in the diagnosis and follow-up of thyroid gland diseases. In addition, the levels of iodine, which is the main component of thyroid hormone production, vary among patients. The primary objective of our study is to determine the relationship between TSH level and geriatric syndrome. The secondary objective is to answer whether this relationship is dependent on iodine level.

Methodology: This is a prospective, randomized study. All patients admitted Department of Geriatrics at Ankara University between January and May 2023 and who met the inclusion criteria were included in the study. Thyroid-stimulating hormone (TSH) and urinary iodine levels were measured and the relationship between walking speed, activities of daily living, fragility, instrumental activities of daily living, sarcopenia, nutritional status, cognitive status, depression, and muscle strength were investigated.

Results: Among the 368 patients included in the study, 68.2% were women. The mean age of the patients was 73. Patients were categorized based on their urinary iodine levels as severely insufficient (n=56), moderately insufficient (n=48), mildly insufficient (n=91), adequate iodine level (n=122), above required (n=29), and excessive (n=22). There was no statistically significant correlation between geriatric evaluations and urinary iodine levels. The mean TSH was 7. When compared with TSH level, significant improvements were observed in Frail Scale (p=0,04), Mini-Mental State Examination (p=0,03) and hand grip strength measurement (p<0,01) tests in low TSH values (with the lowest value of 0.1). Among the patient group (n=205) with a TSH level of 0.1-10, statistically significant improvements were observed in Katz daily living activities (p<0.01), Lawton Brody instrumental daily living activities (p=0.02), and hand grip strength measurement (p<0.01) tests as the TSH level decreased.

Conclusions: There was no correlation between urinary iodine levels and geriatric evaluations in geriatric patients, regardless of TSH levels. The low TSH levels, with the lowest value of 0.1, are positively associated with improvements in the Frail Scale, Mini-Mental State Examination, activities of daily living, instrumental activities of daily living, and hand grip strength measurement tests, and this relationship is independent of iodine levels. However, further studies are needed to determine whether the relationship between TSH levels and geriatric syndromes is causal or correlational.

Keywords: thyroid stimulating hormone, urinary iodine level, geriatric tests, geriatric patient

Others

OP-04

PREDICTORS OF TWO-YEAR MORTALITY IN GERIATRIC PATIENTS HOSPITALIZED WITH COVID-19 IN TÜRKİYE

Bahar Bektan Kanat[1], Gulru Ulugerger Avci[1], Osman Faruk Bayramlar[2], Veysel Suzan[1], Gunay Can[3], Ilker Inanc Balkan[4], Sermin Borekci[5], Bora Korkmazer[6], Yalim Dikmen[7], Gokhan Aygun[8], Deniz Suna Erdincler[1], Hakan Yavuzer[1], Alper Doventas[1]

[1]Division Of Geriatric Medicine, Department Of Internal Medicine, Cerrahpasa Medical Faculty, Istanbul University-cerrahpasa, Istanbul, Turkey
[2]Bakırkoy District Health Directorate, Turkish Ministry Of Health - Istanbul Health Directorate, Istanbul, Turkey
[3]Department Of Public Health, Cerrahpasa Medical Faculty, İstanbul University-cerrahpaşa, İstanbul, Turkey
[4]Department Of Infectious Diseases, Cerrahpasa Medical Faculty, İstanbul University-cerrahpaşa, İstanbul, Turkey
[5]Department Of Pulmonary Diseases, Cerrahpasa Medical Faculty, İstanbul University-cerrahpaşa, İstanbul, Turkey
[6]Department Of Radiology, Cerrahpasa Medical Faculty, İstanbul University-cerrahpaşa, İstanbul, Turkey
[7]Department Of Anesthesiology And Reanimation, Cerrahpasa Medical Faculty, İstanbul University-cerrahpaşa, İstanbul, Turkey
[8]Department Of Medical Microbiology, Cerrahpasa Medical Faculty, İstanbul University- Cerrahpaşa, İstanbul, Turkey

Aim: To reveal factors affecting two-year mortality and causes of death in geriatric patients hospitalized with COVID-19.

Methods: Demographic characteristics, clinical, laboratory data, and thorax CT images were obtained from electronic medical records, and the second year survival status from national death notification system.

Results: Two-year post-discharge mortality rate of 605 geriatric patients (mean age: 74.5±6.9 years) was 21.9%. Mean age of patients in deceased group was 76.77±8.1 years which was shorter than the life expectancy at birth in Türkiye (78.3 years). We found that older age (≥85), male gender, longer hospital stay, delirium during hospitalization, presence of co-morbidities, and atypical thorax CT involvement were associated with a significant increase in two-year mortality ($p<0.05$). Urea, creatinine, d-dimer, C-reactive protein, and ferritin levels at admission were higher, total hospitalization and intensive care unit stay were longer in the deceased group ($p<0.05$). In Cox regression analysis male gender, older age, urea, d-dimer on admission, heart disease, cancer and delirium were significant ($p<0.05$). The most common cause of death in two-years follow up was cardiac causes. Mean time from COVID-19 diagnosis to death was 268±219 days.

Conclusion: Older age, presence of chronic diseases, longer hospital stay, delirium during hospitalization, and atypical thorax CT involvement were the most significant factors increasing two-year mortality, while anticoagulant use decreased mortality. Identifying risk factors for long-term mortality in geriatric population with COVID-19 offers clinical perspective for management of similar groups in the future.

Keywords: COVID-19, geriatrics, two-year mortality, predictive factors

References

1. Hillary VE, Ceasar SA. An update on COVID-19: SARS-CoV-2 variants, antiviral drugs, and vaccines. Heliyon 2023; 9(3): e13952. DOI: 10.1016/j.heliyon.2023.e13952
2. Landi F, Barillaro C, Bellieni A, et al. The New Challenge of Geriatrics: Saving Frail Older People from the SARS-COV-2 Pandemic Infection. J Nutr Health Aging 2020; 24(5): 466-70. DOI: 10.1007/s12603-020-1356-x
3. Marietta M, Coluccio V, Luppi M. COVID-19, coagulopathy and venous thromboembolism: more questions than answers. Intern Emerg Med 2020; 15(8): 1375-87. DOI: 10.1007/s11739-020-02432-x

Osteoporosis

OP-05

ASSOCIATION OF SARCOPENIA, OSTEOPOROSIS, OBESITY, AND OSTEOSARCOPENIC OBESITY TO VERTEBRA FRACTURES AND FALLS IN OLDER ADULTS

Burcu Eren Cengiz, Sibel Akın, Yavuz Sultan Selim Akgul, Nurhayat Tuğra Ozer, Derya Kocaslan, Neziha Ozlem Deveci

Erciyes Üniversitesi Tıp Fakültesi Geriatri Bilim Dalı

Purpose: Osteosarcopenic obesity (OSO) is characterised by the concurrent occurrence of osteoporosis, sarcopenia, and obesity. The purpose of this study was to determine the prevalence of OSO in outpatient older adults and to examine the relationship of OSO with falls and vertebra fractures.

Methods: This cross-sectional study included outpatient participants aged 60 years or older. Individuals were diagnosed with OSO based on their T-score assessed by dual x-ray absorptiometry, handgrip strength, skeletal muscle mass, gait speed, and body fat percentile. Fracture risk is evaluated by the FRAX.

Results: Three hundred seventeen older adult participants were included in this study, and a total of 12.2% of study sample (39/317) were OSO. OSO group had significantly higher FRAX major, FRAX neck values, lower lumbar total T score, femoral neck T score, and femoral total T score values than sarcopenic obese, osteoporotic obese, and obese groups ($p<0.001$ for all parameters). OSO patients had significantly higher incidence of fall than sarcopenic obese, osteoporotic obese, and obese groups ($p<0.001$). OSO participants significantly experienced high ratio of vertebra fracture compared to only obese, osteoporotic obese, and sarcopenic obese patients ($p=0.001$). Multivariate logistic regression model showed that osteosarcopenic obesity after adjusting for age, Activities of Daily Living(ADL), Instrumental Activities of Daily Living (IADL), level of physical activity, presence of only OSO was significantly associated with fall (OR:3.12, 95% CI:1.50-6.45, $p=0.002$) and vertebra fracture (OR: 3.36, 95% CI:1.58-7.12, $p=0.001$).

Conclusion: Older adults with OSO have a higher risk of falls and vertebral fractures than the sarcopenic obese, osteoporotic obese, and only obese groups.

Keywords: Falls, Older adults, Osteosarcopenic obesity, Vertebra fractures

Falls

	Odds ratio (OR)	*95% CI*	*P*
Osteosarcopenic obesity	3.12	1.50-6.45	0.002
Age	1.02	0.98-1.05	0.342
ADL	1.49	0.79-2.80	0.223
IADL	1.10	0.64-1.87	0.735
Low physical activity	2.04	0.93-3.71	0.072
Presence of osteoporotic obesity	0.67	0.26-1.70	0.402

Vertebra Fracture

	Odds ratio (OR)	*95% CI*	*p-value*
Osteosarcopenic obesity	3.36	1.58-7.12	0.001
Age	1.09	0.93-1.15	0.057
ADL	1.75	0.84-3.64	0.134
IADL	1.12	0.58-2.18	0.731
Low physical activity	0.79	0.39-1.62	0.520
Presence of osteoporotic obesity	0.69	0.24-1.03	0.061

Anti-Aging and Healthy Aging

OP-06

A STUDY WITH A SMALL SAMPLE OF CENTENARIANS IN THE COMMUNITY: LIFESTYLE AND CLINICAL CHARACTERISTICS

Candeniz Avcı, Neslihan Kayahan Satış, Mehmet İlkin Naharcı

Gulhane Faculty Of Medicine & Gulhane Training And Research Hospital University Of Health Sciences Chair, Division Of Geriatrics

Introduction: In our country, there is not enough knowledge regarding the health state and way of life of those who are 100 years old and older. Our study's objectives include defining the social, demographic, and clinical traits of centenarians and making a contribution to the restructuring of health policies.

Method: The hospital information system was retroactively scanned for those 100 years of age and older who applied to a geriatrics outpatient clinic. The study comprised seven people with complete data who were 100 years of age or older. The Healthy Lifestyle Behaviors-II Scale (SYBDS-II) was used to collect information about the participants' demographic characteristics, chronic illnesses, medications, physical capabilities, and social assessments.

Results: The study's participants were all female, and their average age was 101. The majority were totally dependent on

everyday living activities. Despite this, according to the HLBS-II, these people reported that their health was either moderate or good. The majority of the participants had lived mostly in small towns and rural areas. None of the participants had ever smoked a cigarette or drank alcohol. The most prevalent chronic illness was hypertension (85,7%), and the average number of medications taken by people was 7.

Conclusion: These findings indicate that leading a healthy lifestyle in our culture can be crucial to living beyond 100 years old and may help with the development of policies about healthy aging and the growing elderly population in our nation.

Keywords: Centenarian, health-promoting lifestyle, rural area

Tablo 1. Katılımcıların demografik, sosyal ve tıbbi özellikleri.

Demografik özellikler	
Yaş	101 (100-102)
Cinsiyet, kadın, s (%)	7 (100)
Medeni durum, s (%)	
Evli	%14,3
Dul	%71,4
Bekâr	%14,3
Eğitim düzeyi, yıl, ortanca (aralık)	0 (0-12)
Kiminle yaşadığı, s (%)	
Eş	1 (14,3)
Eş dışı aile üyesi	5 (71,4)
Yalnız	1 (14,3)
Çocuk sayısı, ortanca (aralık)	6 (0-10)
Meslek geçmişi, s (%)	
Ev hanımı	5 (71,4)
Çiftçi	1 (14,3)
Hizmet sektörü	1 (14,3)
Sigara kullanımı (yok), s (%)	7 (100)
Alkol kullanımı (yok), s (%)	7 (100)
Yaşadığı yer, s (%)	
Köy	4 (57,1)
Şehir	1 (14,3)
Köy ve şehir	2 (28,6)
Sosyal özellikler	
Temel Günlük Yaşam Aktiviteleri, s (%)	
Bağımsız	-
Orta düzey bağımlı	2 (28,6)
Tam bağımlı	5 (71,4)
Enstrümantal Yaşam Aktiviteleri, s (%)	
Bağımsız	-
Orta düzey bağımsız	-
Orta düzey bağımlı	1 (14,3)
Bağımlı	6 (85,7)
Sağlık durumu, s (%)	
Kötü	1 (14,3)
Orta	5 (71,4)
İyi	1 (14,3)
Hayatından memnuniyeti, s (%)	
Kötü	1 (14,3)
Orta	3 (42,9)
İyi	3 (42,9)
Tıbbi özellikler	
Komorbiditeleri, s (%)	
Hipertansiyon	6 (85,7)
Diabetes mellitus	1 (14,3)
Serebrovasküler olay	2 (28,6)
Kronik obstrüktif akciğer hastalığı	1 (14,3)
Kronik böbrek hastalığı	1 (14,3)
Konjestif kalp yetmezliği	2 (28,6)
Koroner arter hastalığı	1 (14,3)
Atrial fibrilasyon	2 (28,6)
Demans	1 (14,3)
İlaç sayısı	7 (3-13)
Polifarmasi (var), s (%)	6 (85,7)

AF: atriyal fibrilasyon, DM: diyabetes mellitus, HT: hipertansiyon, KAH: koroner arter hastalığı, KBH: kronik böbrek hastalığı, KKY: konjestif kalp yetersizliği, KOAH: kronik obstrüktif akciğer hastalığı, SVO: serebrovasküler olay

Tablo 2. Katılımcıların SYBDÖ-II değerlendirme puanları.

SYBDÖ- II, toplam, ortanca (aralık)	117 (92-146)
SYBDÖ- II, toplam, s (%)	
Kötü (52-90)	-
Orta (91-129)	5 (71,4)
İyi (130-168)	2 (28,6)
Mükemmel (169-208)	-
SYBDÖ- II, alt grup, ortanca (aralık)	
Sağlık sorumluluğu*	22 (14-26)
Fiziksel aktivite*	9 (8-19)
Beslenme **	21 (18-27)
Manevi gelişim **	22 (17-30)
Kişilerarası ilişkiler **	24 (18-31)
Stres yönetimi*	21 (10-26)

SYBDÖ- II: *Sağlıklı Yaşam Biçimi Davranışları Ölçeği*
*: İlgili kategorilerden alınabilecek maksimum puan 32'dir.
**: İlgili kategorilerden alınabilecek maksimum puan 36'dır.

Cognitive Disorders

OP-07

VALIDITY AND RELIABILITY OF THE TURKISH VERSION OF THE STANFORD PROXY TEST FOR DELIRIUM

Ebru Cagri Cakir Ozden[1], Dursun Elmas[2], Korhan Kollu[2], Eda Ferahkaya[3] Sevim Bozkus Ulusal[4], Munevver Demirel[4], Jose R. Maldonado[5], Muhammet Cemal Kizilarslanoglu[6]

[1]University of Health Sciences Türkiye, Konya City Hospital, Department of Internal Medicine, Konya, Türkiye
[2]University of Health Sciences Türkiye, Konya City Hospital, Department of Internal Medicine, Division of Intensive Care Medicine, Konya, Türkiye
[3]University of Health Sciences Türkiye, Konya City Hospital, Department of Pyschiatry, Konya, Türkiye
[4]University of Health Sciences Türkiye, Konya City Hospital, Department of Nursing, Konya, Türkiye
[5]Stanford University School of Medicine, Department of Psychiatry & Behavioral Sciences, Consultation Liaison Psychiatry Service, Stanford, CA, USA
[6]University of Health Sciences Türkiye, Konya City Hospital, Department of Internal Medicine, Division of Geriatrics, Konya, Türkiye

Aim: This study aimed to perform the Turkish validation study of the Stanford Proxy Test for Delirium ($S\text{-}PTD_{TV}$).

Methods: First, the original English form of the S-PTD was translated into Turkish, and forward-backward methodologies were used for this step. Then, the Turkish form of S-PTD ($S\text{-}PTD_{TV}$) was applied to older patients in an intensive care unit by experienced nurses to obtain validity and reliability analysis results. The validity analyses compared S-PTD findings with the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) criteria, and Confusion Assessment Method for the ICU (CAM-ICU) test results. Internal consistency, intra-rater reliability, and inter-rater reliability studies were used to evaluate the reliability of the Turkish version of the S-PTD.

Results: A total of 102 patients were included in the study (50% female and mean age 74±9 years). When the cut-off point of the Turkish S-PTD score was accepted >6 points, it had

96.6% sensitivity and 94.4 specificity rates for detecting delirium diagnosis (AUC=0.985 p<0.001). In the validity analysis, when considering mentioned cut-off point, there were high agreements between DSM-5 (kappa=0.885) and CAM-ICU (kappa=0.932) results (both had p<0.001). Furthermore, it was seen that the reliability results for either inter-rater (ICC=0.993 p<0.001) or intra-rater (ICC=0.996 p<0.001) were in high consistency levels. In internal consistency analysis, the Cronbach-alpha level was seen to be high as 0.914.

Conclusion: This study suggests that the Turkish version of S-PTD is a valid and reliable test to diagnose delirium in older patients in an intensive care unit.

Keywords: Delirium, intensive care, older patients, a screening tool

References

Maldonado JR, Sher YI, Benitez-Lopez MA, Savant V, Garcia R et al. A study of the psychometric properties of the "Stanford proxy test for delirium"(S-PTD): a new screening tool for the detection of delirium. Psychosomatics. 2020; 61 (2): 116-26.

Maldonado JR, Sher YI, Benitez-Lopez MA, Savant V, Garcia R et al. Response to Letter to the Editor re: Correction About the Nursing Delirium Screening Scale (Nu-DESC) in Response to:" A Study of the Psychometric Properties of the" Stanford Proxy Test for Delirium"(S-PTD): A New Screening Tool for the Detection of Delirium". Journal of the Academy of Consultation-liaison Psychiatry. 2020; 62 (1): 161-3

Alosaimi FD, Alghamdi A, Alsuhaibani R, Alhammad G, Albatili A et al. Validation of the Stanford Proxy Test for Delirium (S-PTD) among critical and noncritical patients. Journal of psychosomatic research. 2018; 114: 8-14.

Polypharmacy and Inappropriate Drug Use

OP-08

FACTORS ASSOCIATED WITH MAJOR ECG CHANGES IN ELDERLY OUTPATIENTS: AN OBSERVATIONAL STUDY

Ertuğrul Demirel, Rıdvan Erten, Erhan Özenç, Kamile Sılay, Güneş Arık, Hande Selvi Öztorun, Rana Tuna Doğrul

Ankara Bilkent Şehir Hastanesi

Background: Aging can increase the frequency of various arrhythmias and ECG changes by affecting the cardiovascular system as well as all other systems. In the elderly population, arrhythmias leads to a wide clinical presentation ranging from mild conditions such as, fatigue, dizziness, palpitations to serious consequences such as decrease in cardiac output, congestive heart failure and systemic embolism(1). The frequency of ECG disorders increases in the geriatric population and leads to an increase in mortality compared to those without ECG disorders(2). In some studies, it has also been shown that arrhythmias are associated with impaired quality of life, increased depression and anxiety symptoms, especially in frail elderly(3-4).It is obvious that conditions such as stroke, falls, decompensated heart failure secondary to arrhythmias will lead to limitations in both the patient's the activities of daily living and the instrumental activities of daily living. Also, the relationship between heart failure and ischemic heart diseases and fragility is well known (5). In this study, we aimed to investigate the relationship between the presence of major ECG changes and comprehensive geriatric evaluation.

Material and Method: Data of the patients, who applied to geriatric outpatient clinics of Ankara Bilkent City Hospital between May 2022-May 2023, was analyzed and among 405 elderly 196 patients whose ECG data were avaliable, included in this study. The patients were divided into two groups as those with and without major ECG changes. Comprehensive geriatric evaluation and laboratory data were recorded. These data were compared between the two groups.Statistical Package for the Social Sciences (SPSS) for Windows version 26.0 (IBM SPSS Inc., Chicago, IL) was used to perform statistical analyses.

Results: The mean age of 196 patients participating in the study was 77.23±7.1. There were n=112 (57.1%) patients in the group without major ECG changes and n=84 (42%) patients in the group with major ECG changes.Demographic data and comparison between the groups are given in Table-1, and the causes of major ECG changes are given in Table-2.

Inappropriate drug use was higher in the group with major ECG changes.MMT scores were examined and it was determined that the group with major ECG changes had a higher MMT score. No significant difference was detected in other comprehensive geriatric test results. In the logistic regression analysis performed with variables that were found to be statistically significant and clinically important, we found that only inappropriate drug use may be associated with an increased risk of developing major ECG changes (odds ratio: 0.201 p: 0.018).

Conclusions: In our study, we found that inappropriate drug use may be associated with major ECG changes. It is important to reevaluate the clinical risks of the elderly, especially during the initiation of drug groups (such as NSAIDs, antipsychotics) that may cause arrhythmia, increase cardiac ischemia, and trigger acute coronary syndromes.The higher MMSE scores in the group with major ECG changes may be related to the fact that this group is under more regular physician follow-up.

Keywords: Major ECG Changes, Arrhythmia, Elderly, Comprehensive Geriatric Assesment, Inappropiate Drug Use

References

1. Lindberg T, Wimo A, Elmståhl S, Qiu C, Bohman DM, Sanmartin Berglund J. Prevalence and Incidence of Atrial Fibrillation and Other Arrhythmias in the General Older Population: Findings From the Swedish National Study on Aging and Care. Gerontol Geriatr Med. 2019 Jun 27;5:2333721419859687. doi: 10.1177/2333721419859687. PMID: 31276022; PMCID: PMC6598326.
2. Molander U, Dey DK, Sundh V, Steen B. ECG abnormalities in the elderly: prevalence, time and generation trends and association with mortality. Aging Clin Exp Res. 2003 Dec;15(6):488-93. doi: 10.1007/BF03327371. PMID: 14959952.
3. Uchmanowicz I, Lomper K, Gros M, Kałużna-Oleksy M, Jankowska EA, Rosińczuk J, Cyrkot T, Szczepanowski R. Assessment of Frailty and Occurrence of Anxiety and Depression in Elderly Patients with Atrial Fibrillation. Clin Interv Aging. 2020 Jul 15;15:1151-1161. doi: 10.2147/CIA.S258634. PMID: 32764902; PMCID: PMC7371919.
4. Sławuta A, Jacek P, Mazur G, Jankowska-Polańska B. Quality of Life and Frailty Syndrome in Patients with Atrial Fibrillation. Clin Interv Aging. 2020 May 29;15:783-795. doi: 10.2147/CIA.S248170. PMID: 32764894; PMCID: PMC7359853.
5. Stewart R. Cardiovascular Disease and Frailty: What Are the Mechanistic Links? Clin Chem. 2019 Jan;65(1):80-86. doi: 10.1373/clinchem.2018.287318. Epub 2018 Nov 30. PMID: 30504259.

Table 1. Comparisons between Demographic Data and Patient Groups

	Patients without Major ECG Changes (n:112)	*Patients with Major ECG Changes (n:84)*	*P value (<0.05)*
Age(year)	76.53±7.24	77.97±6.99	0.401
Sex	E:49 (%25) K:52(%26.5)	E:47(%24) K:48(%24.5)	0.893
Education(year)	<5 : 70 (%37.6) 6-8 : 1 (%0.5) >8 : 23 (%12.4)	<5 : 60 (%32.3) 6-8 :3 (%3.3) >8 : 29 (%15.6)	0.295
Hypertension	76(%38.8)	65(%33.2)	0.288
Diabetes Mellitus	43(%21.9)	32(%33.7)	0.201
Congestive Heart Failure	7(%3.6)	13(%6,7)	0.124
Cerebrovascular Disease	9(%8.9)	10(%10.5)	0.702
Number of Drugs Used	6.03±3.83	5.83±4.1	0.728
Inappropriate Drug Use	52(%35.1)	60(%40.5)	0.007
Falls	33(%16.9)	27(%13.8)	0.489
Delirium	8(%4.1)	2(%1)	0.064
Urinary Incontinence	48(%24.7)	45(%23.2)	0.986
Osteoporosis	26(%14.4)	24(%13.3)	0.863
Sleep Problems	50(%26)	47(%24.5)	0.880
Katz	4.3±2	4.51±1.8	0.277
Lawton-Brody	4.88±3.09	4.46±3.26	0.264
MMSE	24.61±5.59	25.46±3.62	0.010
MNA	10.98±2.86	10.37±3.37	0.052
GDS	4.47±3.72	4.18±3.40	0.180
Glucose(mg/dl)	128.98±57.49	115.82±49.84	0.118
Creatinine(mg/dl)	1.30±0.79	1.09±0.67	0.671
Sodium(mEq/l)	139.48±3.71	139.57±4.14	0.972
Calcium(mg/dl)	9.50(7.50-11)	9.50(8.30-10.30)	0.470
Total Protein(g/l)	68.94±5.88	68.97±5.12	0.543
Albumin(g/l)	42.71±4.39	42.36±3.90	0.534
AST(u/l)	19(9-78)	21(8-157)	0.031
ALT(u/l)	17(6-175)	18(3-133)	0.349
HbA1c(%)	6(4.30-12)	6(5.10-9.60)	0.697
White Blood Cell Count (x10^9/l)	7.18(3.25-15.6)	7.13(4.04-16.04)	0.613
Hemoglobin (g/dl)	12.73±2.10	13.01±1.83	0.444
Vitamin B12	371(165-1374)	353(173-1036)	0.680
TSH(mU/l)	1.43(0.8-14.8)	1.87(0.08-10.6)	0.280
CRP(mg/l)	0.32±0.08	0.171±1.36	0.891
25-OH -Vitamin D(nmol/l)	46(16-254)	33(13-161)	0.006

Katz: Katz Activities of Daily Living Scale, Lawton-Brody: Lawton-Brody Instrumental Activities of Daily Living Scale, MMSE: Minimental State Examiantion, MNA: Mini Nutrisyonel Assesment, GDS:Geriatric Depresion Scale, TSH: Tiroid Stimulating Hormone, CRP:C Reactive Protein, AST:Aspartate Aminotransferase, ALT:Alanine Aminotransferase

Table 2. Causes of Major ECG Changes

	n(%)
Atrial Fibrillation	34(40.5)
Ischemia	6(7.1)
RBBB	7(8.3)
LBBB	1(1.2)
Tachycardia	14(16.7)
Bradycardia	22(26.2)

RBBB:Right Bundle Branch Block, LBBB: Left Bundle Branch Block

Table 3. Logistic Regression Analyzes

	Odds Ratio	*%95 Confidence Interval (CI)*	*P Value*
Age	1.027	0.955-1.104	0.479
Sex	1.228	0.459-3.290	0.682
Hypertension	1.185	0.347-1.045	0.786
Diabetes Mellitus	2.868	0.952-8.641	0.061
Congestive Heart Failure	0.578	0.127-2.627	0.478
Inappropate Drug Use	0.201	0.053-0.759	0.018
Katz	1.443	0.919-2.265	0.112
Lawton-Brody	0.029	0.632-1.086	0.173
MMSE	1.096	0.966-1.243	0.154
MNA	0.893	0.731-1.089	0.264
GDS	0.953	0.932-1091	0.484

Sarcopenia

OP-09

THE RELATIONSHIP BETWEEN SERUM KLOTHO PROTEIN LEVELS AND MUSCLE STRENGTH AND FUNCTIONS IN THE ELDERLY

Serhat Yıldırım, Zekeriya Ülger, Gözde Şengül Ayçiçek, Üçler Kısa, Ercan Tekin

Kırıkkale Üniversitesi Tıp Fakültesi

Introduction and Objective: Sarcopenia is defined as the loss of skeletal muscle strength and reduction in mass and function of muscle associated with age. Sarcopenia is one of the geriatric syndromes associated with malnutrition. Alpha-Klotho protein is the co-receptor of FGF-23, which has receptors in all tissues, especially in kidneys. Mouse experiments have shown that decreased expression of alpha-Klotho protein is associated with premature aging. The aim of this study is to detect the relationship between sarcopenia and serum alpha-kotho protein levels in geriatric population.

Materials and Methods: In this study, 30 patients aged 65 years and older with sarcopenia according to EWSGOP2 diagnostic criteria were included in the study group and similar aged 30 patients without sarcopenia were included in the control group. Anthropometric measurements, walking speed, handgrip strength, body analysis with BIA were evaluated. Serum alpha-klotho protein levels were measuredwith solid phase sandwich ELISA technique.

Results: In our study, it was found that muscle mass, body fat percentage, lean dry weight percentage, total body dry weight percentage, cellular fat mass, handgrip strength, and walking speed were statistically significantly lower in the study group than in the control group. It was found that alpha-kotho protein level was statistically significantly lower in the study group compared to the control group (p=0.02). There was no significantcorrelation between alpha-Klotho protein and chronic diseases, handgrip, and walking speed.

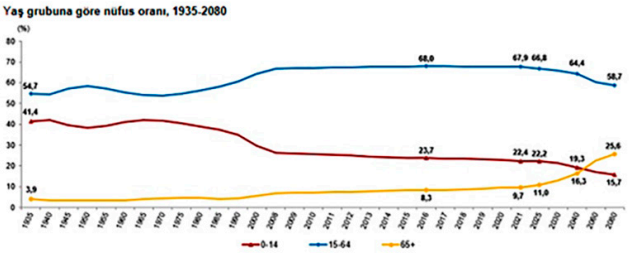
Discussion and Conclusion: Sarcopenia is an important geriatric syndrome because it leads to comorbidity and mortality. Alpha-klotho protein levels were found to be significantly lower in sarcopenic patients. This study allows of as a guide for future studies to understand the importance of alpha-Klotho protein in the diagnosis and treatment of sarcopenia.

Keywords: Sarcopenia, Alpha Klotho Protein, Aging, Muscle Strength

References

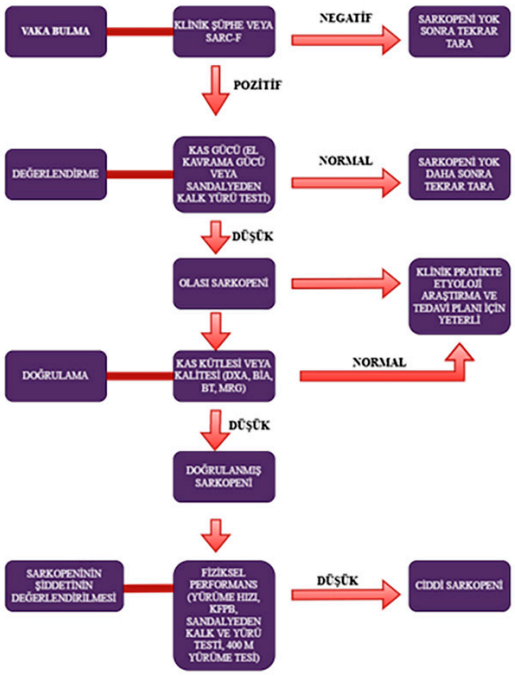
1. What is aging?. Frontiers in genetics, 3, 134. Rose, M. R., Flatt, T., Graves, J. L., Greer, L. F., Martinez, D. E., Matos, M., ... & Shahrestani, P. (2012). 1.
2. The World report on ageing and health: a policy framework for healthy ageing. The lancet, 387(10033), 2145-2154. Beard, J. R., Officer, A., De Carvalho, I. A., Sadana, R., Pot, A. M., Michel, J. P., ... & Chatterji, S. (2016). 2.
3. İstatistiklerle Yaşlılar, 2021. TÜİK Haber Bülteni. 2022,March 18. [Available. TÜİK. 3.
4. Understanding sarcopenia as a geriatric syndrome. Current Opinion in Clinical Nutrition & Metabolic Care, 13(1), 1-7. Cruz-Jentoft, A. J., Landi, F., Topinková, E., & Michel, J. P. (2010). 4.
5. Frailty in older men: prevalence, progression, and relationship with mortality. Journal of the America. Cawthon, P. M., Marshall, L. M., Michael, Y., Dam, T. T., Ensrud, K. E., Barrett-Connor, E., ... & Osteoporotic Fractures in Men Research Group. (2007). 5.
6. The parathyroid is a target organ for FGF23 in rats. The Journal of clinical investigation. Ben-Dov, I. Z., Galitzer, H., Lavi-Moshayoff, V., Goetz, R., Kuro-o, M., Mohammadi, M., ... & Silver, J. (2007). 10.
7. Klotho and aging. Biochimica et Biophysica Acta (BBA)-General Subjects, 1790(10), 1049-1058. Kuro-o, M. (2009). 8.

TÜRKİYE'DE YAŞ İSTASTİĞİ

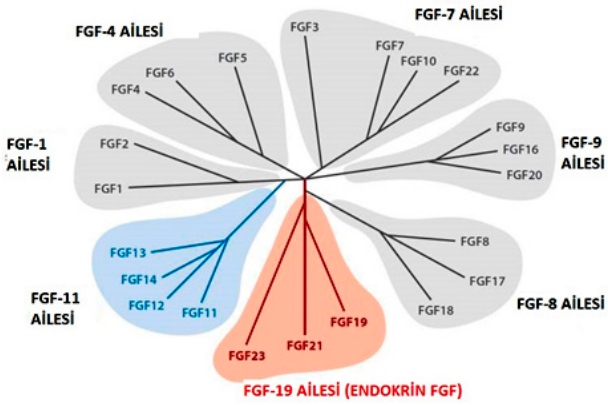


Kaynak: TÜİK, Genel Nüfus Sayımları, 1935-2000
TÜİK, Adrese Dayalı Nüfus Kayıt Sistemi, 2008-2021
TÜİK, 2018 Nüfus Projeksiyonları, 2025-2080

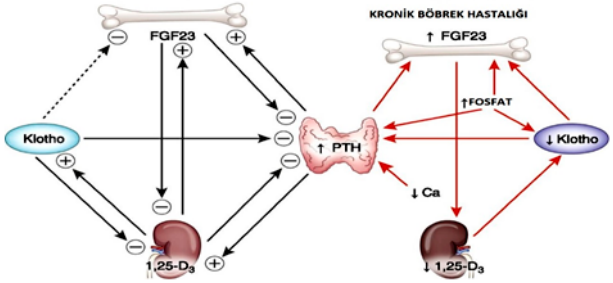
SARKOPENİ TANIM ALGORİTMASI



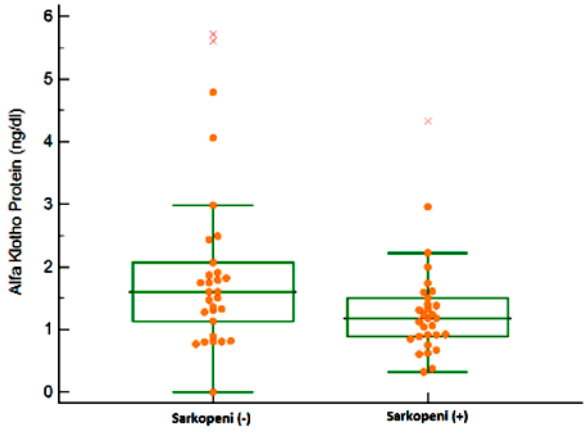
FGF AİLESİ



KLOTHO PROTEİN-FGF İLİŞKİSİ



VAKA-KONTROL GRUBUNDA KLOTHO DÜZEYİNİN KARŞILAŞTIRILMASI



Değişken	*Vaka (n=30)*	*Kontrol (n=30)*	*p değeri*
Alfa Klotho protein (ng/dl)	1,18 (0,89 - 1,5)	1,6 (1,13 - 2,07)	0,02

	Vaka (n=30)	*Kontrol (n=30)*	*p değeri**
El Kavrama Gücü (Kg), ortalama (SS)	14,9 ± 5,9	21,5 ± 8,6	<0,001
Yürüme Hızı (M/Sn), medyan (min-maks)	0,7 (0,6 - 1)	0,8 (0,6 - 1)	0,042

	Alfa Klotho protein (ng/dl)	p değeri
Yürüme hızı		
≤ 0,8 m/sn (n=29)	1,33 (0,95 - 1,71)	0,756
> 0,8 m/sn (n=31)	1,33 (0,82 - 1,92)	
Handgrip – Erkek		
<27 (n=24)	1,26 (0,82 - 1,60)	0,140
≥ 27 (n=10)	1,68 (1,06 - 1,87)	
Handgrip – Kadın		
< 16 (n=20)	1,36 (0,95 - 1,80)	0,324
≥ 16 (n=6)	1,69 (1,18 - 2,49)	

Değişken	Vaka (n=30)	Kontrol (n=30)	p değeri
Yaş	78 (72 - 84)	76 (74 - 80)	0,415
Boy	160 ± 10	160 ± 8	0,885
Ağırlık	62 ± 14	74 ± 12	0,001
VKİ	24,5 ± 5,2	29,0 ± 5,3	0,001
Bel çevresi	93 ± 14	103 ± 11	0,005
Kalça çevresi	96 ± 11	104 ± 11	0,009
Bel/kalça	0,9693 ± 0,0963	0,9937 ± 0,0662	0,259

Chronic Diseases

OP-10

THE ASSOCIATION BETWEEN SMOKING STATUS AND CHRONIC DISEASE IN OLDER PATIENTS

Gulru Ulugerger Avci, Deniz Suna Erdincler

Istanbul University-cerrahpasa, Department Of Internal Medicine, Division Of Geriatric Medicine, Istanbul, Turkey

Aim: The aging population is increasing worldwide. With the aging population, increased comorbidities are becoming a current issue. Smoking is known to result in a wide range of negative health consequences. Smoking status is usually considered a direct risk factor related to chronic diseases. This study aims to reveal the factors of the associations of smoking status with chronic conditions in hospitalized geriatric patients.

Materials and methods: We retrospectively analyzed 185 older hospitalized patients in the Istanbul University Cerrahpasa Medical Faculty geriatric unit between January 2021 and January 2022. Demographic data, comorbidities, and medication use were extracted from electronic medical records. The use of 5 or more drugs per day was defined as polypharmacy.

Results: One hundred eighty-five hospitalized patients aged 65 and over were admitted to the study (53.5 % female). The mean age of the patient was 78.3 ± 7.3. The smoking prevalence was higher among males (p: <0.001). The mean number of comorbidities and polypharmacy was higher in patients with a smoking history (p: <0.001 for both of them). Patients with a history of tobacco use were characterized by a greater prevalence of coronary artery disease, congestive heart failure, depression, malignancy, chronic obstructive pulmonary disease, and cerebrovascular disease when compared with those with non-smokers (p: <0.001, 0.004, 0.010, 0.004, <0.001, 0.043 respectively) (Table 1). All these increased risks were similarly higher in the former and current smokers than non-smokers. It was only found that current smoking poses a higher risk for hyperlipidemia (Table 2).

Conclusion: In conclusion, this study highlights the association between smoking history and chronic disease. The smoking prevalence was higher among males, patients with multi-comorbidities, and polypharmacy. Smoking was a risk factor related to increased coronary artery disease, congestive heart failure, depression, malignancy, chronic obstructive pulmonary disease, and cerebrovascular disease. Being a current smoker was a risk factor for hyperlipidemia.

Keywords: Smoking, history of tobacco use, co-morbidities, polypharmacy, older patient

References

1. Salive ME. Multimorbidity in older adults. Epidemiol Rev. 2013;35:75-83.
2. Ng R, Sutradhar R, Yao Z, Wodchis WP, Rosella LC. Smoking, drinking, diet and physical activity-modifiable lifestyle risk factors and their associations with age to first chronic disease. Int J Epidemiol. 2020;49(1):113-130.
3. Craig BM, Kraus CK, Chewning BA, Davis JE. Quality of care for older adults with chronic obstructive pulmonary disease and asthma based on comparisons to practice guidelines and smoking status. BMC Health Serv Res. 2008;8:144.
4. Loretan CG, Cornelius ME, Jamal A, Cheng YJ, Homa DM. Cigarette Smoking Among US Adults With Selected Chronic Diseases Associated With Smoking, 2010-2019. Prev Chronic Dis. 2022;19:E62.
5. Quiñones AR, Nagel CL, Newsom JT, Huguet N, Sheridan P, Thielke SM. Racial and ethnic differences in smoking changes after chronic disease diagnosis among middle-aged and older adults in the United States. BMC Geriatr. 2017;17(1):48.
6. Wang S, Ungvari GS, Forester BP, et al. Gender differences in general mental health, smoking, drinking and chronic diseases in older adults in Jilin province, China. Psychiatry Res. 2017;251:58-62.
7. Wang X, Zhang T, Wu J, et al. The Association between Socioeconomic Status, Smoking, and Chronic Disease in Inner Mongolia in Northern China. Int J Environ Res Public Health. 2019;16(2):169.

Table 1. Demographic and Clinical Characteristics of The Patients According to The History of Tobacco Use

Characteristics	Non-Smokers (n: 94)	History of Tobacco Use (n:91)	p-value
Age (years), mean±SD	78.3 ± 7.6	78.2 ± 6.9	0.894
Gender, n(%), Male	28 (29.8%)	58 (63.7%)	<0.001
The Number of Chronic Diseases, n (%)	3.2 ± 1.9	5.1 ± 2.0	<0.001
Polypharmacy, n(%)	43 (45.7%)	72 (79.1%)	<0.001
The Number of Drugs, mean±SD	5.2 ± 3.1	8.1 ± 3.7	<0.001
Hypertension, n(%)	77 (81.9%)	75 (82.4%)	0.929
Diabetes mellitus, n(%)	41 (43.6%)	52 (57.1%)	0.066
Hyperlipidemia, n(%)	21 (22.3%)	31 (34.1%)	0.076
Coronary artery disease, n(%)	23 (24.5%)	63 (69.2%)	<0.001
Congestive Heart Failure, n(%)	11 (11.7%)	26 (28.6%)	0.004
Atrial fibrillation, n(%)	21 (22.3%)	28 (30.8%)	0.194
Chronic kidney disease, n(%)	17 (18.1%)	24 (26.4%)	0.175
Dementia, n(%)	15 (16.0%)	23 (25.3%)	0.117
Depression, n(%)	30 (31.9%)	46 (50.5%)	0.010
Parkinson's disease, n(%)	6 (6.4%)	9 (9.9%)	0.382
Cerebrovascular disease, n(%)	8 (8.5%)	17 (18.7%)	0.043
Chronic obstructive pulmonary disease, n(%)	9 (9.6%)	40 (44.0%)	<0.001
Rheumatological illness, n(%)	13 (13.8%)	6 (6.6%)	0.105
Malignancy, n(%)	6 (6.4%)	19 (20.9%)	0.004
Osteoporosis, n(%)	37 (39.4%)	39 (42.9%)	0.629

Characteristics	Non-Smokers (n: 94)	Former Smokers (n: 41)	Current Smokers (n: 50)	p-value
Male	28 (29.8%)	21 (51.2%)	37 (74.0%)	<0.001
The Number of Chronic Diseases, n (%)	3.2 ± 1.9	5.0 ± 1.7	5.0 ± 2.2	<0.001
Polypharmacy, n(%)	43 (45.7%)	34 (82.9%)	38 (76.0%)	<0.001
The Number of Drugs, mean±SD	5.2 ± 3.1	8.1 ± 2.9	8.1 ± 4.3	<0.001
Hypertension, n(%)	77 (81.9%)	37 (90.2%)	38 (76.0%)	0.209
Diabetes mellitus, n(%)	41 (43.6%)	27 (65.9%)	25 (50.0%)	0.059
Hyperlipidemia, n(%)	21 (22.3%)	9 (22.0%)	22 (44.0%)	0.014
Coronary artery disease, n(%)	23 (24.5%)	28 (68.3%)	35 (70.0%)	<0.001
Congestive Heart Failure, n(%)	11 (11.7%)	12 (29.3%)	14 (28.0%)	0.016
Atrial fibrillation, n(%)	21 (22.3%)	10 (24.4%)	18 (36.0%)	0.197
Chronic kidney disease, n(%)	17 (18.1%)	11 (26.8%)	13 (26.0%)	0.396
Dementia, n(%)	15 (16.0%)	10 (24.4%)	13 (26.0%)	0.287
Depression, n(%)	30 (31.9%)	23 (56.1%)	23 (46.0%)	0.023
Parkinson's disease, n(%)	6 (6.4%)	4 (9.8%)	5 (10.0%)	0.682
Cerebrovascular disease, n(%)	8 (8.5%)	8 (19.5%)	9 (18.0%)	0.126
Chronic obstructive pulmonary disease, n(%)	9 (9.6%)	17 (41.5%)	23 (46.0%)	<0.001
Rheumatological illness, n(%)	13 (13.8%)	3 (7.3%)	3 (6.0%)	0.263
Malignancy, n(%)	6 (6.4%)	6 (14.6%)	13 (26.0%)	0.005
Osteoporosis, n(%)	37 (39.4%)	19 (46.3%)	20 (40.0%)	0.738

Multidisciplinary Approaches

OP-11

THE EFFECT OF FASTING ON GERIATRIC SYNDROME, CHRONIC DISEASE AND METABOLIC PARAMETERS OF THE OLD AGED

Okay Kılınç[2], Hatice Turgut Şahin[1], Helin Yesin[1], Volkan Atmış[1], Ahmet Yalçın[1], Murat Varlı[1]

[1]Ankara University, Medical Faculty, Departmant Of Geriatrics
[2]Ankara University, Medical Faculty, İnternal Medicine

Introduction and aim: Fasting is the state of not taking orally starting from sunrise ending at sunset. Studies on the effects of fasting on the geriatric population are limited and inconsistent. The aim of this study is to determine the effects of fasting on geriatric syndromes, chronic diseases, and metabolic parameters in the old aged.

Methods: This study is a prospective, randomized study. A total of 133 patients fasted during Ramadan in April 2023 were included, and patients under the age of 65 were included as the control group. Before and after fasting of patients; 4-meter walking test, Katz ADL, Lawton IADL, SARC-F, FRAIL, Short MNA, Geriatric Depression Scale, Minimental Tests; hemogram, kidney function tests, liver function tests, lipid profile and anthropometric measurements (height, body weight, waist circumference, and calf circumference measurements) and bioelectrical impedance analysis data were recorded.

Results: 4-meter walking test duration prolonged (p:0.002), SARC-F score increased (0.035), the percentage of fat from bioelectric impedance analysis measurements increased (p:0.005), of muscle mass decreased (p:0.028), bone mass decreased (p:0.026), creatinine levels increased (p:0.000), the MNA score increased (p:0.029), minimental test score decreased (p:0.03), albumin level decreased (p:0.001), Hb level decreased (p:0.001). GDS score was found to be decreased at the end of the study (p:0.003). When the geriatric group was compared with the young group; waist circumference decreased (p:0.019), creatinine increased (0.004), VLDL decreased (p: 0.018), direct and total bilirubin increased (p:0.001-0.002), the sedimentation rate increase was observed statistically significantly (p:0.048) among the old aged group.

Discussion: In different cultures dietary contents in Ramadan differ; the daily caloric and fluid intake of the old aged decreases, the carbohydrate content and percentage in the diet increases; the amount of daily movement of fasting patients also decreases. This situation exposes the old aged to the risk of sarcopenia, and frailty, has negative effect on the control of chronic diseases and metabolic parameters. Despite the improvement in the lipid profile which is thought to be secondary to a decrease in total caloric intake, there is an increase in creatinine values and blood glucose thought to be the result of insufficient fluid intake and increase in carbohydrate intake. An interesting result of the study is the significant decrease in the GDS scores of the patients at the end of the fast, which suggests that spiritual activities may be beneficial for the mood of the old aged, but the decrease in the MMT score may be multifactorial. When Ramadan fasting is compared with intermittent fasting type diets; where there is improvement in metabolic and anthropometric parameters; during fasting there is no oral intake throughout the day and calorie is reduced with accompanying reduction in movement.

Conclusion: Fasting has led to a decrease in muscle and bone mass, deterioration in muscle function and mental status, and a negative impact on metabolic parameters in old aged; and moderate improvement in mood. Further studies are needed to determine in which old aged groups these effects occur and in which patients fasting can be recommended safely.

Keywords: ramadan fasting, fasting in geriatrics

Frailty

OP-12

FINGER TAPPING TEST; COULD IT BE A NEW MARKER FOR FRAILTY?

Hemrin Kavak, Busragul Yılmaz, Fatma Kaplan Efe, Hande Selvı Oztorun, Rana Tuna Dogrul, Gunes Arık, Kamile Sılay

Ankara Bılkent Cıty Hospıtal Department Of Gerıatrıc

Aim: Finger Tapping Test (FTT) is a commonly employed quantitative assessment tool used to measure motor performance in the upper extremities Frailty is the most problematic expression of population ageing. It is a state of vulnerability to poor resolution of homoeostasis after a stressor event and is a consequence of cumulative decline in many physiological systems during a lifetime. In our study, we aimed to determine the relationship between FTT and frailty in geriatric patients without dementia.

Material and Method: Our study included 87 participants older than 65 years with an MMSE score greater than 24.The 20-seconds FTT and FRAIL scales were applied to the participants. People who were screened the FRAIL scale were classified as robust-prefrail-frail. The relationship between frailty and FTT was examined. The number of finger taps in 20 seconds was calculated and compared between the groups. FRAIL scale, which includes a simple 5-item (fatigue, resistance, ambulation, illness, and weight loss) questionnaire and has no requisite for physical examination, as an easy screening method for frailty status.

Statistical Package for the Social Sciences (SPSS) for Windows version 24.0 (IBM SPSS Inc., Chicago, IL) was used to perform statistical analyses. The conformity of the variables to the normal distribution was examined using visual (histograms and proba-

bility graphs) and analytical (Kolmogorov-Smirnov/Shapiro-Wilk tests) methods. The results of the descriptive analyses were presented as mean and standard deviation (for normally distributed variables), median, and minimum-maximum range (for non-normally distributed variables). The correlation between the number of finger-tapping and the FRAIL score was made using Pearson correlation analysis because the data were not normally distributed. The results were evaluated within the 95% confidence interval (CI), and a p-value.

Results: The mean age of 87 patients included in the study was 76.16±8.61 years, N: 55 (63.2%) were female.. Demographic information and detailed geriatric assessment results are summarised in Table-1. Participant's FTT and FRAIL scale were significantly negatively correlated. (p: -.404, p<.001) Among the participant groups classified according to FTT and FRAIL scale; It was determined that there was a significant difference between the robust and frail groups, and the number of finger tapping was significantly reduced in the frail group. (p: .004) (Detailed data are given in Table-2)

Conclusions:: In conclusion, we found that the number of finger taps and frailty status were related in participants screened with the FTT and the FRAIL scale. We found that the number of finger taps was significantly lower in frail patients.

References

1. Barut C, Kızıltan E, Gelir E, Köktürk F. Advanced analysis of finger-tapping performance: a preliminary study. Balkan Med J. 2013 Jun;30(2):167-71. doi: 10.5152/balkanmedj.2012.105. Epub 2013 Jun 1. PMID: 25207095; PMCID: PMC4115982.
2. Fried LP, Tangen CM, Walston J, Newman AB, Hirsch C, Gottdiener J, Seeman T, Tracy R, Kop WJ, Burke G, McBurnie MA. Frailty in older adults: evidence for a phenotype. J Gerontol A Biol Sci Med Sci. 2001;56(3):M146–56.

Keywords: Keywords: Older Adults, Comprehensive Geriatric Assessment, Frailty, Finger Tapping. FRAİL Scale

Table 1. Demographic information

Age	76,16±8,61
Sex	F: 55 (%68,2) M:32 (&36,8)
Katz ADL	5(1-6)
Lawton-Brody IADL	7(0-8)
MMSE score	27,5 (24-30)
MNA score	11,5(1-14)
GDS score	3(0-15)
Handgrip	18,83±7,67
Gait speed (m/sn)	0,87(0,20-7,35)sn
Fall number	11 (%14.3)
Weight loss (%)	10 (%15,3)
BMI(kg/m2	28,52±5,08
Finger taps number	60,5 (25-115)
FRAİL score	2 (0-4)

Tablo 2. Relationship between FTT taps number and FRAİL scale

*	*Robust*	*Prefrail*	*Frail*	*p VALUE*
FTT taps number	75 (35-115)	66 (22-112)	48 (21-90)	.004

Gerontology

OP-13

EPIDEMIOLOGICAL ANALYSIS OF CRITICALLY-ILL ELDERLY PATIENTS IN TURKIYE

Suayip Birinci[1], Mehmet Yildirim[2]

[1]Ministry Of Health, Deputy Minister, Ankara, Türkiye
[2]Ministry Of Health, Etlik City Hospital, Department Of Internal Medicine, Medical Intensive Care Unit, Ankara, Turkiye

Introduction and Aim: Aging is associated with an increase in comorbidities and a higher risk for critical illness. The growing geriatric population (aged 65 and older) necessitates to reflect the unique needs and conditions of this population1. In this study we aimed to reveal epidemiologic features of critically-ill elderly patients in Turkiye.

Method: A one year (2022) retrospective cohort analysis of all level 2 and level 3 intensive care unit (ICU) admissions in Turkiye was performed. Demographic data, comorbidities and admission diagnosis based on ICD-10 codes, APACHE II scores, admission laboratory values, mechanical ventilation and hemodialysis requirement, length of ICU stay and mortality of elderly patients were recorded.

Results: Out of 882,678 ICU admissions, 448,836 (50.8%) patients were 65 years old or older. The median age of elderly patients is 76 years [IQR=70-83 years] and 229,924 (51.2%) were male. To evaluate disease severity on ICU admission, APACHE II scores were analysed in 385,124 patients and median APACHE II score was 10 [4-18]. Hypertension (93.5%), cerebrovascular disease (48.2%), heart failure (44.8%), chronic respiratory disease (44.6%), diabetes (37.9%), malignancy (22.9%) and chronic kidney disease (19.5%) were the most common comorbidities. Regarding admission diagnosis; respiratory failure, cerebrovascular disease, acute kidney injury, sepsis, myocardial infarctus, gastrointestinal hemorrhage, pulmonary embolism, liver failure, diabetic ketoacidosis, intoxication were diagnosed 21.3%, 13.0%, 11.8%, 11.7%, 3.2%, 2.7%, 2.0%, 0.5%, 0.3%, 0.1% of all patients, respectively. Non-invasive mechanical ventilation and invasive mechanical ventilation requirement were 29.0% and 27.7%, respectively, on ICU admission. 17,534 (3.9%) of patients underwent hemodialysis while 11,887 (2.6%) received continous renal replacement therapy. Tracheotomy was performed in 8,634 (1.9%) patients, 9,302 (2.1%) patiens underwent PEG and brain death was diagnosed in 293 patients (0.1%). Median length of ICU stay was 3 days [1-8] and 209,382 (46.7%) patients passed away.

Conclusion: The present study reveals the one year epidemiologic analysis of critically-ill geriatric patients in Turkish ICUs. Nearly half of the critically-ill patients were older patients with a mortality rate of 46.7%. Since its large patient cohort reflecting real world findings, our study will improve understanding of unique needs and conditions of critically-ill geriatric patients.

Keywords: intensive care unit, elderly, geriatric, epidemiology, critically-ill

Table 1. Features of Critically-Ill Geriatric Patients

	Total ICU Admissions (n=448,836)
Age, years*	76 [70-83]
Male, n (%)	229,924 (51.2%)
Comorbidities, n (%)	
Hypertension	419,754 (93.5)
Cerebrovacular disease	216,286 (48.2)
Heart failure	200,924 (44.8)
Chronic respiratory disease	200,328 (44.6)
Diabetes	170,115 (37.9)
Malignancy	102,888 (22.9)
Chronic kidney disease	87,695 (19.5)
APACHE II score*	10 [4-18]
Admission diagnosis	
Respiratory failure	95,555 (21.3)
Cerebrovacular disease	58,240 (13.0)
Acute kidney injury	53,185 (11.8)
Sepsis	52,328 (11.7)
Myocardial infarctus	14,439 (3.2)
Gastrointestinal hemorrhage	12,226 (2.7)
Pulmonary embolism	8,823 (2.0)
Liver failure	2,421 (0.1)
Diabetic ketoacidosis	1,350 (0.3)
Intoxication	433 (0.1)
Mechanical ventilation on admission, n (%)	
Non-invasive mechanical ventilation	130,014 (29.0)
Invasive mechanical ventilation	124,237 (27.7)
Hemodialysis, n (%)	17,534 (3.9)
Continous renal replacement therapy, n (%)	11,887 (2.6)
Tracheotomy, n (%)	8,634 (1.9)
Percutaneous endoscopic gastrotomy, n (%)	9,302 (2.1)
Brain death, n (%)	293 (0.1)
Length of ICU stay, days*	3 [1-8]
ICU mortality, n (%)	209,382 (46.7)

*median [IQR] , ICU: intensive care unit, APACHE: acute physiology and chronic health evaluation

Multidisciplinary Approaches

OP-14

THE EPIDEMIOLOGIC ANALYSIS OF ADULT INTENSIVE CARE UNIT ADMISSIONS IN 2022 IN TURKEY

Mustafa Mahir Ulgu[1], Mehmet Yildirim[2]

[1]Ministry Of Health, General Directorate Of Health Information Systems, Ankara, Türkiye
[2]Ministry Of Health, Etlik City Hospital, Department Of Internal Medicine, Medical Intensive Care Unit, Ankara, Turkey

Introduction and Aim: Epidemiologic analysis of adult intensive care unit (ICU) admissions provides better understanding and insight into healthcare needs, patient characteristics and also enlighten future planning of intensive care units. Turkiye which has 29.4 adult ICU beds per 100,000 capita ranks second in the world according to 2020 statistics[1,2]. The aim of present study is to evaluate epidemiologic analysis of adult ICU admissions in 2022 in Turkey.

Methods: A one year (2022) retrospective cohort analysis of all adult level 2 and level 3 ICU admissions was performed. Demographic data, comorbidities and admission diagnosis based on ICD-10 codes, APACHE II scores, admission laboratory values, mechanical ventilation and hemodialysis requirement, length of ICU stay and mortality were recorded.

Results: The data of 882,678 ICU admissions of which 64.8% training and research hospitals, 20.0% private hospitals and 15.2% university hospitals were analysed. The median age of patients was 65 years [IQR=50-76 years] and 476,062 were male (53.9%). Hypertension (75.5%), cerebrovascular disease (33.0%), chronic respiratory disease (31.0%), heart failure (30.3%), diabetes (30.2%), malignancy (19.1%) and chronic kidney disease (13.2%) were the most common comorbidities. To evaluate disease severity on ICU admission, APACHE II scores were analysed in 695,918 patients and median APACHE II score was 10 [4-18]. Regarding admission diagnosis; respiratory failure, cerebrovascular disease, sepsis, acute kidney injury, myocardial infarctus, gastrointestinal hemorrhage, pulmonary embolism, intoxication, diabetic ketoacidosis, liver failure were diagnosed 15.1%, 9.1%, 8.5%, 7.8%, 3.3%, 1.9%, 1.4%, 0.9%, 0.4%, 0.4% of all patients, respectively. Non-invasive mechanical ventilation and invasive mechanical ventilation requirement were 21.6% and 21.4%, respectively, on ICU admission. 28,114 (3.2%) of patients underwent hemodialysis while 17,996 (2.0%) received continous renal replacement therapy. Tracheotomy was performed in 14,024 (1.6%) patients, 12,794 (1.4%) patiens underwent PEG and brain death was diagnosed in 909 patients (0.1%). Median length of ICU stay was 3 days [1-6] and overall ICU mortality rate was 30.9% (Table).

Conclusion: Although the current study has evident limitation due to its retrospective design and data based on ICD-10 codes, it reveals the one year epidemiologic analysis of Turkish ICUs with largest patient cohort. The study has promising results for the future studies to demonstrate temporal epidemiological trends in Turkish ICUs.

Keywords: intensive care unit, epidemiology, diagnosis, comorbidity, outcome

References

1. https://rapor.saglik.gov.tr/istatistik/rapor/ , accessed on 24 June 2023.
2. https://www.oecd.org/coronavirus/en/data-insights/intensive-care-beds-capacity , accessed on 24 June 2023.

Table 1. Features of ICU admissions

	Total ICU Admissions (n=882,679)
Age, years*	65 [50-76]
Male, n (%)	476,062 (53.9)
Comorbidities, n (%)	
Hypertension	666,785 (75.5)
Cerebrovacular disease	291,609 (33.0)
Chronic respiratory disease	274,038 (31.0)
Heart failure	267,031 (30.3)
Diabetes	266,198 (30.2)
Malignancy	168,841 (19.1)
Chronic kidney disease	116,411 (13.2)
APACHE II score*	10 [4-18]
Admission diagnosis	
Respiratory failure	133,095 (15.1)
Cerebrovacular disease	80,172 (9.1)
Sepsis	75,397 (8.5)
Acute kidney injury	68,709 (7.8)
Myocardial infarctus	28,874 (3.3)
Gastrointestinal hemorrhage	17,055 (1.9)
Pulmonary embolism	12,627 (1.4)
Intoxication	8,295 (0.9)
Liver failure	3,955 (0.4)
Diabetic ketoacidosis	3,848 (0.4)
Mechanical ventilation on admission, n (%)	
Non-invasive mechanical ventilation	190,882 (21.6)
Invasive mechanical ventilation	188,841 (21.4)
Hemodialysis, n (%)	28,114 (3.2)
Continous renal replacement therapy, n (%)	17,966 (2.0)
Tracheotomy, n (%)	14,024 (1.6)
Percutaneous endoscopic gastrotomy, n (%)	12,794 (1.4)
Brain death, n (%)	909 (0.1)
Length of ICU stay, days*	3 [1-6]
ICU mortality, n (%)	272,538 (30.9)

*median [IQR] , ICU: intensive care unit, APACHE: acute physiology and chronic health evaluation

Others

OP-16

THE RATE OF OSTEOSARCOPENIA IN ELDERLY INDIVIDUALS LIVING IN NURSING HOME AND ITS RELATIONSHIP WITH FRAILTY

Özlem Karaarslan Cengiz[1], Funda Datlı Yakaryılmaz[2]

[1]Mersin University Faculty Of Medicine, Department Of Geriatrics
[2]İnönü University Faculty Of Medicine, Department Of Geriatrics

Background-Aim: In recent years, osteopenia/osteoporosis and sarcopenia have been associated with each other and a geriatric syndrome called osteosarcopenia (OSP) has been defined because they have similar risk factors and pathogenesis and are frequently seen together. The prevalence of osteosarcopenia is highly variable depending on the population studied and varies between 5-37% in the elderly (1). Since there is simultaneous muscle and bone loss in OSP, there is a serious risk in terms of fragility. In our study, it was aimed to determine the incidence of OSP in geriatric individuals living in nursing homes and the relationship between OSP and fragility.

Our study is a prospective cross-sectional study. Individuals aged 65 and over residing in Malatya Nursing Home affiliated with the Malatya Provincial Directorate of the Ministry of Family, Labor, and Social Affairs between March 2019 and February 2020 were included in the study. Comprehensive geriatric assessment tests were administered to all elderly people who met the inclusion criteria. The criteria of the "European Working Group on Sarcopenia of Older People 2018" study group were used for the definition of sarcopenia. Dual Energy X-ray Absorptiometry measurements made to evaluate bone mineral density in the last 1 year were obtained from medical records. The FRAIL scale was used for vulnerability assessment. Participants were evaluated according to the presence of osteopenia and/or sarcopenia and divided into 4 groups; neither osteopenia nor sarcopenia (NONS), osteopenia only (OP), only sarcopenia (SP), and OSP.

A total of 129 participants, 78 (60.5%) male, with a mean age of 74.68±7.65, were included in the study. OSP was detected in 28 participants (21.7%). While 67 (51.9%) of the participants were prefrail, 44 (34.1%) were evaluated as frail. The FRAIL score was highest in the OSP group (1.22±0.82 in the NONS group, 1.55±1.02 in the OP group, 3.36±1.22 in the OP group, 4.04±1.04 in the OSP group, $p<0.001$). It was determined that the rate of OSP increased to 56.8% in the frail elderly. The study groups were compared in terms of clinical characteristics and comprehensive geriatric tests, and the results are shown in Table 1.

In our study, it was determined that at least four out of every five elderly people living in nursing homes were prefrail or frail. Strikingly, almost all individuals with ASP were found to be frail.

In a cross-sectional study conducted with 680 elderly people living in the community and with a history of fracture, Huo et al. found the prevalence of OSP to be 37% (2). They showed that the average age of OSP patients was higher, the majority were female, had low BMI, and were at high risk for depression and malnutrition. In our study, the average age of individuals with OSP is 78.25±10.07 higher than other groups. No difference was found between genders in terms of OSP incidence rates. It is suggested that the reason for this situation may be that the factors that directly affect the development of sarcopenia, such as nutrition and exercise level, in elderly men living in nursing homes are different from those in elderly men living in the community, and the incidence of OSP is affected by these factors.

In a study conducted by Park et al. with more than 800 individuals aged ≥60 years, the prevalence of ASP was found to be 19.2%, and this rate increased to 37.7% in frail individuals (3). In a 4-year cohort study in which >1000 participants were followed, the prevalence of OSP was found to be 5.6%, and this rate increased to 30.4% in those with frailty (4). The presence of OSP has been found to significantly increase the risk of developing frailty compared to the presence of osteopenia/osteoporosis alone or sarcopenia alone.

Basic and instrumental living activity scores and Tinetti scores were found to be the lowest in the OSP group. As predicted by Tinetti scores, both the rate of falls in the last year and the number of falls were found to be significantly higher in the OSP group than in the other groups. These results may suggest that there is an increased risk of physical function limitations and falls in individuals who develop sarcopenia or osteosarcopenia. In addition, physical function limitation itself or, in individuals with a high risk of falling, limiting the individual's physical functions due to the preference of the individual or caregiver may pose a risk for the development of sarcopenia and osteosarcopenia.

Osteosarcopenia is seen in one out of every five elderly people in nursing homes, and osteosarcopenia is more common in fragile patients. If one of these geriatric syndromes is present, the others should also be sought. Considering osteopenia/osteoporosis, sarcopenia, and frailty simultaneously in the elderly may be a key strategy to prevent disability and poor quality of life.

References

1. Kirk B, Zanker J, Duque G. Osteosarcopenia: epidemiology, diagnosis, and treatment- facts and numbers. J Cachexia Sarcopenia Muscle 2020;11:609-18
2. Huo YR, Suriyaarachchi P, Gomez F, Curcio CL, Boersma D, Muir SW, et al. Phenotype of osteosarcopenia in older individuals with a history of falling. J Am Med Dir Assoc 2015;16:290-5
3. Park KS, et al. Disability, Frailty and Depression in the Community-Dwelling Older Adults with Osteosarcopenia. BMC Geriatrics 2021;21(1):1-7.
4. Yoshimura N , et al. Do Sarcopenia and/or Osteoporosis Increase the Risk of Frailty? A 4-Year Observation of the Second and Third ROAD Study Surveys. Osteoporosis International 2018;29(10): 2181–90

Keywords: elderly, geriatric, frailty, sarkopenia, osteosarkopenia

Table 1. Comparisons of the groups in terms of clinical features and comprehensive geriatric assessment tests

Variables	NONS	OP	SP	OSP	All	p*
n (%)	45 (34.9)	42 (32.6)	14 (10.9)	28 (21.7)	129 (100)	
Age[a]	72.78±5.83[b]	75.07±6.65	71.79±8.00[b]	78.61±9.83[ac]	4.66±7.65	**0.005**
Gender						
Male n (%)	30 (66.7)	20 (47.6)	12 (85.7)	16 (57.1)	78 (60.5)	0.058
Female n (%)	15 (33.3)	22 (52.4)	2 (14.3)	12 (42.9)	51 (39.5)	
Smoker n (%)	5 (11.1)	6 (14.3)	3 (21.4)	2 (7.1)	16 (12.4)	0.579
Body mass index[a]	24.54±3.72	26.15±5.82	22.86±5.75	24.92±5.80	4.96±5.20	0.191
Number of chronic diseases[a]	2.40±0.69	2.50±0.86	2.57±0.85	2.46±0.92	2.46±0.81	0.897
Number of drugs[a]	4.64±0.77	4.57±0.77	4.50±0.52	4.68±1.02	4.63±0.80	0.889
Comprehensive geriatric assessment						
Katz ADL[a]	5.40±0.91[d]	5.10±0.96[d]	4.79±1.25	4.07±1.58[ab]	4.95±1.23	**<0.001**
Lawton IADL[a]	5.58±1.10[d]	5.43±1.36[d]	5.07±1.44	4.50±1.89[ab]	5.24±1.47	**0.014**
MNA-SF[a]	11.89±2.64[cd]	11.38±2.53[cd]	8.96±3.41[ab]	8.93±3.81[ab]	0.77±3.17	**<0.001**
MMSE[a]	22.16±6.76	20.17±7.12	20.29±7.14	18.71±7.16	0.59±7.05	0.224
GDS[a]	7.67±4.91	8.12±4.70	6.86±4.66	9.96±4.35	8.22±4.75	0.134
FRAIL Score[a]	1.22±0.82[cd]	1.55±1.02[cd]	3.36±1.22[ab]	4.04±1.04[ab]	2.17±1.52	**<0.001**
Frailty status						
Normal n (%)	10 (22.2)[d]	8 (19.0)	0 (0.0)	0 (0.0)[a]	18 (14.0)	
Prefrail n (%)	32 (71.1)[d]	27 (64.3)[d]	5 (35.7)	3 (10.7)[ab]	67 (51.9)	**<0.001**
Frail n (%)	3 (6.7)[cd]	7 (16.7)[cd]	9 (64.3)[ab]	25 (89.3)[ab]	44 (34.1)	
Handgrip strength (kg)[a]	21.29±9.56[d]	19.81±10.05[d]	18.12±9.99	13.29±7.01[ab]	8.00±9.67	**0.018**
SSMI	11.67±1.39[cd]	11.21±1.49[cd]	9.01±0.68[ab]	7.58±1.41[ab]	0.34±2.14	**<0.001**
Tinetti balance score[a]	9.13±2.19[d]	8.79±2.19[d]	8.76±2.52	7.21±2.10[ab]	8.56±2.36	**0.006**
Tinetti gait score[a]	13.20±3.35[d]	12.50±3.72[d]	11.57±3.67	10.21±2.96[ab]	2.15±3.57	**0.004**
Total Tinetti score[a]	22.33±5.16[d]	21.26±5.86[d]	20.36±4.97	17.43±4.89[ab]	0.71±5.59	**0.002**
History of falling n (%)	20 (44.4)[d]	15 (35.7)[d]	10 (71.4)	23 (82.1)[ab]	68 (52.7)	**<0.001**
Number of falls in the last year[a]	0 [0-3][d]	0 [0-3][d]	1 [0-3]	2 [0-4][ab]	0 [0-4]	**<0.001**
Incontinence n (%)	7 (15.6)[d]	13 (31.0)[d]	12 (85.7)[ab]	26 (92.9)[ab]	58 (45.0)	**<0.001**

*Bold values are p<0.05 and are statistically significant. -value *: Comparison between groups; p-value; [ab-cd]: Intragroup post hoc value. [a]: Significant difference to NONS, [b]: Significant difference to OP, [c]: Significant difference to SP, [d]: Significant difference to OSP; NONS: non-osteopenic and non-sarcopenic group OP: Only osteopenic group, SP: Only sarcopenic group, OSP: Osteosarcopenic group. [a]: mean ± standard deviation, -c: median [minimum- maximum]. Abbreviations: OP: only osteoporosis group; SP: only sarcopenic group; OSP: osteosarcopenic group; Katz ADL: Katz index of activities of daily living; Lawton IADL: Lawton instrumental activities of daily living scale; MMSE: Mini-mental state examination; MNA-SF: Mini-nutritional assessment- short form, GDS: Geriatric Depression Scale, SSMI: skeletal muscle mass index.*

Others

OP-17

FREQUENCY OF INSOMNIA AND RELATED FACTORS IN PATIENTS AGED 65 AND OVER APPLYING TO THE INTERNAL MEDICINE CLINIC

Özge Balıkçı[1], Özlem Karaarslan Cengiz[2]

[1]Tekirdag Sarkoy Hospital, Department Of İnternal Medicine
[2]Mersin University Faculty Of Medicine, Department Of Geriatrics

Background-Aim: Sleep disorders are serious health problem, which is quite common in the elderly population. Sleep disorders are very important because they impair the quality of life of the person, increase the severity of existing diseases and geriatric syndromes, and can cause geriatric syndromes in themselves. Insomnia accounts for many sleep disorders in the elderly. Our study aims to determine the ratio of insomnia and insomnia-related conditions in outpatients aged 65 and over who applied to internal medicine outpatient clinics.

Our study included 150 patients aged 65 and over, who applied to Mersin University Hospital Internal Medicine outpatient clinics between 15.04.2021 and 15.02.2022, accepted to participate in the study. Patients who have general condition impairment or confusion that cannot respond to the questionnaires and scales used in the study, who are diagnosed with mental retardation or dementia, who are receiving active treatment for psychiatric disease, and who do not agree to participate in the study are excluded from the study. Questionnaires and scales were applied to the patients participating in the study by face-to-face interview technique. The Insomnia Severity Scale (ISI) was used to diagnose insomnia and assess insomnia severity, and the EPWORTH Daytime Sleepiness Scale (ESS) was used to assess daytime sleepiness. Participants are divided into two categories whether have insomnia or don't and compared with clinical data, geriatric syndromes, and demographic attributes.

The mean age of the 150 patients included in the study was 72.4 ± 8.4 years, 80 (53.3%) of the participants were female and 70 (46.7%) were male. Insomnia was detected in 102 (68%) of the participants. It was observed that insomnia was more common in female patients (p=0.049; p<0.05). The mean ISI was 12.5±8.0; it was observed that 48 (48/102, 47.0%) patients had mild insomnia, 28 (28/102, 27.5%) moderate insomnia, and 26 (26/102, 25.5%) severe insomnia. The mean ESS was recorded as 7.0±5.0. 33 patients (33/150, 22.0%) scored >10 on this scale. The mean number of chronic diseases in patients with insomnia is 3.3±1.6 and the mean number of drugs they use is 5.7±2.8, while the mean number of chronic diseases in patients without insomnia is 2.5±1.5 and the mean number of drugs they use is 4.3± 3.1 (respectively, p=0.003, p=0.008). Congestive heart failure and chronic kidney disease are more common in patients with insomnia than in patients without insomnia (respectively p=0.043, p=0.035). The presence of falling, chronic pain, incontinence, malnutrition, and depression in the patient group with insomnia was found to be significantly higher than the patient group without insomnia (respectively p=0.038, p<0.001, p=0.020, p<0.001, p<0.001). The findings are presented in Table 1.

In the literature, the incidence of insomnia in the elderly varies between 30% and 60% (1). In our study, we detected insomnia at a rate of 68%. The reason why the insomnia rate in our study was slightly higher than in the literature may be that the study population consisted of patients applying to internal medicine. It is known that medical problems are more common in elderly people admitted to the hospital and some comorbid diseases cause insomnia. Soysal et al. also conducted a study in our country with outpatient clinic patients (575 patients aged 65 and over, average age 73.1±7.7) and in this study, the rate of insomnia was found to be 65.6%, similar to our study (2).

In our study, insomnia was found more frequently in women, consistent with the literature. There was no significant relationship between age and insomnia. According to the ISI score, more than half of the patients with insomnia had moderate or severe insomnia. In a study conducted with 420 elderly people living in the community, insomnia was detected in 48.8% of the elderly and more than half of the elderly with insomnia were found to have moderate or severe insomnia (3). It was determined that 22% of the elderly patients who participated in our study received more than 10 points on the ESS scale, meaning they had increased daytime sleepiness. Increased daytime sleepiness also affects daily living activities, causes falls and accidents, and can cause disabilities.

In our study, it was observed that the average number of chronic diseases was higher in patients with insomnia. It was suggested that this situation could be the cause or the result of insomnia. In the study conducted by Ayoub et al., it was shown that one-third of the elderly living in the community had insomnia, the number of chronic diseases was an independent risk factor for insomnia, and having five or more diseases increased the risk of insomnia by 7.25 times (4). In our study, the average number of medications used in patients with insomnia was also higher. This may be due to these patients having more chronic diseases, drug side effects, drug-drug or drug-disease interactions.

The presence of a history of falls, chronic pain, incontinence, malnutrition, and depression in the patient group with insomnia was significantly higher than in the patient group without insomnia.

Insomnia may increase the risk of falling by causing daytime sleepiness, fatigue, distraction, or due to the side effects of medications used to treat insomnia. Insomnia may also occur due to complications such as pain that may occur after a fall, mobility limitation, incontinence, malnutrition, anxiety-depression. In a study in which 34.163 nursing home residents were followed for 5-7 months, it was revealed that insomnia predicted future falls (5).

In our study, it was shown that the most common sleep disorder in the elderly is insomnia and there is a close relationship between insomnia and geriatric syndromes. The relationship between geriatric syndromes and insomnia should be evaluated bilaterally. It may be possible to reduce the incidence of insomnia with the prevention or early diagnosis and treatment of geriatric syndromes. On the other hand, prevention or effective treatment of insomnia can prevent the emergence of other geriatric syndromes.

References

1. Crowley K. Sleep and sleep disorders in older adults. Neuropsychology review. 2011;21(1):41-53.
2. Soysal P, et al. Relationship Between Nutritional Status and Insomnia Severity in Older Adults. J Am Med Dir Assoc. Dec 2019;20(12):1593-1598.
3. Şahin S. 'The effect of physical activity level on the severity of insomnia in the elderly', İnönü University Institute of Health Sciences; 2021.
4. Ayoub AI, et al. Insomnia among community dwelling elderly in Alexandria, Egypt. The Journal of The Egyptian Public Health Association. 2014;89(3):136-142.
5. Avidan AY, et al. Insomnia and hypnotic use, recorded in the minimum data set, as predictors of falls and hip fractures in Michigan nursing homes. Journal of the American Geriatrics Society. 2005;53(6):955-962.

Keywords: insomnia, Insomnia Severity Index, EPWORTH Daytime Sleepiness Scale, elderly, geriatric syndrome

Table 1: Comparison of patients with and without insomnia in terms of clinical features, geriatric syndromes, and comprehensive geriatric assessment tests

	Insomnia (n=48)	No insomnia (n=102)	P
Age	72.4±6.3	72.4±6.5	0.968[a]
Gender	n (%)	n (%)	
Female	20 (41.7)	60 (58.8)	0.049[b]
Male	28 (58.3)	42 (41.2)	
Number of chronic diseases (mean±SD)	2.5±1.5	3.3±1.6	0.003[a]*
Number of drugs used (mean±SD)	4.3±3.1	5.7±2.8	0.005[a]*
BMI	28.2±5.4	29.2±8.4	0.425[a]
Geriatric syndromes	n (%)	n (%)	
Fall	15 (31.3)	49 (48.0)	0.038[b]
Chronic pain	31 (64.6)	94 (92.2)	<0.001[b]*
Incontinence	13 (27.1)	48 (47.1)	0.020[b]
Malnutrition	8 (16.7)	46 (45.1)	<0.001[b]*
Depression	5 (10.4)	56 (54.9)	<0.001[b]*
Polypharmacy	23 (47.9)	64 (62.7)	0.062[b]
Comprehensive geriatric assessment tests	**Med (25%-75%)**	**Med (25%-75%)**	
ESS	5 (2.25-8)	7 (7-11)	0.019[c]*
GDS	4 (2-7)	11.5 (6-18)	<0.001[c]*
MMSE	28 (26-30)	27 (24-29)	0.060[c]
VAS	4.5 (2-6)	7 (6-8)	<0.001[c]*
ICIQ-SF	4 (4-5)	5 (4-6)	0.133[c]
MNA-SF	13 (11.25-14)	11 (9-13)	<0.001[c]*
ADL	6 (5-6)	5 (5-6)	0.001[c]*
IADL	8 (8-8)	7 (5-8)	<0.001[c]*

*p<0.05, *p<0.001, a: Independent student t-test, b: Chi-square and Fisher exact test, c: Mann Whitney u test.
BMI: Body Mass Index, ADL: Katz Activities of Daily Living, IADL: Lawton Brody Instrumental Activities of Daily Living, MMSE: Mini Mental State Assessment, VAS: Visual Analog Scale, MNA-SF: Mini Nutritional Assessment- Short Form, GDS: Geriatric Depression Scale, ICIQ-SF: International Incontinence Consultation Questionnaire- Short Form, ESS: Epworth Daytime Sleepiness Scale

Chronic Diseases

OP-18

CAN THE NUTRITION INDEX CONUT PREDICT THE RISK OF DEATH IN ELDERLY PATIENTS WITH DECOMPENSATED HEART FAILURE? 'AN IN-HOSPITAL MORTALITY STUDY'

Ayşe Nur Özkaya İbiş, Çağatay Tunca

Etlik City Hospital, Ankara

Background: Heart failure (HF) is the advanced stage of cardiovascular diseases, with high rates of hospitalization and mortality. The global prevalence of HF has been increasing due to aging population and advancements in medical care, leading to a significant health burden. Malnutrition is a common problem among HF patients and is a major contributor to unfavorable outcomes. Therefore, monitoring the nutritional status of these patients are of paramount importance . The Controlling Nutritional Status (CONUT) score, which can be calculated using routine blood parameters, serves as an indicator of nutritional status and has demonstrated associations with poor prognosis in various cardiovascular conditions. However, limited data exists regarding the impact of the CONUT score on in-hospital mortality specifically in elderly patients with decompensated heart failure (DHF). Consequently, this study is aimed to investigate the relationship between the CONUT score and in-hospital mortality among patients with the diagnosis of DHF.

Methods: This retrospective observational study included 263 patients aged 65 years and older who were hospitalized with decompensated heart failure (DHF) and had a diagnosis of HF for over a year. The data collection period spanned from February 2021 to July 2022. The CONUT score, based on serum albumin concentration, total cholesterol value, and lymphocyte count, was calculated. Patients were categorized into different groups based on their scores. Patients with a score of 0-1 were classified as healthy, while those with scores of 2-4, 5-8, and 9-12 were considered at risk of mild, moderate, and severe malnutrition, respectively. The variables of interest were evaluated in relation to the in-hospital mortality status of the patients.

Results: The main characteristics between the groups with no mortality (n=219) and those with mortality (n=44) are summarized in Table-1. In the univariate analysis, several variables showed significant differences between the groups. These included age (p<0.001), presence of coronary artery disease (p=0.011), left ventricular ejection fraction (p=0.015), and various laboratory parameters: hemoglobin (p<0.001), C-reactive protein (CRP) (p<0.001), creatinine (p=0.001), albumin (p<0.001), serum potassium (p<0.001), and uric acid (p<0.001) levels. Additionally, a higher CONUT score was associated with a significantly higher mortality rate (p<0.001). Furthermore, multivariate logistic regression analysis revealed that along with age and hemoglobin level, the CONUT score emerged as a predictor of in-hospital mortality (Table-2).

Conclusion: The CONUT score is a valuable and simple tool for predicting in-hospital mortality in elderly patients with decompensated heart failure (DHF). Its integration into routine clinical practice can significantly contribute to reducing in-hospital mortality rates by providing healthcare professionals with valuable insights into the nutritional status of these patients.

Keywords: CONUT score, heart failure, malnutrition, mortality.

Table 1. Main characteristics of the patients according to mortality groups

Parameters	Mortality (-) n=219	Mortality (+) n=44	p-value
Demographic features			
Age	70 ± 4.9	75.6 ± 8.6	**<0.001**
Sex (n%)			0.820
Female	61 (27.9)	13 (29.5)	
Male	158 (72.1)	31 (70.5)	
Hypertension (n%)			0.792
No	80 (36.5)	17 (38.6)	
Yes	139 (63.5)	27 (61.4)	
Diabetes mellitus (n%)			0.986
No	154 (70.3)	31 (70.5)	
Yes	65 (29.7)	13 (29.5)	
CAD history (n%)			**0.011**
No	141 (64.4)	37 (84.1)	
Yes	78 (35.6)	7 (15.9)	
Atrial fibrillation (n%)			0.361
No	199 (90.9)	38 (86.4)	
Yes	20 (9.1)	6 (13.6)	
Cerebrovascular event (n%)			0.431
No	202 (92.2)	39 (88.6)	
Yes	17 (7.8)	5 (11.4)	
Echocardiographic Features			
LVEF (%)	33.3 ± 7.8	31.3 ± 7	**0.015**
LVEDd (cm)	5.3 ± 1	5.4 ± 1.1	0.497
LVESd (cm)	3.1 ± 0.9	3.3 ± 1.1	0.146
LAd (cm)	4 ± 1.1	4.1 ±1.1	0.629
Laboratory features			
Hemoglobin (mg/dL)	14.5 ± 2.1	12.3 ± 3	**<0.001**
Lymphocyte (10^3/mm^3)	2.5 ± 3	1.6 ± 0.8	0.053
hs-Troponin (ng/ml)	360.2 ± 138.7	412.1 ± 125.6	0.195
CRP (mg/L)	83.7 ± 63.6	51.4 ± 10.4	**<0.001**
Creatinine (mg/dl)	1.2 ± 0.9	1.6 ± 0.9	**0.001**
Sodium (mEq/L)	139.7 ± 3.7	141.7 ± 6.3	0.162
Potassium (mEq/L)	4.3 ± 0.5	4.7 ± 0.7	**<0.001**
Uric Acid (mg/dl)	6.4 ± 2.2	8.6. ± 3.7	**<0.001**
Albumin (g/L)	39.2 ± 6.1	34.2 ± 7.4	**<0.001**
Triglyceride (mg/dl)	158.7 ± 80.9	160.1 ± 92.9	0.582
HDL-c (mg/dl)	40 ± 11.1	37.9 ± 15.3	0.080
LDL-c (mg/dl)	113.5 ± 53.2	111.2 ± 59.1	0.433
Total cholesterol (mg/dl)	185.2 ± 57.3	181.1 ± 70.3	0.404
NT pro-BNP (pg/ml)	3670 ± 6537.5	4920 ± 8462.9	0.251
CONUT Score (n%)			**<0.001**
Healthy	116 (90.6)	12 (9.4)	
Mild malnutrition	84 (84.8)	15 (15.2)	
Modarate malnutrition	18 (60)	12 (40)	
Severe malnutrition	1 (16.7)	5 (83.3)	

CAD: Coronary Artery Disease, LVEF: Left ventricular ejection fraction, LVEDd: Left ventricular end-diastolic diameter, LVESd: Left ventricular end-systolic diameter, LAd: Left atrium diameter, hs-Troponin: High-sensitivity troponin, CRP: C-reactive protein, HDL-c: High-density lipoprotein cholesterol, LDL-c: Low-density lipoprotein cholesterol,
NT pro-BNP: N-terminal pro B type natriuretic peptide, CONUT: Controlling Nutritional Status.

Table 2. Multivariate logistic regression analysis results

	Factor	Exp (B)	95 %CI	p-value
Model	Constant			0.056
R Square 0.379	Age	1.23	1.10 – 1.37	**<0.001**
	CAD history	0.51	0.12 – 2.25	0.373
	Hemoglobin	0.67	0.51 – 0.88	**0.004**
	CRP	1	0.99 – 1.00	0.627
	Creatinine	1.26	0.77 – 2.07	0.357
	Albumin	0.96	0.84 – 1.11	0.607
	Potassium	1.64	0.60 – 4.55	0.338
	Urik Acid	1.36	0.98 – 1.67	0.104
	LVEF	0.94	0.87 – 1.02	0.147
	CONUT-Score_1	0.03	0.01 –1.17	0.061
	CONUT-Score_2	0.03	0.01 – 0.75	**0.033**
	CONUT-Score_3	0.02	0.01 – 0.68	**0.029**

Exp (B): Exponential value of B, CI: Confidence interval, CAD: Coronary Artery Disease, CRP: C-reactive protein, LVEF: Left ventricular ejection fraction, CONUT: Controlling Nutritional Status.

Others

OP-19

EVALUATION OF COGNITIVE FUNCTIONS WITH FINGER TAPPING TEST

Büşra Betül Çağır, Fatma Kaplan Efe, Hande Selvi Öztorun, Rana Tuna Doğrul, Güneş Arık, Kamile Sılay

Ankara Bılkent Cıty Hospital Gerıatrıc Department

Objective: With aging, the decline in cognitive functions that enable the acquisition, storage, evaluation, conversion and reuse of information appears in the form of dementia. The diagnosis of dementia is made by evaluating the history, neurological examination, cognitive tests, neuropsychological evaluation, imaging methods and laboratory examinations. Finger tapping test (FT) is used to evaluate the muscle control and motor ability of the upper extremity. The rhythm, amplitude, and speed of finger tapping vary with the patient's ability, disease symptoms, and cognitive status. A high number of strokes indicates good physical and cognitive performance. FT tests the ability to plan and execute rhythmically oriented movements. In the geriatric population, there is a decrease in the ability to understand, grasp and apply the finger tap test due to the loss of physical and especially cognitive functions. In our study, we aimed to evaluate the cognitive status with an easy noninvasive method such as finger tapping test.

Material – Method: Our study includes 81 patients over the age of 65 who applied to our Geriatrics clinic without a diagnosis of dementia. Easily and quickly applicable Mini Mental Test (MMSE), which tests orientation, memory, attention, calculation, recall, language, motor function, perception and visuospatial abilities, and the Montreal Cognitive Assessment Test, which evaluates memory, language, visuality and executive functions (MoCA) were used in the evaluation of patients' cognition status. Patients with an MMSE score of 24 and above were included. A 20-second finger tap test was applied to the participants. Flexion and extension movements of fingers and hands, time, average number of beats, and intervals between beats were calculated and recorded using the computer keyboard. The correlation between the number of finger tapping and the MMSE and MoCA score was evaluated using Pearson correlation analysis.

Results: The mean age of 81 patients included in the study was 75.99±8.36 years. N: 30 (37.0%) were men. Demographic information and comprehensive geriatric evaluation results are summarized in Table-1. A significant correlation was found between the MMSE and MoCA tests which are performed for the cognition assessment of the patients and the number of finger taps. (respectively p: <.005, p<.001) It was determined that there was no difference between the groups in terms of the number of finger taps. (Z: - 1.762, p: .078) (Detailed data are given in Table-2.)

Conclusion: As a result of our study, we've found that the number of finger taps was positively correlated with the MMSE and MoCA tests used to evaluate cognitive functions. In the comparison made by dividing into groups according to MMSE scores, we found that there was no difference between the groups. The relationship between FT and cognition seems worthy of further investigation by increasing the patient ratio between the groups and increasing the numbers.

References

1. Kane RL, Ouslander JG,Resnick B,et al.Essentials of clinical geriatrics .8th edition. New york:Ms graw hill;2018
2. American Psychiatric Association. Diagnostic and Statical Manual of Mental Disorders ,Fifth edition (DSM_5),American Psychiatric Association ,Arlington 2013
3. Mental Yorgunluğun Motor Beceriler Üzerine Olası Etkileri: Başkent Üniversitesi Tıp Fakültesi Deneyimi Beste Öztürk, Sultan Burçak Kara, Necati Yağız Yeşilova, Irmak Erdemir, Barış Cem Bülbül, Esra Öner Danışman: Öğr. Gör. Dr. Leyla Aydın
4. Finger Tapping as a Biomarker to Classify Cognitive Status in 80+-Year-Olds Dieter F. Kutz 1,* , Stephanie Fröhlich 1 , Julian Rudisch 1 , Katrin Müller 2 and Claudia Voelcker-Rehage)
5. Aoki T, Tsuda H, Takasawa M, Osaki Y, Oku N, Hatazawa J, Kinoshita H. The effect of tapping finger and mode differences on cortical and subcortical activities: a PET study. Exp Brain Res 2005 ;160:375-83

Keywords: Older Adults, Comprehensive Geriatric Assessment, Cognition, Finger Tapping

VARIABLES	MEDIAN	MIN	MAX
KATZ	5	1	6
LAWTON BRODY	7	1	8
MNA	11,5	1	14
MMT	27	8	30
MOCA	21	2	28
GDS	3	0	13

TABLE-1: DEMOGRAPHIC DATA

VARIABLES	MEDIAN	N	%
AGE	75.99±8.36		
GENDER			
WOMAN		51	63
MALE		30	37
HYPERTENSION		34	41.5
DIABETES MELLITUS		24	29.3
CORONARY ARTERY DISEASE		2	2.4
FALL	9	9	11th

Table-2: Difference in Number of Finger Strokes Between Cognition Groups

*	Normal Cognition (group with MMT >24) n: 56 (74.7%)	Low Cognition (group with MMT<24) n: 19 (25.3%)	p value
Number of finger taps	52.59 ± 18.21	62.0 ± 24.44	0.078

Cognitive Disorders

OP-21

IS NORMAL WEIGHT OBESITY ASSOCIATED WITH COGNITIVE DYSFUNCTION IN OLDER ADULTS? AN ANALYSIS USING DIFFERENT CUT-OFFS

Cansu Atbas[1], Didem Karaduman[1], Zeynep Ozge Ozdemir[2], Busra Ozcimen[2], Huseyin Sayın[2], Merve Hafızoglu[1], Zeynep Sahiner[1], Ibrahim Ileri[1], Ayse Dikmeer[1], Meltem Koca[1], Yelda Oztürk[1], Merve Guner[1], Arzu Okyar Bas[1], Serdar Ceylan[1], Mert Esme[1], Cafer Balcı[1], Meltem Halil[1], Mustafa Cankurtaran[1], Guliz Erdem[3], Burcu Balam Dogu[1]

[1]Hacettepe University, Faculty Of Medicine Department Of Internal Medicine, Division Of Geriatric Medicine Ankara, Turkey
[2]Hacettepe University, Faculty Of Medicine Department Of Internal Medicine Medicine Ankara, Turkey
[3]Istanbul Kent University, Istanbul, Turkey

Rationale: Normal weight obesity (NWO) is attributed as a novel cardiovascular risk factor. It is defined as having a high percentage of fat in individuals with normal body weight according to body mass index (BMI) [1]. Different recommendations have been made for the fat percentage cut-off. A clear cut-off has not been determined [2-4]. The relationship between NWO and metabolic syndrome, hypertension, and diabetes has been demonstrated in previous studies. Since cardiovascular risk factors are also risk factors for dementia, we hypothesized that now can be associated with cognitive dysfunction. We aimed to evaluate NWO with different cut-offs and to examine its relationship with cognition in older adults living in the community.

Methods: A total of 1124 geriatric outpatients were examinated retrospectively. Height, weight, waist circumference, hip circumference, and body fat percentage were calculated by the bio-impedance analysis (BIA) method. Mini Mental State Examination test (MMSE) and clock drawing tests were performed for cognitive function assessment. The study group was divided into five groups according to their BMI and fat percentages as underweight, NWO, normal weight lean (NWL), over weight and obese. 172 patients were excluded because their BIA measurements were not recorded. Of the remaining patients, 139 patients were excluded from the study due to the diagnosis of dementia. 84 patients were excluded because they did not have MMSE record. In the initial evaluation NWO group was determined as BMI 18.5-24.9 kg/m^2[5], and the fat percentage >40.7 in women and >27.3 in men [6]. Underweight 8 patients were not included in the analyses, because it distorted the statistics due to the small group size (Analysis 1). In the second evaluation, NWO group was determined as BMI 21-25 kg/m^2 [7], and fat percentage >43 in women and >31 in men [8](Analysis 2). Comparisons between groups were performed with Kruskal Wallis, Mann-Whitney U and chi-square test. Correlation analyses were performed with Spearman test.

Result: The demographic characteristics are shown in Table 1. Frequency of NOW was 5.8% in Analysis 1 and 2.7% in Analysis 2. In Analysis 1, there was a significant difference regarding orientation and clock drawing between the groups (Table 2). However, no difference was found between NWO group and NWL group in cognition. In Analyses 2, total MMSE score, orientation, attention and calculation, and clock drawing test were significantly different between groups (Table 3).In analysis 2, differences were found between NWO and NWL in orientation (p: 0.006), attention and calculation (p: 0.007), total MMSE (p: 0.004), clock drawing (p: 0.007) and recall (p: 0.045).

Conclusion: Although NWO is defined in the literature as having a high percentage of fat in individuals with normal body weight ([3]18.5-25 kg/ m^2) according to body mass index (BMI), we see that NWO, which is a cardiovascular risk factor, is associated with cognitive dysfunction in geriatric patients. This shows us the necessity of using specific geriatric cut-offs in geriatric patients.In order to standardize the definition of NWO in older adults, different cut-offs should be determined according to the Turkish population with different methods in further studies.

Keywords: Normal weight obesity

References

1. Franco, L.P., C.C. Morais, and C. Cominetti, Normal-weight obesity syndrome: diagnosis, prevalence, and clinical implications. Nutrition reviews, 2016. 74(9): p. 558-570.
2. Garvey, W.T., et al., American Association of Clinical Endocrinologists and American College of Endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity. Endocrine Practice, 2016. 22: p. 1-203.
3. Fitness Categories for Body Composition (% Body Fat) for Men by Age updated from 2009 to 2013. ACSM's Guidelines for Exercise Testing and Prescription, (10th edition): p. Page 79, Table 4.4: .
4. Fitness Categories for Body Composition (% Body Fat) for Women by Age updated from 2009 to 2013. ACSM's Guidelines for Exercise Testing and Prescription. 10th edition: p. Page 80, Table 4.5. 5. Obesity: preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser, 2000. 894: p. i-xii, 1-253.
6. Bahat, G., et al., Fat percentage cutoff values to define obesity and prevalence of sarcopenic obesity in community-dwelling older adults in Turkey. Aging Male, 2020. 23(5): p. 477-482.
7. Volkert, D., et al., ESPEN practical guideline: Clinical nutrition and hydration in geriatrics. Clin Nutr, 2022. 41(4): p. 958-989.
8. Donini, L.M., et al., Definition and Diagnostic Criteria for Sarcopenic Obesity: ESPEN and EASO Consensus Statement. Obes Facts, 2022. 15(3): p. 321-335.

Table 1. Demographic data

	Analysis 1 (n=721)	Analysis 2 (n=710)
Age	mean: 72.04 (median:71.00, min:65. Max:91)	mean:72.04 (median:71.00, min:65, max:91)
Gender female	488(67.7%)	480 (67.6%)
Education status		
Literate	225 (33.4%)	225 (34.1%)
Primary-middle-high school	366 (54.5%)	358 (54.1%)
University and above	81 (12%)	78 (11.8%)
DM*	368 (51%)	366 (53%)
HT*	524 (74.8%)	519 (75.1%)
HL*	243 (35%)	242 (35.3%)
CAD*	151 (21.5%)	149 (21.6%)
Depression	125 (%17.9)	125 (18.1%)
Vitamin B12	median:266.5 (min:47, max:1525)	median:266 (min:47, max:1525)
TSH*	median:1.68 (min:0.01, max: 115)	median:1.7 (min:0.01, max:115
Vitamin d	median:21.35 (min:5 max:92.5)	median:21.2 (min:4.70, max:92.50
NWL	37 (5.1%)	49 (6.9%)
NWO	42 (5.8%)	19 (2.7%)
Overweight	255 (35.4%)	255 (36%)
Obesity	387 (53.7%)	387 (54.5%)

* DM: diabetes mellitus, HT: hypertension, HL: hyperlipidemia, CAD: coronary artery disease, TSH: thyroid stimulating hormone, NWL: Normal Weight Lean

Table 2. The relationship between cognition and groups formed according to BMI and fat percentage classification by Kruskal Wallis test in Analysis 1

	Total sample (n=721)	NWL (min-max) (n:37)	NWO (min-max) (n:42)	Overweight (min-max) 255	Obese (min-max) 387	P value
Orientation	10 (2-10)	10 (5-10)	10 (4-10)	10 (5-10)	10 (2-10)	**<0.001**
Registration and Memory	3 (0-3)	3 (2-3)	3 (1-3)	3 (1-3)	3 (0-3)	0.663
Attention and Calculation	5 (0-5)	5 (0-5)	5 (0-5)	5 (0-5)	5 (0-5)	0.447
Recall	2 (0-3)	2 (0-3)	2 (0-3)	2 (0-3)	2 (0-3)	0.888
Language	3 (0-3)	3 (2-3)	3 (1-3)	3 (0-3)	3 (0-3)	0.879
Motor and Sensing	6 (0-6)	6 (5-6)	6 (3-6)	6 (0-6)	6 (3-6)	0.610
MMSE score	28 (6-30)	28 (20-30)	27.5 (16-30)	28 (15-30)	28 (6-30)	0.080
Clock drawing	6 (0-6)	6 (0-6)	6 (0-6)	6 (0-6)	5 (0-6)	**<0.001**

* Mann-Whitney U test was used to determine whether there was a difference in cognition between NWO and NWL. No difference was found in the Analysis 1.

Table 3. The relationship between cognition and groups formed according to BMI and fat percentage classification by Kruskal Wallis test in Analysis 2

	Total sample (n:710)	NWL (min-max) (n:49)	NWO (min-max) (n:19)	Overweight (min-max) (n:255)	Obese (min-max) (n:387)	P value
Orientation	10 (2-10)	10 (5-10)	9 (4-10)	10 (5-10)	10 (2-10)	**<0.001**
Registration and Memory	3 (0-3)	3 (1-3)	3 (2-3)	3 (1-3)	3 (0-3)	0.562
Attention and Calculation	5 (0-5)	5 (0-5)	4 (0-5)	5 (0-5)	5 (0-5)	**0.015**
Recall	2 (0-3)	2 (0-3)	2 (0-3)	2 (0-3)	2 (0-3)	0.099
Language	3 (0-3)	3 (1-3)	3 (2-3)	3 (0-3)	3 (0-3)	0.439
Motor and Sensing	6 (0-6)	6 (3-6)	6 (5-6)	6 (0-6)	6 (3-6)	0.445
MMSE score	28 (6-30)	28 (20-30)	25 (16-30)	28 (15-30)	28 (6-30)	**0.002**
Clock drawing	6 (0-6)	6 (0-6)	5 (0-6)	6 (0-6)	5 (0-6)	**<0.001**

*The Mann-Whitney U test was used to determine whether there was a difference between NWO and NWL in Analysis 2. There were differences in orientation (p: **0.006**), attention and calculation (p: **0.007**), total MMSE (p: **0.004**), clock drawing (p: **0.007**), and recall (p: **0.045**).

Others

OP-22

INVESTIGATION OF THE RELATIONSHIP BETWEEN MULTIMORBIDITY AND FRAILTY, MALNUTRITION AND HOSPITAL CLINICAL OUTCOMES IN HOSPITALIZED OLDER PATIENTS

Cihad Altunyaprak[1], İbrahim Güney[2], Muhammet Cemal Kızılarslanoğlu[3]

[1]University Of Health Sciences Türkiye, Konya City Hospital, Department Of Internal Medicine
[2]University Of Health Sciences Türkiye, Konya City Hospital, Department Of Internal Medicine, Division Of Nephrology
[3]University Of Health Sciences Türkiye, Konya City Hospital, Department Of Internal Medicine, Division Of Geriatrics

Aim: It was aimed to examine the relationship between multimorbidity and malnutrition, frailty, length of hospital stay, and hospitalization outcome in hospitalized older patients.

Methods: Our study included 233 patients (median age 72 years (62-91), 56.1% women) aged 60 and over, hospitalized in internal medicine and subspecialty wards. The demographic characteristics of the patients, their chronic diseases, the medications they used, and the reasons for hospitalization were noted. Patients were evaluated according to the modified Charlson Comorbidity Index (CCI), the Global Leadership Initiative for Malnutrition (GLIM), and the frailty index (FRAIL). The hospitalization period of the patients was calculated, and the result of hospitalization in the ward was noted as "discharged," "transferred to intensive care," or "died."

Results: It was determined that 51.1% of the patients were malnourished, 71.7% were frail, and 71.3% had multimorbidity. Multimorbidity was found to be associated with frailty ($p<0.001$). The group with multimorbidity was observed to have a more extended hospital stay ($p=0.002$). A positive correlation was found between BMI and multimorbidity ($p=0.020$). It was found that the duration of hospitalization was longer in cases of comorbidity, frailty, malnutrition, having a diagnosis of CAD, and having a diagnosis of CKD ($p=0.002$, $p=0.001$, $p<0.001$, $p=0.036$, and $p=0.026$, respectively). It was shown that multimorbidity and malnutrition were independent variables increasing the length of hospitalization separately (beta: 0.489, $p=0.037$ and beta:3.769, $p<0.001$, respectively).

Conclusion: It has been shown that multimorbidity and malnutrition might increase the length of hospitalization in older patients hospitalized in internal medicine and subspecialty wards. Also, multimorbidity might be related to frailty in this study population.

Keywords: Multimorbidity, Malnutrition, Frailty, GLIM, FRAIL

Others

OP-23

APPROPRIATENESS OF PALLIATIVE CARE REFERRAL IN A TERTIARY HOSPITAL IN TURKEY

Dilara Dönmez Güler, Esra Ateş Bulut

University Of Health Sciences, Adana City Research And Training Hospital Department Of Geriatrics, Adana, Turkey

Aim: Palliative care that primarily focuses on preventing or alleviating pain and enhancing the quality of life of patients and their families,requires a multidisciplinary approach.Unlike urgent life-saving treatments,palliative care is provided to individuals who have completed active treatment processes specific to their relevant disease and are facing serious and/or life-threatening illnesses.The purpose of this study was to identify the appropriateness of patient referral in a tertiary care hospital regarding palliative care.

Material-Method: Between May 2022-June 2023,all consultations referred from other clinical units for hospitalization purposes to the Adana City Research and Training Hospital Palliative Care Service were retrospectively screened to determine which specialties request consultations and to evaluate the appropriateness of the consultations according to the admission criteria.The hospitalization criteria for the palliative care service included patients with severe pain and/or sleep problems related to pain,malnutrition(Nutritional Risk Screening[NRS]2002 score≥3,requiring enteral/parenteral nutritional support),patients with infected and/or treatment-resistant stage II-III-IV pressure ulcers,elderly patients experiencing difficulties in disease management due to geriatric syndromes such as pressure ulcers and malnutrition,patients with terminal-stage malignancies who lack treatment plans based on their performance score and expected life span,patients requiring mechanical ventilation support such as home ventilators,patients with issues in their ostomy sites such as infection,leakage,blockage.Patients who require intensive care,actively receiving treatment under the care of their primary specialty,patients unwilling to undergo invasive procedures or admission to the clinic,cancer patients referred without obtaining oncology consultation for treatment planning were accepted as unsuitable.Emergency department consultations were excluded because of the patients' need for active treatment.

Results:A total of 245 patients were included.The median age of the consulted patients was 68 (ranging from 18 to 98),while the median age of admitted patients was 66 (ranging from 21 to 98).The demographic characteristics are shown in Table 1. 161

patients had indications for admission to the service.There were 54 (22.0%) patients who needed active treatment, 30 (12.2%) patients who did not need palliative care, 3 (1.2%) patients who were not admitted to the service because they did not accept hospitalization.A total of 158 patients were accepted to the inpatient service.The three clinics that requested the most consultations were the anesthesia and reanimation intensive care unit (ICU)(%24.0),oncology (%19.5),neurology (%12.2) clinics.The three specialties with the most appropriate indications for consultations were neurology (%83.3),internal medicine ICU(%80.0),anesthesia and reanimation ICU(%79.6).The consultations that were not suitable for admission to the palliative care service were mainly from the cardiology (%91.7),general surgery (%60.0),other surgical (%60.0) clinics.

Conclusion: Palliative care is becoming increasingly important as the number of patients with incurable conditions increases.Heightened awareness of palliative care among healthcare professionals enables more efficient utilization of palliative care services and allows a greater number of patients and their families to benefit in today's healthcare landscape.

Keywords: palliative care, healthcare utilization, referral

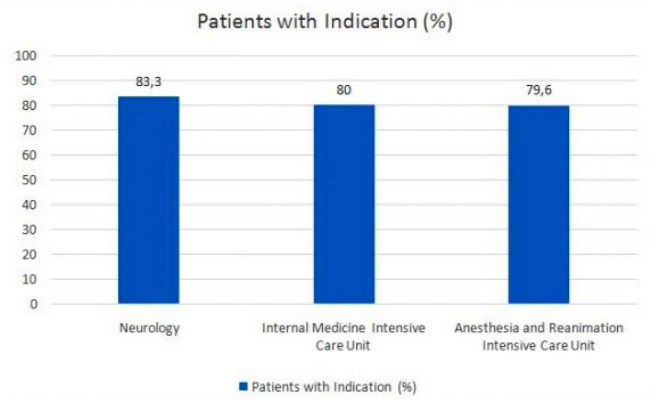
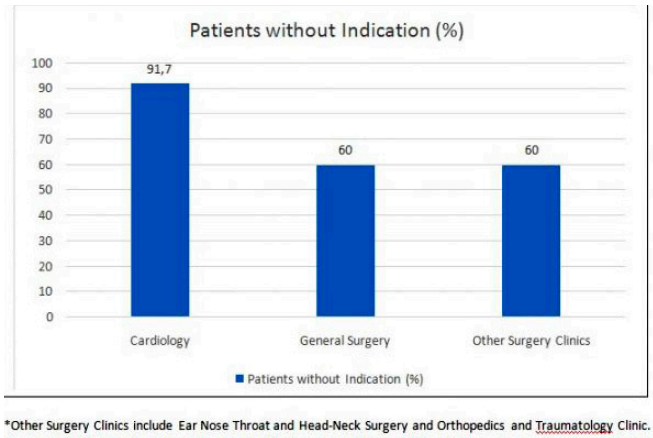


Figure 1. Clinics Requesting Consultation with the most Appropriate Indications



*Other Surgery Clinics include Ear Nose Throat and Head-Neck Surgery and Orthopedics and Traumatology Clinic.

Figure 2. Clinics Requesting Consultation with the highest Inappropriate Indications

Table 1. Characteristics of patients consulted and admitted to palliative care service

	Total Consultations n: 245	*Admitted to the service n: 158*
	n (%)	*n (%)*
Age, Median (Min-Max)	68,0 (18-98)	66,5 (21-98)
Sex (Female)	110 (44,9)	69 (43,7)
Diabetes	64 (26,1)	43 (27,2)
Hypertension	122 (49,8)	79 (50,0)
Coronary Arterial Disease	70 (28,6)	42 (26,6)
Heart Failure	30 (12,2)	17 (10,8)
Atrial Fibrillation	29 (11,8)	24 (15,2)
Chronic Kidney Disease	18 (7,3)	10 (6,3)
Ischemic Cerebrovascular Disease	77 (31,4)	50 (31,6)
Hemorrhagic Cerebrovascular Disease	11 (4,5)	6 (3,8)
Solid Malignancy	76 (31,0)	49 (31,0)
Subarachnoid Bleeding	7 (2,9)	7 (4,4)
Subdural Bleeding	9 (3,7)	7 (4,4)
Neurodegenerative Disease	36 (14,7)	23 (14,6)
Hypoxic Encephalopathy	9 (3,7)	9 (5,7)
Spinal Cord Injury	6 (2,4)	4 (2,5)
Malnutrition	186 (75,9)	136 (86,1)
Percutaneous Endoscopic Gastrostomy	80 (32,7)	68 (43,0)
Tracheostomy	43 (17,6)	34 (21,5)
Pressure Ulcers	143 (58,4)	97 (61,4)
Clinics		
Medical Oncology Clinic	48 (19,6)	33 (20,9)
Internal Medicine Intensive Care Unit	10 (4,1)	8 (5,1)
Anesthesia and Reanimation Intensive Care Unit	59 (24,1)	47 (29,7)
Neurology Clinic	30 (12,2)	25 (15,8)
General Surgery Clinic	20 (8,2)	8 (5,1)
Physical Therapy And Rehabilitation Clinic	5 (2,0)	4 (2,5)
Neurosurgery Clinic	16 (6,5)	8 (5,1)
Cardiology Clinic	12 (4,9)	1 (0,6)
Pulmonary Disease Clinic	16 (6,5)	9 (5,7)
Other Surgery Clinics*	10 (4,1)	4 (2,5)
Other Internal Medicine Clinics**	19 (7,8)	11 (7,0)

*include Ear Nose Throat and Head-Neck Surgery and Orthopedics and Traumatology Clinic.
**include Internal Medicine clinic and its subspecialties except from intensive care and medical oncology.

Table 2. Indications of Admitted Patients to the Service

	n (%)
Enteral Nutrition	151 (95,6)
Decubitus Care	96 (60,8)
Pain Palliation	132 (83,5)
Mechanical Respiratory Support (Home Type)	13 (8,2)
Geriatric Syndromes	94 (59,5)

Nutrition

OP-24

EVALUATION OF NUTRITIONAL STATUS IN GERIATRIC HEMODIALYSIS PATIENTS

Doğu Karahan[1], İrem Pembegül[2]

[1]Malatya Turgut Özal University School Of Medicine, Department Of Internal Medicine, Malatya, Türkiye
[2]Malatya Turgut Özal University School Of Medicine, Department Of Internal Medicine, Nephrology Division, Malatya, Türkiye

Objective: The number of geriatric hemodialysis (HD) patients has been increasing over the years. Malnutrition, which can develop more frequently in advanced-age HD patients, causes an increase in morbidity and mortality. For this reason, it is important to detect malnutrition early, take the necessary precautions and start the treatment early. In this study, we aimed to determine the prevalence of malnutrition in geriatric patients receiving HD treatment and to evaluate the effectiveness of the Mini Nutritional Assessment-Short Form (MNA-SF) and body mass index (BMI) in elderly patients with nutritional deficiency.

Materials and Methods: A total of 98 patients aged 65 and over, 53 (69.24±5.68) men and 45 (71.01±7.50) women, were included in this cross-sectional study. The anthropometric, clinical and laboratory data of the patients were recorded. The prevalence of nutritional deficiency was determined by evaluating the patients with MNA-SF and BMI methods. The effectiveness of these methods in detecting nutritional deficiency was evaluated.

Results: According to the MNA-SF Form, 35 (35.7%) patients were considered malnutrition, 42 (43.1%) patients were at risk for malnutrition, and 21 (21.2%) patients were evaluated as normal nutritional status. The body mass index was <23 for 36 (36.6%) of the patients participating in the study. In those with BMI <23, 5 patients were diagnosed with malnutrition risk and 31 patients were diagnosed with malnutrition according to MNA-SF. In the group with BMI>23, 23 patients were diagnosed as normal according to MNA-SF, 37 patients were diagnosed with malnutrition risk, and two patients were diagnosed with malnutrition. A positive correlation was found between MNA-SF and BMI and weight (r= 0.701, p<0.001 and r=0.612, p<0.001, respectively).

Conclusion: Although there is a strong and significant relationship between BMI and malnutrition in HD patients, it is seen that the use of BMI alone is insufficient to diagnose malnutrition and also cannot identify patients with malnutrition risk. In the evaluation of nutritional status in geriatric HD patients, BMI should not be used alone, but should be used together with screening tests with proven validity and reliability such as MNA-SF.

With the increase in the elderly population, the number of geriatric patients receiving hemodialysis treatment is also increasing. Since nutritional problems in advanced-age hemodialysis (HD) patients increase mortality and morbidity, early diagnosis and preventive measures are important (1). Different screening tools are available for the assessment of nutritional status (2). Mini Nutritional Assessment (MNA) is an easy, applicable, and valid model recommended by the European Society for Clinical Nutrition and Metabolism (ESPEN) for the nutritional evaluation and screening of outpatients (1,3). For a rapid evaluation of patients; MNA-short form (MNA-SF) has been developed with high sensitivity and specificity, correlated with MNA (4). MNA-SF consists of six evaluation parameters. 1. Change in appetite, development of chewing, swallowing, and digestive disorders in the patient, 2. Weight loss in the last 3 months, 3. Mobility status in the last 3 months, 4. Whether there is psychological stress or additional acute illness, 5. Presence of neuropsychiatric problems and 6. Body mass index (BMI). According to MNA-SF scoring; 11-14; normally fed, 7-10; at risk, and <7 is grouped as significant malnutrition (3). Although many different malnutrition screening tools are used, MNA-SF is indicated as an appropriate and valid screening tool for routine use in the screening of malnutrition in HD patients (1).

Early detection of malnutrition and malnutrition risk is important in order to prevent consequences such as worsening general health status, physical and cognitive dysfunction, increased risk of infection, increased morbidity and mortality, and increased need for health services, which may occur as a result of malnutrition in geriatric HD patients (1). In this study, we aimed to evaluate the effectiveness of MNA-SF and body mass index (BMI) in identifying patients with nutritional deficiency in geriatric patients receiving HD treatment in our center.

In this study, 98 patients aged 65 and over, who were treated for HD for more than six months in the hemodialysis unit of Malatya Turgut Özal University Training and Research Hospital, who could respond to the questionnaire and volunteered to participate in the study were included. It was organized as a cross-sectional descriptive study in 2022-2023.

Anthropometric, clinical, and laboratory data of the patients were obtained from medical files and recorded. MNA-SF was used for nutritional assessment. Forms were filled by individual interviews with the patients. Body weight, in kilograms dry weight, was measured at the end of the hemodialysis session to limit false results due to edema-related conditions. BMI was calculated with the formula dry body weight / height2 (Kilogram / meter^2). Since it was stated that BMI <23 kg/m2 predicted malnutrition in elderly patients, the cut-off was taken as BMI= 23 kg/m2 (5).

The data were analyzed with the SPSS 22.0 package program. After the patients were grouped according to their MNA-SF scores, ANOVA and Dunnett T3 test were used for differences between groups. Spearman or Pearson correlation tests were used for the correlation of MNA-SF score with BMI or age, according to their distribution. The results were evaluated at 95% confidence interval and p<0.05 significance level.

The demographic characteristics of the patients are given in Table 1. A total of 98 cases, 53 male and 45 female were included in the study. The mean dry weight of the patients at the end of dialysis was 67.20± 14.22 kg (minimum 43 kg, maximum 115 kg). The mean age of men was 69.24±5.68, and the mean age of women was 71.01±7.50. The mean BMI was 24.66±5.01 kg/m2 (minimum 15.52, maximum 44.92). BMI <23 was calculated for 36 (36.6%) of the patients participating in the study. No statistically significant difference was found in laboratory results according to the groups which were made according to BMI (Table 2).

According to MNA-SF scores, patients were divided into three groups as normal, malnutrition risky and malnourished. Accordingly, 35 (35.7%) patients were diagnosed with malnutrition, while 42 (43.09%) patients were considered to be at risk for malnutrition. A statistically significant difference was found between all three groups in terms of body weight and BMI (respectively; p<0.001, p<0.001) (Table 3).

Table 4 shows the correlation of BMI and MNA-SF with age, albumin, and body weight. Accordingly, a positive correlation was found between MNA-SF score and BMI and weight (r= 0.701, p<0.001 and r=0.612, p<0.001, respectively), but no significant correlation was found between age and albumin level. According to the linear regression analysis, a significant correlation was found between MNA-SF scores and BMI (p<0.001).

Nutritional evaluation results are given in Table 5. In those with BMI <23, five patients were diagnosed with malnutrition risk and 31 patients were diagnosed with malnutrition according to MNA-SF. In the group with BMI>23, twenty-three patients were diagnosed as normal according to MNA-SF, 37 patients were diagnosed with malnutrition risk, and 2 patients were diagnosed with malnutrition.

According to the MNA-SF evaluation of geriatric HD patients in our study, 35.7% of the participants were found to have malnutrition and 43.1% to malnutrition risk. However, with the BMI evaluation, 36.6% of the participants were diagnosed with malnutrition. These results show that the use of BMI alone is insufficient, especially in determining the risk of malnutrition.

In patients receiving HD treatment, dialysis-related nutrient losses, reuse of multiple dialyzers, dialysis-related chronic inflammation, uremia, metabolic acidosis, insufficient HD and strict dietary restrictions are important factors leading to nutritional deficiency (6,7). At the same time, inadequate and unbalanced nutrition, taste changes, loss of appetite, insulin resistance, and psychosocial factors increase the risk of malnutrition (6). The frequency of malnutrition in HD patients has been found to be between 10% and 70% in various studies, with varying rates depending on the study population and the tools used in the evaluation (8,9).

There are malnutrition determination studies using MNA-SF in the literature. In studies using this scale, Tsai et al. (10) reported that malnutrition in HD patients was 32.2%, the risk of malnutrition was 24.3%, Santin et al. (11) reported malnutrition was 26%, Holvoet et al. (12), reported malnutrition risk was determined in 59.3% of 216 HD patients and malnutrition in 10.6%. In these studies, it was emphasized that the MNA-SF screening test can be applied easily and quickly at the bedside, and it is an ideal screening tool to be used regularly to identify patients on dialysis who are at risk of malnutrition (11,12). The results of our study correlate with the results in the literature and report that MNA-SF is a rapid and useful screening test for detecting individuals at malnutrition and at risk of malnutrition.

BMI, which is also included in the MNA-SF scoring, is a practical index used to determine nutritional status in general (13). Studies have reported that low BMI in HD patients is associated with an increase in hospitalization, frequent infections, and an increased risk of morbidity and death (14-16). Lu et al.'s study on BMI and malnutrition states that BMI has a U-shaped relationship with mortality in patients with stage III CKD and that slightly overweight individuals have the best results, while obese and cachectic individuals have poor outcomes (17). Studies have shown that the assessment of nutritional status with BMI in HD patients is insufficient to show malnutrition and the risk of malnutrition (13,18). In our study, two patients in the group with BMI>23 kg/m^2 were diagnosed with malnutrition with MNA-SF, while 37 patients were considered to be at risk for malnutrition. As seen in our study, when evaluation is made according to BMI alone, it may be insufficient to detect some cases with malnutrition or malnutrition risk. BMI may also not be an appropriate method to evaluate hospitalized or bedridden patients. Therefore, in cases of a decrease in BMI or involuntary weight loss in individuals with chronic renal failure, evaluation should be made with screening tools that have validity and reliability in terms of malnutrition. In this regard, studies are continuing on nutritional assessment tools that include different parameters such as serum albumin, actual/ideal body ratio, body weight loss, transferrin, lipid metabolism, cognitive status, and cytokines (IL-6) (19).

Although there is a significant relationship between BMI and malnutrition in HD patients, its use with MNA-SF enables more effective screening. In our study, it was concluded that the elderly undergoing HD were at high risk of malnutrition. Early detection of malnutrition as well as early intervention is essential to reduce morbidity and mortality in this patient group. These results show that patients should be screened periodically in terms of malnutrition or malnutrition risk and directed to relevant branches for etiological evaluation and nutritional support therapy.

References

1. Cederholm T, et al. ESPEN guidelines on definitions and terminology of clinical nutrition. ESPEN Guideline 2017; 36:49–64.
2. Cakmak G, Öztürk ZA. Comparison of malnutrition assessment tools in terms of revealing the relationship between polypharmacy and inappropriate drug use and malnutrition. Progress in Nutrition. 2021; 210
3. Kaiser MJ,et al. Validation of the Mini Nutritional Assessment shortform (MNA®-SF): A practical tool for identification of nutritional status. The J of Nutrition, Health & Aging. 2009;13(9):782–8.
4. Rubenstein LZ,et al Screening for undernutrition in geriatric practice: Developing the Short-Form Mini-Nutritional Assessment (MNA-SF). The Journals of Gerontology. Series a, Bio Sci Med Sci. 2001;56(6):366–72.
5. Ng WL,et al. Evaluating the concurrent validity of body mass index (BMI) in the identification of malnutrition in older hospital inpatients. Clin Nutr. 2019; 38(5):2417-22.
6. Sahathevan S,et al. Understanding development of malnutrition in hemodialysis patients: a narrative review. Nutrients. 2020;12(10):3147.
7. Yao Q, Lindholm B, Stenvinkel P. Inflammation as a cause of malnutrition, atherosclerotic cardiovascular disease, and poor outcome in hemodialysis patients. Hemodial Int. 2004 Apr 1;8(2):118-29.
8. Bilgic A,et al. Nutritional status and depression, sleep disorder, and quality of life in hemodialysis patients. J of Ren Nut. 2007;17(6):381–8.
9. Kwon YE,et al. Change of nutritional status assessed using subjective global assessment is associated with all-cause mortality in ıncident dialysis patients. Medicine. 2016;95(7):e2714.
10. Tsai AC, Chang MZ. Long-form but not short-form Mini-Nutritional Assessment is appropriate for grading nutritional risk of patients on hemodialysis--a cross-sectional study. Int J Nurs Stud. 2011 Nov;48(11):1429-35.
11. Santin FG,et al. Concurrent and predictive validity of composite methods to assess nutritional status in older adults on hemodialysis. J of Ren Nut. 2016;26(1):18–25.
12. Holvoet E,et al. The screening score of Mini Nutritional Assessment (MNA) is a useful routine screening tool for malnutrition risk in patients on maintenance dialysis. PLoS One. 2020;4;15(3):e0229722.
13. Joint WHO/FAO Expert Consultation on Diet Nutrition and the Prevention of Chronic Diseases. Diet, nutrition and the prevention of chronic diseases: report of a joint WHO/FAO expert consultation. World Health Organization, Geneva (2003) erişim: http://www.fao.org/3/ac911e/ac911e00.htm Erişim Tarihi: 04.06.2023
14. de Mutsert R, et al. Association between body mass index and mortality is similar in the hemodialysis population and the general population at high age and equal duration of follow-up. J of Am Soc of Neph. 2007; 18(3):967-74.
15. Beberashvili I,et al. Nutritional and inflammatory status of hemodialysis patients in relation to their body mass index. J of Ren Nut. 2009;19(3):238-47.
16. Mafra D, et al. Impact of serum albumin and body-mass index on survival in hemodialysis patients. Int Urol & Neph. 2007;39(2):619-24
17. Lu JL,et al. Association of body mass index with outcomes in patients with CKD. J of Am Soc of Neph 2014;25(9):2088–96
18. Wong JS,et al. Survival advantage in Asian American endstage renal disease patients. Kid Int 1999; 55(6): 2515–23.
19. Hanna RM et al. A Practical approach to nutrition, protein-energy wasting, sarcopenia, and cachexia in patients with chronic kidney disease. Blood Pur. 2020;49(1-2):202-11.

Keywords: MNA-SF, BMI, malnutrition, geriatrics

Table 1. Sociodemographic Characteristics of the Patients

	n (%)
Gender	
Male	53 (%53,7)
Female	45 (%46,3)
Age (years)	70,06±6,62
Dialysis time (years)	
Male	4,70±4,10
Female	5,10±3,71
Average	4,86±3,95
Body Weight (kg)	67,20±14,22
BMI (kg/m2)	24,66±5,01
BMI; body mass index	

Table 2. Laboratory findings of the patients

Laboratory Findings	*BMI<23 (n=36)*	*BMI>23 (n=62)*	*p*
Urea (mg/dL)	136,27±31,86	135,20±31,14	0,848
Creatinine (mg/dL)	8,47±3,07	7,45±2,84	0,055
Total protein (g/dL)	6,97±0,55	7,04±0,56	0,443
Albumin (g/dL)	3,54±0,37	3,53±0,38	0,858
Calcium (mg/dL)	8,78±0,60	8,99±0,75	0,091
Phosphorus (mg/dL)	5,13±1,27	4,86±1,11	0,205
Parathormone (PTH) (pg/mL)	419,8±448,91	403,51±259,42	0,124
C-reactive protein (mg/L)	0,91±0,87	1,35±2,02	0,130
Ferritin (ml/ng)	600,87±425,62	570,12±350,58	0,653
Hemoglobin (g/dL)	10,92±1,42	11,11±1,43	0,449
MNA-SF	6,88±2,91	11,84±1,43	<0,001
MNA-SF; Mini Nütrisyon Değerlendirmesi-Kısa Form P<0,05 istatistiksel olarak anlamlı			

Table 3. Comparison of groups according to MNA-SF score

	Malnutrition (n=35)	*Risky (n=42)*	*Normal (n=21)*	*p-value*
Age	67,93±5,95	70,92±8,85	69,76±8,76	0,14
BMI (kg/m2)	18,81±1,86	23,03±2,59	27,63±4,53	<0,001*
Weight (kg)	56,26±8,62	72,76±14,10	74,38±10,75	<0,001*
Albumin (g/dL)	3,55±0,67	3,58±0,34	3,65±0,47	0,37
Total Cholesterol (mg/dL)	145,8±65,7	149,3± 62,2	146,7± 67,1	0,41
BUN (mg/dL)	54,7±6,1	52,4±6,9	53,0±5,8	0,35
Creatinine (mg/dL)	8,76± 3,02	8,37± 2,89	8,67± 2,72	0,84
Hemoglobin (g/dL)	11,05±1,36	10,704 ± 1,23	10,3923 ± 2,20	0,24
Na	135,68 ±3,09	136,40± 2,84	135,46± 3,2647	0,49
K	5,16 ± 0,82	5,158 ± 0,74	5,07± 0,92	0,88
Ca	9,10±0,86	8,96 ± 0,99	9,05±0,84	0,76
P	4,9 ± 1,40	4,82 ± 1,0632	4,205 ± 1,6	0,79

Table 4. Correlation of MNA-SF and BMI with age, albumin and body weight

	MNA-SF	*BMI (kg/m²)*	*Age (y)*	*Albumin*	*Body Weight (kg)*
MNA-SF (r p)	1	0,701* 0,000	-0,095 0,298	0,111 0,220	0,612* 0,000
BMI (kg/m2) (r p)		1	-0,039 0,666	0,118 0,192	0,870** 0,000
Age (y) (r p)			1	-0,150 0,097	-0,137 0,130
Albumin (r p)				1	0,083 0,363
Body Weight (kg) (r p)					1

Table 5. Evaluation of BMI and MNA-SF Groups

		MNA-SF group		
	Normal	*Risky*	*Malnutrition*	*n (%)*
BMI<23 n(%)	0 (%0)	5 (%5)	31 (%31,6)	36 (%36,6)
BMI>23	23 (%23,6)	37 (%37,4)	2 (%2,4)	62 (%63,4)
Total	23 (%23,6)	42 (%42,4)	33 (%34)	98 (%100)

Nutrition

OP-25

THE PREDICTIVE ABILITY OF DIFFERENT MALNUTRITION ASSESSMENT TOOLS ON CLINICAL OUTCOMES IN OLDER PATIENTS IN AN INTENSIVE CARE UNIT

Faruk Karakaş, Korhan Kollu, Dursun Elmas, Ömer Özberk, İbrahim Güney, Ayşegül Altunkeser, Muhammet Cemal Kızılarslanoğlu

Sbu Konya City Hospital

Aim: It was aimed to examine the predictive ability of different nutritional assessment tools in diagnosing malnutrition and clinical outcomes in geriatric patients with a critical illness.

Methods: A total of 122 patients over 65 years and hospitalized in the ICU were included in the study. Age, weight, height, BMI, gender, marital status, chronic diseases, medications used, mechanical ventilation status, vasopressor support status, and laboratory values of the patients were noted. The Modified Nutrition Scale (mNUTRIC), Prognostic Nutritional Index (PNI), Geriatric Nutritional Risk Index (GNRI), Subjective Global Assessment (SGA), and Global Leadership Initiative for Malnutrition (GLIM) tests were applied to the patients to evaluate their nutritional status. The modified Charlson comorbidity index (CCI) was used to assess the patient's comorbidities.

Results: Of the patients, 50.8% were male, and the median age was 78 (65-97) years. The malnutrition rate according to the GLIM criteria was 96.7%; high malnutrition risk according to the GNRI was 22.1%; severe malnutrition risk according to the PNI was 74.6%; high malnutrition risk according to the mNUTRIC was 85.2%; and severe malnutrition rate according to SGA was 14.8%. When the GLIM criteria were accepted as a gold standard for malnutrition, it was observed that the other four nutritional assessment methods had a high area under the curve levels for diagnosing malnutrition (AUC: 0.872 for GNRI, AUC: 0.872 for mNUTRIC, AUC: 0.838 for PNI, AUC: 0.784 for SGA). SGA, CCI, presence of malignancy, mNUTRIC, and PNI scores were found to be independently associated factors for ICU mortality.

Conclusion: When the GLIM criteria were accepted as the gold standard, it was found that each other methods used in the study might be appropriate in diagnosing malnutrition, and the mNUTRIC, PNI, and SGA scores might be independently associated factors for ICU mortality.

Keywords: Malnutrition, Intensive Care, GLIM, mNUTRIC, SGA, PNI, GNRI

Others

OP-26

RELATIONSHIP BETWEEN FAT MASS INDEXES AND RELATED CLINICAL CONDITIONS IN OLDER ADULTS

Firuzan Fırat Özer[1], Sami Bahçebaşı[2], Banu Açmaz[2]

[1]Kayseri City Hospital, Department Of Internal Medicine/Geriatrics, Kayseri
[2]Kayseri City Hospital, Department Of Internal Medicine, Kayseri

Introduction: Anthropometric measurements can be used to assess risk of malnutrition, obesity, muscle wasting and increased fat mass. Body mass index (BMI) is a widely accepted and used anthropometric parameter in the nutritional evaluation of people. However, applicability, and implementation may be limited in elderly populations due to physiologic changes associated with aging. In older adults, BMI may be a suboptimal marker for adiposity, especially in frail and obese. In turn, the use of BMI for the diagnosis of sarcopenic obesity (SO) in older adults is limited since it does not make a difference between the body compartments. There are new indicators published in recent years that promise to be more useful in the association with fat mass, dyslipidemia, and metabolic syndrome than the BMI, and that can be used by health professionals simply, such as relative fat mass (RFM), and the body adiposity index (BAI). RFM relates the height of the person to the waist circumference, and BAI relates height with hip in the context of defined equations. We aimed to evaluate the anthropometric indexes including RFM, BAI and BMI in clinical situations including diabetes mellitus (DM), coronary artery disease (CAD) and SO, in both genders seperately and to evaluate the correlations with lipid profile including triglyceride (TG) and high density lipoprotein (HDL).

Methods: Demographic characteristics of the patients were recorded. Body compositions of the patients were evaluated with a Bioelectrical Impedance Analysis (BIA) (TanitaBC-418). Hand grip strength (HGS) was measured with a dynamometer. Probable sarcopenia was defined according to European Working Group on Sarcopenia in Older People (EWGSOP2) criteria (HGS<27 kg for men, HGS<16kg for women). SO was described as coexistence of BMI≥30kg/m^2 and probable sarcopenia. BAI and RFM were calculated according to equations defined by Bergaman et al. 2011, and Woolcott and Bergman, 2018, respectively.

Results: A total of 151 patients (57 Male/94 Female) included in the analysis. Mean age of the study population was 73 (65-89). Both RFM and BAI displayed high correlation with fat mass measured by BIA (r=0.616, p<0.001, r=0.642, p<0.001, respectively). Among women RFM was significantly higher in patients with DM than without (p=0.03), while in men BMI was higher (p=0.05). Among men with CAD all, RFM (p=0.035), BAI (p=0.019) and BMI (p=0.023) were higher than without CAD. Among the patients with SO only RFM was higher in women than without SO (p=0.049). RFM (r=-0.467 p=0.002), BAI (r=-0.311, p=0.045) and BMI (r=-0.443, p=0.003) were negatively correlated with HDL levels, and RFM (r=0.369, p=0.016) and BMI (r=0.338, p=0.028) were positively correlated with TG levels, in men. In women, RFM (r=0.238, p=0.04) and BMI (r=0.287, p=0.012) were positively correlated with TG.

Conclusion: RFM seems to be an effective index for estimation of fat mass especially in women. However validity of RFM equation was conducted in a relatively young patient group. Further researches are needed for the adaptation of such new anthropometric indexes in older adults considering the gender differences. As anthropometry is a non-invasive, portable, and easy-to-use technique for health personnel, it may be convenient to create predictive equations where variables are used to provide insight into specific health status in older adults such as frailty and sarcopenic obesity, in which the evaluation with BMI is inconvenient.

Keywords: Relative fat mass, Body adiposity index, Body mass index, Older adults, Sarcopenic obesity

References

1. Woolcott, O.O., Bergman, R.N., 2018. Relative fat mass (RFM) as a new estimator of whole-body fat percentage - a cross-sectional study in American adult individuals. Sci. Rep. 8.
2. Bergman, R.N., Stefanovski, D., Buchanan, T.A., Sumner, A.E., Reynolds, J.C., Sebring, N.G., et al., 2011. A better index of body adiposity. Obesity 19 (5), 1083–1089.

Anti-Aging and Healthy Aging

OP-27

FATTY LIVER DISEASE AND ALPHA-CLOTHO LEVELS IN A GERIATRIC POPULATION

Helin Yesin, Aysegul Uckun, Yavuz Metin, Ahmet Yalcin, Nuray Yazıhan, Murat Varlı, Volkan Atmis

Ankara University Geriatric Department

Introduction and Objective: The absolute number of adults with chronic liver disease is estimated to be 1.5 billion worldwide.Fatty liver (FLD) disease is a serious public health problem worldwide. It is important to detect the presence and stage of fatty liver fibrosis. Alpha klotho protein has been reported to have anti-aging, tumor progression slowing, anti-inflammatory and antioxidant properties.The protein initially identified as an aging suppressor protein is α klotho protein. In this study, we aimed to show whether there is a correlation between serum alpha klotho levels in patients with stage 1-2 hepatosteatosis and alpha klotho levels in patients without steatosis.

Materials and Method: The study was designed as a prospective randomized controlled trial.Patients over 65 years of age, admitted to the outpatient clinic of Ankara University Geriatrics Department and hospitalized in the geriatrics ward, and patients with stage 1-2 hepatosteatatosis defined by MRI, CT or USG were included in the study on a voluntary basis. Sera obtained from these patients and control group patients were analyzed for alpha clotho levels by ELISA.

Findings: A total of 119 people, including 103 patients with stage 1-2 hepatosteatosis and 16 healthy controls, were included in the study. There was no statistically significant difference between the two groups in terms of gender distribution and age (p=0.250 and p=0.560, respectively).The serum alpha klotho level in the patient group was 0.84 +/- 0.45 ng/ml and 0.80 +/- 0.44 (p:0,72)ng/ml in the control group. There was no significant difference in alpha klotho levels between the two groups. When we compared the patient group within the patient group, alpha clotho level was 0.82 +/- in patients with stage 1 steatosis, and 0.32 and 0.80 +/- 0.33 in patients with stage 2 steatosis. There was no significant correlation between alpha klotho level and hepatosteatosis stage (p:0.79).

Conclusion-Discussion: Klotho gene polymorphisms have been found to be associated with the level of inflammation in the liver and confer a risk for fatty liver in obese patients. Klotho rs495392 gene polymorphism has been shown to have a protective role against hepatic steatosis in patients. Klotho beta rs17618244 variant has been observed to increase the risk of

lobular inflammation and ballooning in children with NAFLD (non alcoholic fatty liver). In these studies, it is observed that the klotho gene family also plays a role in different steps of the pathogenesis of NAFLD. However, serum alpha klotho level was not measured in the mentioned study groups. In most of the studies, the number of patients was small and a specific ethnic group was studied. Therefore, geneticIt is not clear whether these differences detected at the level of hepatosteatosis will be a parameter that can be used in the clinic and by which mechanism they prevent hepatosteatosis. The data obtained need to be supported by studies involving a larger number of patients. For this reason, it is not clear whether these genetic differences are a parameter that can be used in the clinic, and by what mechanism they prevent hepatosteatosis. In order to clarify the importance of alpha-clotho protein in the course of hepatosteatosis, more comprehensive and long-term observational studies with a larger number of patients including advanced stages of hepatosteatosis are warranted.

Keywords: alfa klotho,fatty liver disease, aging suppressor protein

Sarcopenia

OP-29

THE RELATIONSHIP BETWEEN SARCOPENIA AND HEMOGLOBIN, ALBUMIN AND CREATININE VALUES IN THE GERIATRIC POPULATION

Kübra Erdoğan

Dr. Abdurrahman Yurtaslan Oncology Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatric Medicine

Introduction: There are various studies investigating the relationship between sarcopenia with blood levels of albumin, creatinine and hemoglobin (Hb) values. In this study, in geriatric patients; we aimed to investigate the relationship between sarcopenia with the laboratory parameters of albumin, creatinine and Hb values.

Methods: Outpatients aged ≥60 years admitted to the Geriatrics outpatient clinic of our hospital were included in the study. Demographic data and comorbidities of the patients were recorded. For muscle mass assessment, anterior thigh muscle thickness was measured by ultrasonographic imaging. Hand grip strength and five repetition of chair stand test were used to evaluate muscle function. In case of low regional muscle thickness together with low muscle function, the diagnosis of sarcopenia was accepted according to the IsarcoPRM algorithm.

Results: The comparison of a total of 1071 (376 females, 695 males) geriatric subjects is given in Table 1. The mean ages of the female and male patients were 67.8±6.1 and 68.7±6.5, respectively (p<0.05). Body mass index of females (32.1±5.7 kg/m^2) was higher than those of males (28.9±4.5 kg/m^2) (p<0.001). While the frequency of exercise (32.4% vs. 50.5%) and smoking (21.9% vs. 70.5%) were lower in females than males, the frequency of hypertension was higher (71.2% vs. 57.2%) in females (all p<0.001). The frequencies of sarcopenia were found similar in females (23.6%) and in males (28.7%) (p>0.05). While albumin levels were similar in both genders, creatinine and Hb levels were lower in females than males (both p<0.001). In the binary logistic regression analysis performed to determine the relationship between sarcopenia with albumin, creatinine and Hb values (Table 2); albumin levels in both genders, and Hb levels only in females were found to be negatively and independently associated with the presence of sarcopenia (all p<0.05). To predict sarcopenia, the threshold values for albumin and Hb levels (according to ROC curve analysis) were determined as <40 g/L for albumin and Hb <13 g/dL for hemoglobin. According to these threshold values, having low albumin levels predicted sarcopenia 2.099 (95% CI 1.132-3.890) times in males and 1.805 (95% CI 1.140-2.852) times in females, while having low Hb levels predicted sarcopenia 1.694 (95% CI 1.066-2.692) times only in females. (all p<0.05).

Conclusion: According to our results, having low levels of albumin predicts sarcopenia in both genders and having low levels of Hb predicts sarcopenia only in females. Larger prospective studies should be required to screen geriatric patients who have low levels of albumin and Hb for sarcopenia and also to reveal the role of albumin and Hb replacement treatment in the management of sarcopenia.

Keywords: IsarcoPRM, quadriceps, ultrasound, anemia

Table 1. Distribution of demographic and clinical characteristics of the subjects (N=1071)

Characteristic	*Males (N=376)*	*Females (N=695)*	*p*
Age (year)	68.7±6.5	67.8±6.1	0.041
BMI (kg/m2)	28.9±4.5	32.1±5.7	<0.001
Exercise			<0.001
Mild	58 (15.4)	101 (14.5)	
Moderate	132 (35.1)	124 (17.8)	
Smoking status	265 (70.5)	152 (21.9)	<0.001
Comorbidities			
Hypertension	215 (57.2)	495 (71.2)	<0.001
DM	151 (40.2)	282 (40.6)	0.895
Hyperlipidemia	109 (29.0)	221 (31.8)	0.342
Sarcopenia-related parameters			
Anterior thigh MT (mm)	40.2±7.6	34.7±7.0	<0.001
Grip strength (kg)	33.6±7.0	21.4±4.7	<0.001
CST (sec)	10.6±4.1	12.1±5.2	<0.001
Sarcopenia	108 (28.7)	164 (23.6)	0.066
Laboratory tests			
Albumin (g/L)	41.5±4.0	41.5±3.4	0.852
Creatinine (mg/dL)	1.0±0.3	0.8±0.2	<0.001
Hemoglobulin (g/dL)	14.7±1.7	13.4±1.2	<0.001

Data are presented as mean±SD, or N (%). BMI; body mass index, DM; diabetes mellitus, MT; muscle thickness, CST; chair stand test, sec; second.

Table 2. Binary logistic regression analyses for predicting sarcopenia in males and females

	Males		*p*	*Females*		*p*
	RR	*CI*		*RR*	*CI*	
Age	1.144	1.091-1.199	<0.001	1.100	1.059-1.142	<0.001
BMI	1.127	1.057-1.205	<0.001	1.119	1.074-1.166	<0.001
HT	1.824	0.954-3.485	0.069	-	-	-
Albumin	0.924	0.855-0.998	0.044	0.909	0.846-0.977	0.009
Hemoglobulin	-	-		0.824	0.683-0.993	0.042

(RR; relative risk ratio, CI; 95% confidence interval, BMI; body mass index, HT; hypertension

Table 3. Binary logistic regression analyses for predicting sarcopenia in males and females

	Males		*p*	*Females*		*p*
	RR	*CI*		*RR*	*CI*	
Age	1.151	1.098-1.207	<0.001	1.100	1.061-1.141	<0.001
BMI	1.133	1.061-1.209	<0.001	1.118	1.074-1.163	<0.001
HT	1.882	0.989-3.580	0.054	-	-	-
Low albumin level*	2.099	1.132-3.890	0.019	1.805	1.140-2.852	0.012
Low hemoglobulin level**	-	-	-	1.694	1.066-2.692	0.026

(RR; relative risk ratio, CI; 95% confidence interval, BMI; body mass index, HT; hypertension * Albumin < 40.0 g/L ** Hemoglobulin < 13.0 g/dL

Chronic Diseases

OP-30

THE RELATIONSHIP BETWEEN THE USE OF ACETYL SALICYLIC ACID (ASA) AND ANEMIA DUE TO MINOR HEMORRHAGE

Mercan Tastemur, Gunes Arık, Kamile Sılay

Ankara Bilkent City Hospital, Geriatric Department

Background: Acetyl salicylic acid (ASA) is a drug that is frequently prescribed for primary and secondary protection in the elderly population. Bleeding is the most important problem that requires questioning the ASA indication. Apart from the risk of major bleeding, minor bleeding from the gastrointestinal (GIS) origin and the associated decrease in hemoglobin are important because of the high risk of anemia in the elderly. In this study, we aimed to investigate the relationship between ASA usage rates and anemia in individuals over 65 years of age.

Methods: A total of 453 patients were included in the study. Hemoglobin level was accepted as anemia below 12 mg/dl in women and below 13 mg/dl in men. Except for iron deficiency, other causes of anemia were excluded. The relationship with ASA usage rates and anemia parameters were evaluated.

Results: 105 (23.2%) of 453 patients included in the study were using ASA. The mean age of all patients was 75.6±7.6 years and 218 (48.1%) were female. Anemia was detected in 194 (42.8%) patients in total. While the rate of anemia was 46.7% in ASA users, this rate was 42.7% in non-users. There was no difference between the two groups in terms of presence of anemia and anemia parameters. The rate of hypertension and CAD was higher in the group using ASA (respectively 85.7% vs 62.9%, p<0.001; 68.6% vs 21%, p<0.001).

Conclusion: Anemia is associated with increased mortality and morbidity in the elderly. It is unclear whether there is a relationship between the use of ASA in the absence of overt bleeding and anemia. Studies have shown different results. In this study, we could not find a relationship between the use of ASA and anemia. Considering the negative effects of anemia in the elderly, it is important for the treatment plan to follow up minor losses from the GIS in the chronic process, except for major bleeding. It is thought that prospective, larger-scale studies on the subject are needed.

Keywords: ASA use, secondary protection, anemia, elderly

References

1. Beghé C, Wilson A, Ershler WB. Prevalence and outcomes of anemia in geriatrics: a systematic review of the literature. Am J Med. 2004;116(Suppl 7A):3S–10S. doi: 10.1016/j.amjmed.2003.12.009.
2. Gaskell H, Derry S, Andrew Moore R, McQuay HJ. Prevalence of anaemia in older persons: systematic review. BMC Geriatr. 2008;8:1. doi: 10.1186/1471-2318-8-1.
3. Penninx BW, Pluijm SM, Lips P, Woodman R, Miedema K, Guralnik JM, Deeg DJ. Late-life anemia is associated with increased risk of recurrent falls. J Am Geriatr Soc. 2005;53:2106–2111. doi: 10.1111/j.1532-5415.2005.00491.x.
4. Atti AR, Palmer K, Volpato S, Zuliani G, Winblad B, Fratiglioni L. Anaemia increases the risk of dementia in cognitively intact elderly. Neurobiol Aging. 2006;27:278–284. doi: 10.1016/j.neurobiolaging.2005.02.007.
5. Silagy CA, McNeil JJ, Donnan GA, Tonkin AM, Worsam B, Campion K. Adverse effects of low-dose aspirin in a healthy elderly population. Clin Pharmacol Ther. 1993;54:84–89. doi: 10.1038/clpt.1993.115.
6. Leibovici A, Lavi N, Wainstok S, Herman J, Greene VW. Low-dose acetylsalicylic acid use and hemoglobin levels. Effects in a primary care population. Can Fam Physician. 1995;41:64–68.
7. Hammerman-Rozenberg R, Jacobs JM, Azoulay D, Stessman J. Aspirin prophylaxis and the prevalence of anaemia. Age Ageing. 2006;35:514–517. doi: 10.1093/ageing/afl066.
8. Black DA, Fraser CM. Iron deficiency anaemia and aspirin use in old age. Br J Gen Pract. 1999;49:729–730.

Table 1. Demographic, additional disease, laboratory characteristics and ASA use

	Total (n=453)	*ASA users (n=105, % 23.2)*	*Those who do not use ASA (n=348, % 76.8)*	*p*
Demographic data				
Age (years) (Mean ± SD)	75.6±7.6	76±6.8	75.5±7.9	0.336m
Female gender, n (%)	218 (48.1)	47 (44.8)	171 (49.1)	0.432k
Presence of anemia, n (%)	194 (42.8)	49 (46.7)	145 (42.7)	0.364k
Additional diseases				
Hypertension, n (%)	309 (68.2)	80 (85.7)	219 (62.9)	<0.001k
Diabetes Mellitus, n (%)	164 (36.2)	45 (42.9)	119 (34.2)	0.203f
COPD, n (%)	104 (23)	31 (29.5)	73 (21)	0.068k
CAD, n (%)	145 (32)	72 (68.6)	73 (21)	<0.001f
Dementia, n (%)	41 (9.1)	7 (6.7)	34 (9.8)	0.331k
Hypothyroidism, n (%)	35 (7.7)	10 (9.5)	25 (7.2)	0.438f
Laboratory data				
Hemoglobin (g/dl) (median) (min-max)	12.8 (5.3-17.7)	12.7 (7.4-17.7)	12.8 (5.3-17.4)	0.97t
MCV (fL) (median)(min-max)	88.2 (8.5-938)	88.3 (8.5-938)	88.1 (8.8-119)	0.55m
RDW (%) (median)(min-max)	14.3 (1.4-88.5)	14.3 (12.7-20.7)	14.3 (1.4-88.5)	0.96m
Iron (ug/dL) (median)(min-max)	19 (0-123)	19 (0-101)	19 (1-123)	0.955m
Iron binding capacity (ug/dL) (median)(min-max)	234.5 (13-442)	232 (75-424)	235.5 (13-442)	0.864m
Transferrin saturation (%)(min-max)	8 (0-100)	7.5 (0-100)	8 (0-54)	0.988m

Nutrition

OP-31

THE BODY-MASS INDEX AND WAIST CIRCUMFERENCE CUT-OFFS THAT PREDICT HIGH FAT PERCENTAGE IN OLDER ADULTS

Ozge Can Ceylan, Serdar Ozkok, Cihan Kilic, Humeyra Ozalp, Mehmet Akif Karan, Gulistan Bahat

Istanbul University Istanbul Medical School Department Of Internal Medicine Division Of Geriatrics

Introduction: Recent guidelines recommend measurement of fat mass percentage for obesity diagnosis. However, equipments for fat percentage measurement are not readily available in all settings. The use of other familiar and practical screening methods like body mass index (BMI) harbor limitations in geriatrics as the thresholds for body composition are uncertain. Here

we aimed to reveal the best BMI and waist circumference (WC) thresholds that predict high fat percentage in older adults, for the aim of their practical use in the settings with limited access to the necessary equipment.

Methods: This is a retrospective, cross-sectional study including older outpatients ≥60 years admitted to a university hospital between June 2016-August 2022. We measured the weight and height of the participants with a standardized stadiometer to the nearest 0.1 kg and 0.1 cm, to calculate BMI (weight divided by height^2). We measured waist circumference with a flexible tape at the midpoint between the lower rib and upper margin of the iliac crest. We estimated fat percentage via Tanita BC-532 bioelectrical impedance analysis. We used the Turkish population-specific thresholds for obesity diagnosis according to the fat percentage (i.e., >27% and >41% for males and females, respectively). We performed ROC analysis to find out the optimum BMI and WC thresholds for obesity in older adults.

Results: We included 449 older adults (mean age: 74.0±6.6, 69.5% female). The obesity prevalence was 46.1% according to the fat percentage method. The ideal BMI thresholds for high fat percentage were >31.9 kg/m^2 and >28.7 kg/m^2 for females and males, respectively (AUCs=0.917 and 0.857). The optimum cut-offs for WC were calculated as >98 cm for females and >99 cm for males (AUCs=0.858 and 0.841).

Conclusion: This study suggests that the WHO and NIH-recommended thresholds for BMI and WC seems suboptimal in identifying obesity in Turkish older adult population. Our suggested thresholds may be used as a surrogate of fat percentage in settings without any available equipment for a more accurate obesity diagnosis. Further studies will reveal whether these thresholds work well in defining obesity and are better associated with adverse obesity-related outcomes in older adults.

Keywords: obesity, BMI, waist circumference

Sarcopenia

OP-32

COMPARISON OF DIAPHRAGM ELASTICITY IN GERIATRIC PATIENTS WITH AND WITHOUT SARCOPENIA

Seriyye Allahverdiyeva[1], Eda Çeker[2], Esra Çataltepe[2], Fatih Güngör[2], Mahi Nur Cerit[1], Hacer Doğan Varan[2], Suna Özhan Oktar[1], Halit Nahit Şendur[1]

[1]Department Of Radiology, Gazi University Faculty Of Medicine, Ankara, Turkey

[2]Department Of Internal Medicine, Division Of Geriatrics, Gazi University Faculty Of Medicine, Ankara, Turkey.

Introduction: The diaphragm is the primary muscle responsible for respiration. In recent years various studies have used ultrasound techniques to measure the thickness of the diaphragm muscle. Muscle shear wave elastography (SWE) has been presented as an indicator of muscle quality in recent studies. SWE describes the structural properties of tissues and provides quantitative determination of hardness values. It is an ultrasound-based imaging method that allows for evaluation and measurement. Many studies evaluating the elasticity properties of muscles using SWE have been reported in the literature (1). Sarcopenia negatively affects the functionality of both respiratory muscles and the skeletal muscles. In our study, we aimed to compare the thickness and elasticity measurements of the diaphragm muscle in relation to the respiratory cycle of individuals with and without sarcopenia in the geriatric population.

Materials and Methods: Sixty people (30 sarcopenic and 30 non-sarcopenic) aged 65-85 years who voluntarily agreed to participate in our study were included. A radiologist with four years of abdominal radiology experience and blinded to the sarcopenia evaluation results of the participants , performed the thickness and elasticity measurements of the diaphragm. Experienced geriatricians used the STAR index calculated according to the US-based anterior thigh muscle and handgrip strength measurement to make the diagnosis of sarcopenia (3). Gray scale and SWE images of all participants were obtained (Fig. 1 and Fig. 2) and the thickness and elasticity measurements of the diaphragm were taken during the peak inspiration and end-expiratory phases of the normal respiratory cycle.

Results: General characteristics of the patients are presented in Table 1. It was determined that the thickness and elasticity of the diaphragm muscle increased during the peak inspiratory phase of respiration ($p<0.001$). The mean ± SD stiffness of the diaphragm in peak inspiration and end expiration phases were measured as 40.22±11.58 kPa and 30.45±9.74 kPa, respectively; and thicknesses were measured 2.40±0,54 mm and 1.86±0,51 mm, respectively, in sarcopenic patients. In non-sarcopenic patients, the mean ± SD stiffness of the diaphragm in peak inspiration and end expiration phases were 42.09±11.72 kPa and 31.68±10.02 kPa, respectively; thicknesses were measured as 2.40±0.52 mm and 1.84±0.41 mm, respectively (Table 2). A strong positive correlation was found between the thickness and elastography measurements of the diaphragm in the inspiratory and expiratory phases. Hand grip strength, and Star index had a moderately positive correlation with PEF (Table 3).

In our study, there were no significant differences between thickness and elasticity measurements of respiratory phases in patients with and without sarcopenia ($p>0.05$). In the early stages of sarcopenia, the anterior thigh muscle is affected earlier than the other muscles, and the diaphragm muscle may not be affected in the early stages.

Conclusion: Since the sarcopenic patients included in our study may have been detected at an early stage of sarcopenia, the diaphragm muscle may not yet have been affected. Further studies with a larger number of patients are needed to further explore this subject.

Keywords: diaphragm, sarcopenia, thickness, shear-wave elastography

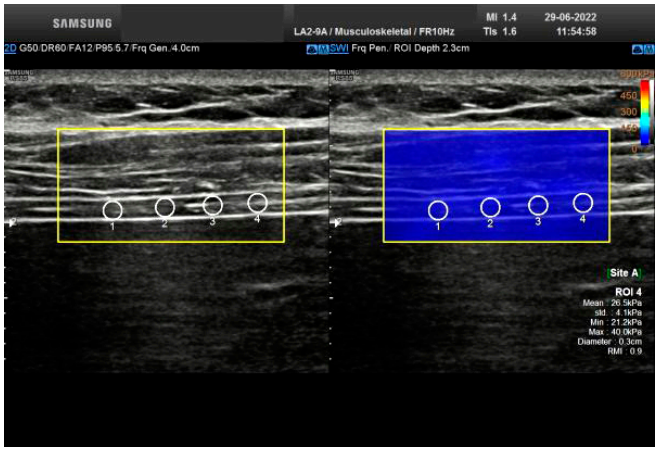


Figure 1. Shear-wave elastography image of right hemidiaphragm of a 69-year-old man at peak inspiration phase. Four ROIs were placed on the muscular layer of diaphragm as demonstrated.

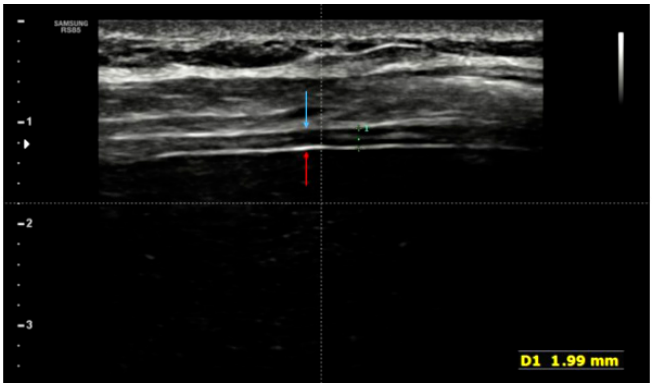


Figure 2. Gray scale US image of right hemidiaphragm of a 72- year-old woman at peak inspiration phase. The blue arrow indicates the pleura. The red arrow indicates the peritoneum. The muscular layer of the diaphragm lies between these 2 hyperechoic lines, and the thickness of the diaphragm was measured as demonstrated by calipers.

Table 1.Distribution of demographic characteristics of patients

		Frequency (n)	*Percent (%)*
Sarcopenia	Yes	30	50
	No	30	50
Gender	Female	34	56,7
	Male	26	43,3
Polypharmacy	Yes	23	38,3
	No	37	61,7
Hypertension	Yes	34	56,7
	No	26	43,3
Diabetus Mellitus	Yes	22	36,7
	No	38	63,3
Coronary Artery Desease	Yes	14	23,3
	No	46	76,7
	Mean±sd	Median (min-max)	Skewnes/Kurtosis
Age	75,43±6,76	76 (62-89)	0,199/-0,816
Weight (kg)	71,22±16,51	68,95 (42-144,5)	1,425/5,264
BMI (kg/m^2)	27,78±5,12	27,25 (20,1-40,3)	0,506/-0,126
Height (cm)	159,08±11,00	157,40 (140-186)	0,488/-0,475

Table 2. Comparison radiological, demographic and geriatric findings in patients with and without sarcopenia

		Sarcopenia (Yes)	*Sarcopenia (No)*	*p*
		n/%	*n/%*	
Gender	Female	19/63,3	15/50	0,297*
	Male	11/36,7	15/50	
Polypharmacy	Yes	11/36,7	12/40,0	0,791*
	No	19/63,3	18/60,0	
Hypertension	Yes	18/60	16/53,3	0,602*
	No	12/40,0	14/46,7	
Diabetus Mellitus	Yes	11/36,7	11/36,7	1,000*
	No	19/63,3	19/63,3	
Coronary Artery Desease	Yes	9/30,0	5/16,7	0,222*
	No	21/70,0	25/83,3	
		Mean±sd	Mean±sd	
	Age	78,10±7,14	72,77±5,23	0,002**
	Weight (kg)	73,24±18,09	69,21±14,79	0,387***
	BMI (kg/m^2)	29,39±5,24	26,27±4,53	0,014**
	Height (cm)	155,95±9,76	162,22±11,43	0,026**
	İns.thickness (mm)	2,40±0,54	2,40±0,52	0,998
	Exp.thickness (mm)	1,86±0,51	1,84±0,41	0,858
	İns.elastography (kPa)	40,22±11,58	42,09±11,72	0,538
	exp.elastography (kPa)	30,45±9,74	31,68±10,02	0,634
	PEF (L/dak)	243,67±100,90	316±99,49	0,007
	STAR316±99,49	0,99±0,25	1,26±0,28	<0,001
	Thigh thickness (cm)	2,87±0,60	3,29±0,68	0,015
	Handgrip strenght (kg)	16,89±5,50	25,97±9,14	<0,001

*Pearson ki-kare, **Student t,***Mann Whitney U

Table 3. Relationship between radiological and geriatric findings of patients

		İns. thickness (mm)	*Exp. thickness (mm)*	*İns. elastography (kPa)*	*Exp. elastography (kPa)*	*PEF (L/dak)*	*STAR*	*Thigh thickness (cm)*	*Handgrip strenght (kg)*
İns.thickness (mm)	r		0,829	0,066	0,140	-0,032	0,025	0,087	0,087
	p*		<0,001	0,615	0,287	0,809	0,847	0,510	0,506
Exp.thickness (mm)	r	0,829		0,032	0,101	0,027	-0,035	0,048	0,145
	p*	<0,001		0,811	0,441	0,838	0,793	0,718	0,270
İns.elastography (kPa)	r	0,066	0,032		0,852	-0,313	-0,239	-0,406	-0,269
	p*	0,615	0,811		<0,001	0,015	0,066	0,001	0,037
exp.elastography (kPa)	r	0,140	0,101	0,852		-0,342	-0,196	-0,305	-0,248
	p*	0,287	0,441	<0,001		0,007	0,134	0,018	0,056
PEF (L/dak)	r	-0,032	0,027	-0,313	-0,342		0,550	0,472	0,653
	p*	0,809	0,838	0,015	0,007		<0,001	<0,001	<0,001
STAR	r	0,025	-0,035	-0,239	-0,196	0,550		0,729	0,603
	p*	0,809	0,793	0,066	0,134	<0,001		<0,001	<0,001
Thigh thickness (cm)	r	0,087	0,048	-0,406	-0,305	0,472	0,729		0,561
	p*	0,510	0,718	0,001	0,018	<0,001	<0,001		<0,001
Handgrip strenght (kg)	r	0,087	0,145	-0,269	-0,248	0,653	0,603	0,561	
	p*	0,506	0,270	0,037	0,056	<0,001	<0,001	<0,001	

(n=60, r= correlation coefficient, *pearson correlation)

Sarcopenia

OP-33

THE RELATIONSHIP BETWEEN ULTRASONOGRAPHIC MUSCLE MEASUREMENTS AND ANTHROPOMETRY IN A PALLIATIVE UNIT.

Ayfer Durak

Sancaktepe Prof.dr İlhan Varank Training And Research Hospital

Aim: Ageing is associated with changes in body composition with a progressive loss of muscle mass. Anthropometric measurements have been shown to be useful in screening for sarcopenia associated with decreased muscle mass, falls, functionality, and death. We aimed to evaluate the relationship between antropometry and ultrasonographic muscle measurements.

Materials and Methods: This study was conducted retrospectively cross sectional between August 2022 and November 2022. Ultrasonography measurements were obtained in 6 different muscles consisting of rectus femoris (RF) and biceps brachi(BB) subcutaneous fat thickness (SFT), muscle thickness (MT), crossectional area (CA), muscle tickness (MT). The demographics, age, sex and functional status was assessed using hand grip strength, for women and men, respectively.Anthropometric indicators included body mass index (BMI) (£18.5kg/m^2>18.5kg/m^2),calf circumference (CC) (<31cm), mid-upper arm circumference (MUAC) (≤27.5 cm and ≤28.6cm for women and men, respectively) were recorded.

Results: Of the included 62 patients (mean age: 75.4±14.8 (22-100), female: 53.2%), RFSFT was less in men (p=0.007). The RFSFT, RFMT, RFCA and BBCA were less in those with lower BMI (p<0.001, <0.001, <0.001, <0.001, <0.001, respectively). Patients with low MUAC had less RFSFT, RFMT, and BBSFT, BBMT, and BBCA. (p=0.001, 0.012, 0.001, 0.023, 0.028, respectively). Low CC was significantly related to RFSFT, RFMT, RFCA and BBCA and BBCA (p<0.001, 0.004, 0.015, 0.001, 0.008 respectively). RFMT and RFCA were less in those with low HGS (p=0.008, 0.014 respectively). BMI, CC, MUAC, HGS were positively correlated with muscle parameters (Table-1).

Conclusion: Anthropometric measurements have shown to be useful in screening for sarcopenia associated with decreased muscle mass, falls, functionality, and death. It has also been demonstrated that there was a significant correlation between ultrasonographic muscle measurements and the clinical, functional, or nutritional status of the patients. Ultrasound measurement of rectus femoris muscle thickness as a quick screening test for sarcopenia assessment.

Keywords: antropometry; hand grip strength; muscle ultrasonography; pallative unit

Tablo 1. Correlation between ultrasonographic muscle parameters and variables.

	RFSFT	RMT	RFCA	BBSFT	BBMT	BBCA
Age	,028 ,831	,048 ,711	-,045 ,729	-,302* ,017	,004 ,978	-,040 ,755
BMI	,599** ,000	,513** ,000	,479** ,000	,367** ,003	,409** ,001	,462** ,000
CC	,641** ,000	,511** ,000	,511** ,000	,165 ,199	,463** ,000	,523** ,000
MUAC	,597** ,000	,505** ,000	,392** ,002	,418** ,001	,364** ,004	,449** ,000
HGS	,260* ,041	,348** ,006	,331** ,009	,034 ,795	,519** ,000	,537** ,000

* The correlation is significant at 0.05 level (bidirectional)
** The correlation is significant at 0.01 level (bidirectional)

BB CSA: biceps brachii cross-sectional area, BMI:Body mass index, BB MT: biceps muscle thickness, BB SFT: biceps brachii subcutaneous fat thickness, CC: calf circumference, HGS:hand grip strength, MUAC:mid-upper arm circumference, RF CSA: Rectus femoris cross-sectional area, RF MT: Rectus femoris muscle thickness, RF SFT: Rectus femoris subcutaneous fat thickness

Cognitive Disorders

OP-34

EFFECTS OF STRESS AND ENVIRONMENTAL ENRICHMENT ON BEHAVIOR, LEARNING AND NEUROBIOLOGICAL MARKERS IN AGED RAT BRAIN

Duygu Sultan Oran[2], Evren Eraslan[1]

[1]*Department Of Physiology, Faculty Of Veterinary Medicine, Istanbul University-cerrahpasa, Istanbul, Turkey*
[2]*T.C. Health Ministry, University Of Health Sciences, Bağcılar Training And Research Hospital, Experimental Research And Skills Development Center, Istanbul, Turkey*

Purpose: Studies have shown that aging increases the level of anxiety in rats and negatively affects cognitive abilities such as learning and memory functions. It has been proven that environmental enrichment (EE) improves learning and memory functions and supports successful cognitive aging. It is thought that EE decreases the anxiety-like behavioral and endocrine responses in animals, which has an impact on increasing the ability to cope with stress. Less information is known about the effects of EE applied at older ages. These effects vary depending on the age of the rodents, the duration of enrichment, and its content. The aim of this study is to investigate whether EE could positively affect the stress hormone such as corticosterone, receptors (glucocorticoid receptor (GR), corticotropin-releasing factor (CRF), receptor of corticotropin-releasing factor-1 (CRF-1)), learning and behavior in aged rats that underwent chronic unpredictable mild stress protocol.

Materials and Methods: In this study, Wistar Hannover (over 20 months) male rats weighing 400-450 g were used. Behavioral and cognitive changes after stress exposure were investigated by behavioral tests such as Morris Water Maze (MWM), New Object Recognition Tests, Forced Swimming Test (FST) and Elevated Plus Maze Test (EPM). GR, CRF, CRF1mRNA levels were determined by RT-PCR in stress-related brain regions. In order to determine the effects of the treatments, two-way ANOVA was performed and p<.05 criteria was used as standard p value for statistical analysis.

Results: In the stress group, it was observed that body weights decreased over time. In the Morris water maze, the interaction of stress, housing, and time were significant on the distance swum

by rats to find the platform in acquisition trials. In addition there was a significant difference between the control and stress groups considering Hypothalamus GR values(p=0.017) and CRHR1 values(p=0.01).

Conclusion: It was concluded that EE may be used in the elderly to reduce the negative effects of chronic stress. Important information has been obtained on whether the negative effects of chronic stress on behaviors, learning and neurobiological markers in the elderly will change with environmental enrichment. It also gave a preliminary idea of the extent to which these effects may change. In this respect, the study has provided valuable information that will form the basis of both neurobiological and neurodegenerative disease researches about the elderly.

Acknowledgement: Experimental animal studies were approved by the Animal Experiments Local Ethics Committee of Bağcılar Training and Research Hospital (95th committee dated 29.12.2019/project no 2019-48). This study was funded by Scientific Research Projects Coordination Unit of Istanbul University-Cerrahpasa. Project number: 35146.

Keywords: stress, environmental enrichment, aging, learning, behavior, aged rats

Others

OP-35

THE INFLUENCE OF HAVING CHILD AND NUMBER OF CHILDREN ON CHRONIC DISEASES AND GERIATRIC SYNDROMES

Eda Çeker, Esra Çataltepe, Ayşe Fadıloğlu, Fatih Güngör, Nermin Karakurt, Hacer Doğan Varan

Gazi University Faculty Of Medicine, Department Of Geriatric Medicine

Background: Having a child is a significant life event that can have both positive and negative effects on an individual's well-being and quality of life. Adult children can offer emotional and social support, with assisting in daily tasks and healthcare needs. However, the responsibilities and stress of parenting, along with managing financial and emotional burdens, might lead to increased physical and psychological strain(1,2). Investigating the impact of parenthood on chronic disease and geriatric syndromes can provide insights into understanding the factors influencing the well-being of older adults. This study aims to explore the effects of having a child and the number of children on chronic disease and geriatric syndromes in Turkish older adults.

Methods: This is a cross-sectional study consisting of community-dwelling older adults aged 65 years and above. Demographic data were collected such as age, gender, education level, marital and children status. All participants underwent comprehensive geriatric assessment.

Results: A total of 713 participants were included in this study, of whom 457 (64.1%) were female. Of these, 270 (37.9%) were widowed, 428 (60%) were married, 15 (2.1%) were single and 689 (96.6%) reported having children; of those having children, 71.3 % had both boys and girls and the maximum number of children was twelve.

In participants with children; the Mini Mental Test scores (p=0.004) and IADL scores were significantly lower (p=0.001), whereas body mass index (p=0.027), Geriatric Depression Scale scores, (p =0.02), Fried Frailty phenotype scores (FFP) (p=0.042), number of chronic diseases and medications (p=0.014 and p=0.008, respectively), prevalence of dynapenia (p=0.019), hypertension(HT) (p=0.013) and coronary artery disease (CAD) (p=0.029) were significantly higher. Participants without children had significantly higher numbers of university degrees and total years of education (p < 0.001), and significantly lower age (p=0.044). Women with children had significantly higher depressive mood (n=102, p=0.01), higher rate of dynapenia (p=0.039), higher number of illnesses and medications (p=<0.001 for both conditions) and higher prevalence of diabetes mellitus (DM) (p=0.043), HT (p=0.002) and CVD (p=0.055). In contrast, among men, no significant difference was found between those with and without children regarding depression (p=0.31), DM (p>0.1), HT (p>0.1), CVD (p=0.66), dynapenia (p=0.38), the number of illnesses (p=0.12), and medications (p=0.31). The number of children was significantly higher in patients with osteoporosis (p=0.004) and physical frailty (p<0.001, median 4 (0-9)). There was a borderline significant relationship between the number of children and social frailty (median 3, (0-9), p=0.047), with a lower number in the social frail group. Sarcopenic (n=439) and frail (according to the FFP) women had significantly higher number of children (median 3.5, p=0.004, median 4, p<0.001), whereas no statistically significant relationship was found between the number of children and social frailty (p=0.26). Sarcopenic males had significantly higher numbers of children (p=0.025), but no significant relationship was found between the number of children and social (p=0.2) or physical frailty (p=0.81) in men.

Conclusion: Having a child and the number of children had significant effects on some of the chronic diseases and geriatric syndromes and these effects differed according to the sex of the parent.

Keywords: parenting, geriatric assesment

Others

OP-36

PLASMA ALPHA KLOTHO LEVELS IN IDIOPATHIC PARKINSON DISEASE PATIENTS

Ahmet Yalçın[1], Emine Gemci[2], Büşra Yürümez[3], Volkan Atmış[1], Murat Varlı[1]

[1]Department Of Geriatrics, Ankara University Faculty Of Medicine
[2]Department Of Geriatrics, Bursa City Hospital
[3]Department Of Geriatrics, Çanakkale Mehmet Akif Ersoy Hospital

Background: Idiopathic Parkinson Disease (PD) which is a neurodejenerative disorder of old age, leads to significant morbidity. Alpha klotho is an anti-aging protein with neuroprotective properties. The aim of this study is to evaluate serum alpha klotho levels in idiopathic PD patients.

Methods: This study is a cross-sectional case-control study. Idiopathic PD was diagnosed according to UK Parkinson Disease Society Brain Bank clinical diagnostic criteria. A total of 314 individuals, 157 PD and 157 controls were included in the study. Serum alpha klotho was measured using a commercially available enzyme-linked immunosorbent assay.

Results: A total of 314 participants were recruited with 157 controls and 157 PD. The mean age was 72.09 ± 5.9 years and 61.32% of the participants were women. The control group was older (p=0.021) and had more comorbidities than the PD group. The number of participants with dementia and the number of drugs used were higher in the PD group (p<0.001, p<0.001 respectively). While the Mini Mental State Examination (MMSE) scores of the control group were higher than the PD

group, the Charlson Comorbidity Index (CCI) scores were lower (p<0.001, p<0.001 respectively). Alpha klotho levels were significantly lower in the PD group (0.85 (0.61)) than in the control group (1.47 (0.71); p < 0.001). The logistic regression analysis revealed an independent relationship between alpha klotho and PD (OR=0.04 (0.02-0.09, 95% CI); p<0.001). The presence of alpha klotho was associated with a decreased risk of PD. In the correlation analysis between alpha klotho levels and clinical features of PD, a weak but significant positive correlation was found between MMSE and alpha klotho (r=0.25, p=0.002). When the alpha klotho levels were compared between the participants with and without dementia in the PD group, statistically significantly lower alpha klotho levels were found in the dementia group (p<0.001)

Conclusions: In our study, PD was associated with decreased alpha klohto levels. In the PD group, the lowest alpha klohto levels were found in participants with dementia. These results show the neuroprotective effects of alpha klotho. Alpha klotho is a promising therapeutic target for PD, and it may be used in combination with other treatments to improve patient outcomes.

Keywords: Alpha Klotho, Idiopathic Parkinson Disease

References

1. Lang, A.E. and A.M. Lozano, Parkinson's disease. First of two parts. N Engl J Med, 1998. 339(15): p. 1044-53.
2. Boksha, I.S., et al., Klotho Protein: Its Role in Aging and Central Nervous System Pathology. Biochemistry (Mosc), 2017. 82(9): p. 990-1005.
3. Gelb, D.J., E. Oliver, and S. Gilman, Diagnostic criteria for Parkinson disease. Arch Neurol, 1999. 56(1): p. 33-9.

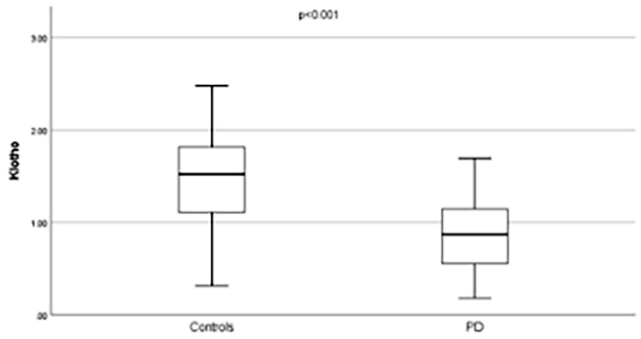


Figure 1. Klotho Levels of Idiopathic PD and Control Groups

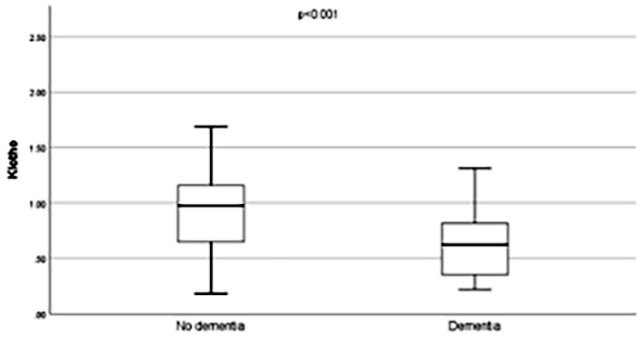


Figure 2. Comparison of Klotho Levels in Parkinson's Disease Patients with and without Dementia

Table 1. Clinical Characteristics of PD and Control Groups

Variables	*Controls (n=157)*	*PD (n=157)*	*P value*
Age (years)	73 (10)	70 (8)	0.021
Gender (n/%) Male Female	46/29.7 109/70.3	81/52.3 74/47.7	0.001
Hypertension (n/%)	120/77.4	103/66.4	0,032
CHD (n/%)	38/24.5	22/14.2	0.021
Heart failure (n/%)	14/9	15/9.7	0.85
Diabetes (n/%)	76/49	37/23.9	<0.001
Dementia (n/%)	6/3,9	31/20	<0.001
CVD (n/%)	2/3	16/10.3	0.002
CRD (n/%)	6/4	4/2.6	0.38
Drug number (n)	4(4)	6(5)	<0.001
MMSE (n)	27 (5)	25 (5)	<0.001
CCI (n)	3.95±1.57	4.4±1.8	<0.001
CrCl (ml/dk)	76 (31)	79.5 (24.5)	0.29

Table 2. Logistic Regression Analysis of Relationship between Klotho and PD

Variables	*OR*	*95% CI*	*P value*
Age	0.96	0.9-1.01	0.13
Gender Female Male (1)	2.03	1.1-3.7	0.023
Demantia	2.05	0.64-6.5	0.23
CrCl	1.03	1.01-1.05	0.003
CCI	1.13	0.93-1.4	0.2
Klotho	0.04	0.02-0.009	<0.001

Table 3. Correlation between Klotho Leves and Clinical Charecteristics of PD patients

Variables	*r*	*P value*
MMSE	0.25	0.002

Sarcopenia

OP-37

YAŞLI TİP 2 DİYABETES MELLİTUS TANILI HASTALARDA SGLT-2 İNHİBİTÖRÜ KULLANIMI İLE SARKOPENİ İLİŞKİSİNİN DEĞERLENDİRİLMESİ

Eren Yılmaz[1], Mehmet Ayhan Karakoç[2], Esra Çataltepe[3], Eda Çeker[3], Fatih Güngör[3], Ayşe Fadıloğlu[3], Meriç Coşkun[2], Hacer Doğan Varan[3]

[1]Gazi University Internal Medicine Department
[2]Gazi University Department Of Endocrinology And Metabolism
[3]Gazi University Geriatrics Department

Objective: SGLT-2 inhibitor drugs have been increasingly used in the treatment of Tip 2 diabetes mellitus (T2DM) in recent years. It is known that this group of drugs causes weight loss, especially with a decrease in fat mass. However, there was no comparative study to evaluate the effects of SGLT-2 inhibitors on sarcopenia parameters in detail. In this study, we aimed to determine the effect of SGLT-2 inhibitor use on the presence of sarcopenia and sarcopenia parameters in patients with T2DM over the age of 60.

Methods: This was a single-center, multidisciplinary and descriptive case-control study. After obtaining consent, 45 T2DM patients who had been using SGLT-2 inhibitors for at least one

year and 45 T2DM patients who had never used SGLT-2 inhibitors, who were admitted to Gazi University's Endocrinology and Geriatric outpatient clinics with similar age, gender, and comorbidities, were included. Demographic data, anthropometric measurements and sarcopenia parameters of the patients were recorded. Muscle mass was detected using anterior thigh thickness by ultrasonography and body composition was evaluated using bioimpedance analysis. Hand grip strength measurement, 4-meter walking test and 5 times sit-up test were performed to identify muscle strength and performance.

Results: T2DM diagnosis times were significantly longer and HbA1c values were significantly higher in patients using SGLT-2 inhibitors (p=0.002). There was no significant difference in demographic data, anthropometric measurements, frequency of sarcopenia and sarcopenia parameters between the two groups (Table 1). A statistically significant positive correlation was found between the duration of SGLT-2 inhibitors use and appendicular skeletal muscle mass index (ASMI) values (r=0.336, p=0.024).

Conclusion: SGLT-2 inhibitor drugs do not seem to increase the risk of sarcopenia in the elderly population and their use is safe in this regard. It is thought that these findings should be supported by larger studies involving more patients.

Tip 2 diabetes mellitus (T2DM) hiperglisemi, insülin direnci ve insülin sekresyonunda göreceli bozulma ile karakterize bir hastalıktır. Prevalansı ilerleyen yaşla birlikte artar [1]. T2DM, 65 yaş üstü kişilerin yaklaşık %25'ini etkiler [2]. Yaşlılarda diyabetle ilişkili alt ekstremite amputasyonu, miyokard enfarktüsü, görme bozukluğu, son dönem böbrek hastalığı, bilişsel işlev bozukluğu, düşmeler, kırıklar, bunama, kardiyovasküler olaylar, maligniteler, depresyon, sarkopeni ve kırılganlık daha sık olarak görülür [3].

Geriatrik sendromlardan biri olan sarkopeni genellikle yaşlılarda görülen kas kütlesi ve fonksiyonunun ilerleyici olarak kaybı ile seyreden bir durumdur. Sarkopeni yaşlı yetişkinlerde önde gelen sağlık sorunlarından biridir ve sakatlık riskini, düşmeleri ve ayrıca düşmelere bağlı yaralanmaları, hastaneye yatmayı, bağımsızlığın sınırlanmasını ve ölüm oranını artırır.

SGLT-2 inhibitörü grubu ilaçlar T2DM tedavisinde son yıllarda sıkça kullanılmaktadır. Bu ilaçlar böbrek proksimal tübüllerinden glukoz geri emilimini azaltarak idrarla glukoz atılımını sağlar. Bu mekanizma ile kan glukoz düzeyini düşürür. Düşük ejeksiyon fraksiyonu olan hastalarda T2DM olsun ya da olmasın SGLT-2 inhibitörü kullanımında kardiyovasküler mortalitede anlamlı azalma olduğu, hastane yatışı ve majör kardiyovasküler olay sıklığının azaldığı tespit edilmiştir[4]. Ayrıca bu ilaç grubunun kullanımı diyabetik nefropatisi olan hastalarda böbrek koruyucu etki yaparak son dönem böbrek hastalığı ve renal hastalığı bağlı ölümü azaltmaktadır[5].

SGLT-2 inhibitörlerinin vucüt kompozisyonu üzerine etkisine dair yapılan çalışmalarda özellikle yağ kütlesindeki azalmayla beraber kilo kaybı sağladığı kas kütlesinde ise değişime neden olmadığı çeşitli araştırmalarla gösterilmiştir[6-8].

SGLT-2 inhibitörü kullanan hastaların kas ve yağ kütlesi ölçümlerini değerlendiren çalışmalar olmasına rağmen SGLT-2 inhibitörünün sarkopeni parametrelerine etkisinin ayrıntılı olarak değerlendirildiği karşılaştırmalı çalışma olmadığı görülmüştür. Çalışmamızda 60 yaş ve üzeri tip 2 diabetes mellitus tanılı hastalarda SGLT-2 inhibitörü kullanımının sarkopeni varlığına etkisinin değerlendirilmesi planlanmıştır.

Çalışma tek merkezli multidisipliner ve tanımlayıcı olgu kontrol çalışması olup 25.10.2022 – 01.01.2023 tarihleri arasında Gazi Üniversitesi Endokrinoloji ve Geriatri bölümlerine ayaktan başvuran 60 yaş üzeri T2DM tanılı hastalar değerlendirildi. Öncelikle en az 1 yıldır SGLT-2 inhibitörü kullanan çalışma kriterlerine uygun 45 hasta çalışmaya davet edildi. Olgu grubu oluşturulmasından sonra bu hastalara yaş ve ek hastalık yönünden benzer fakat daha önce hiç SGLT-2 inhibitörü kullanmamış hastalar çalışma kriterlerine uymak şartıyla kontrol grubu olmak üzere davet edildi. Bu şekilde SGLT-2 inhibitörü kullanmayan 45 hasta ile kontrol grubu oluşturuldu.

Hastaların kas gücünü ölçmek için el kavrama gücü (grip strenght) ölçümü (Takei grip strenght dynamometer) ile yapıldı. Baskın elden üç ölçüm yapılıp en yüksek olan kaydedildi. El sıkma kuvvet ölçümleri Avrupa Sarkopeni Grubu tanı kriterleri doğrultusundan erkekler için 27 kg altı kadınlar için 16 kg altı düşük kas kuvveti olarak değerlendirildi[9].

Hastaların biyoelektrik empedans analizi yöntemiyle (BIA) vücut kompozisyonları tespit edildi. Çalışmamızda BIA ölçümlerinde Jawon x-contact 357, multifrequency 5-50-250-500 kHz cihazı kullanıldı. Yapılan ölçümlerler appendiküler kas kütlesi (ASM), vücut yağ kütlesi (FM), yağsız vücut kütlesi (FFM) ölçüldü. Appendiküler kas kütlesinin metre cinsinden boyun karesine bölünmesi ile appendiküler kas kütle indeksi (ASMI) hesaplandı. Avrupa Sarkopeni Grubu tarafından belirlenen sınır değerler doğrultusunda apendiküler iskelet kas kütle indeksi(kg/m^2) erkeklerde <7, kadınlarda <5,5 düşük kas kütlesi olarak değerlendirildi[9].

6 metre yürüme testi ile kronometre kullanılarak yürüme hızı hesaplandı. Avrupa Sarkopeni Grubu tanı kriterleri doğrultusundan 0,8 m/sn'den düşük değerler yavaş yürüme hızı olarak değerlendirildi[9].

EWGSOP2 kriterlerine göre sadece el kavrama gücü düşük olarak tespit edilen hastalar olası sarkopeni, el kavrama gücü ve ASMI değeri düşük bulunan hastalar sarkopenik olarak değerlendirildi. El kavrama gücü, ASMI değeri ve yürüme hızı düşük olan hastalar şiddetli sarkopeni olarak değerlendirildi[9].

Kas kütlesi BIA ölçümü ve USG ile ardışık olarak değerlendirildi. STAR kriterlerine göre sadece el kavrama gücü düşük olarak tespit edilen hastalar olası sarkopenik, el kavrama gücü ve STAR endeksi düşük bulunan hastalar sarkopenik olarak değerlendirildi[10].

Ön uyluk kas ölçümü minimal prob kompresyonu ve bol jel kullanılarak, spina iliaca anterior superior (SIAS) ile patella üst ucu arasındaki mesafenin tam ortası işaretlenerek, toplam ön uyluk kası kalınlığı (rektus femoris ve vastus intermedius) ölçülerek yapıldı. Prob kompresyonu kasta herhangi bir deformasyon oluşturmayacak şekilde ayarlandı. Ölçülen kas kalınlığı Star endeksine göre beden kitle endeksine bölünerek normalize edildi. Erkeklerde 1,4 kadınlarda 1'in altındaki değerler düşük kas kütlesi olarak değerlendirildi[10].

Çalışmaya SGLT-2 inhibitörü kullanan 45 hasta ve SGLT-2 inhibitörü kullanmayan 45 hasta olmak üzere toplam 90 diyabetik hasta dahil edilmiştir. Hastaların %57'si kadın %43'ü erkektir. Tüm hastaların ortalama yaşı 69,97±5,6 olarak bulunmuştur. Tüm hastaların %65'inde hipertansiyon, %42'sinde koroner arter hastalığı tespit edilmiştir. Hastaların ortanca DM tanı süreleri 12 yıl olarak hesaplanmıştır. Hastaların %28'inde düşük kas gücü tespit edilirken USG ile yapılan ölçümlerde hastaların %56'sında düşük kas kütlesi tespit edilmiştir.

SGLT-2 inhibitörü kullanıma göre hastalar iki gruba bölündüğünde her iki grubun yaş, cinsiyet, egzersiz, eğitim durumu, sigara kullanımı, alkol kullanımı ve ek hastalıkları karşılaştırıldığından istatistiksel olarak anlamlı fark bulunmamıştır.

SGLT-2 inhibitörü kullanan hastaların ortanca tanı süresi 13 yıl (2-35) iken kontrol grubunda bu süre 11 yıl (1-25) olarak hesaplanmıştır. İki grup arasında anlamlı fark bulunmuştur (p=0,02). Boy, kilo, BMI, bel çevresi, baldır çevresi, adduktor pollicis kalınlığı, kalça çevresi ve üst kol çevresi ölçümlerinde de vaka grubu ile kontrol grubu arasında anlamlı fark bulunmamıştır.

ASMI, ASM, FFM ve FM değerleri için vaka ve kontrol grubu arasında istatistiksel anlamlı fark saptanmamıştır.

Her iki gruptan hastaların ortalama orta uyluk kas kalınlığı arasında anlamlı fark saptanmamıştır. Her iki grubun da 6 metre yürüme süresi ve 5 kez otur kalk testi süreleri ortanca süreleri benzer olarak saptanmıştır. Belirtilen değerler için istatistiksel olarak anlamlı fark saptanmamıştır. Katılımcıların antropometrik ölçümleri, vücut kompozisyonları sarkopeniye yönelik testlerinin karşılaştırılması Tablo 1'de gösterilmiştir.

EWGSOP2 kriterlerine göre değerlendirildiğinde SGLT-2 inhibitörü kullanan hastaların ve kontrol grubunun %28,8'inde düşük kas gücü tespit edilmiştir. SGLT-2 inhibitörü kullanan hastaların %11,1'inde yavaşlık tespit edilirken kontrol grubunun %17,8'inde tespit edilmiştir. Değişkenler arasında istatistiksek olarak anlamlı fark bulunmamıştır.

EWGSOP2 kriterlerine göre değerlendirildiğinde SGLT-2 inhibitörü kullanan hastaların ve kontrol grubunun %12'inde (n=13) olası sarkopeni saptanmıştır. İki grup arasında istatistiksel olarak anlamlı fark bulunmamıştır(p=1,0). SGLT-2 inhibitörü kullanan hastaların %24,4 'ü (n=11) kontrol grubunun %20'si (n=9) STAR endeksine göre sarkopenik olarak değerlendirilmiştir. İki grup arasında anlamlı istatistiksel fark bulunmamıştır(p=0,61).

SGLT-2 inhibitörü kullanan hastaların ve kontrol grubunun laboratuvar değerleri karşılaştırıldığında iki grup arasında sadece HbA1c değeri açısından istatistiksel anlamlı fark görülmüştür. Vaka grubunda HbA1c ortanca değeri 8,0 olurken kontrol grubunda 6,8 olarak hesaplanmıştır(p=0,002).

Bu çalışmada en az bir yıldır SGLT-2 inhibitörü kullanan yaşlı T2DM hastaları ile SGLT-2 inhibitörünü hiç kullanmayanlar arasında antropometrik ölçümler, vücut kompozisyonu, sarkopeni sıklığı ve sarkopeni parametreleri açısından anlamlı bir fark saptanmadı. Ayrıca SGLT-2 inhibitörü kullanım süresi ile apendiküler iskelet kas kitle indeksi(ASMI) arasında istatistiksel olarak anlamlı pozitif korelasyon bulunmuştur. Bildiğimiz kadarıyla bu çalışma, yaşlı T2DM hastalarında SGLT-2 inhibitör kullanımının sarkopeni parametreleri üzerindeki uzun vadeli etkilerini değerlendiren ilk çalışmadır.

Sugizaki ve ark. tarafından fareler üzerinde yapılan bir çalışmada tedavi verilmeyen diyabetik farelerde diyabetik kaşeksi oluşurken SGLT-2 inhibitörü verilen diyabetik farelerde keşeksi oluşmadığı tespit edilmiştir[11]. Yine daha önce yapılan çalışmalarda SGLT-2 inhibitörü kullanan hastalarda BIA yardımıyla yapılan ölçümlerde total vücut kütlesinde azalma, total yağ kütlesinde azalma olurken total kas kütlesinde değişim olmadığı tespit edilmiştir[6-8]. Bizim çalışmamızda da iki grup arasında BIA yardımıyla yapılan ölçümlerde kas kütlesi açısından fark bulunmamıştır. Ek olarak kas kütlesi değerlendirilmesi amacıyla USG ile ön uyluk kası kalınlığı ölçümü yapılmış ve yine fark bulunamamıştır. Bu açıdan çalışmamız literatür ile uyumludur. Bu sonuç SGLT-2 inhibitörü kullanımının kas kütlesi üzerinde olumsuz etkisi olmadığını düşündürmektedir.

Bolinder ve ark. Tarafından yapılan bir çalışmada SGLT-2 inhibitörü kullanımının bel çevresinde azalmaya neden olduğu gösterilmiştir[6]. Bizim çalışmamızda her iki grubun bel çevresi arasında anlamlı fark saptanmamıştır. Buna ek olarak çalışmamızda her iki grubun kalça, üst kol, baldır çevreleri ve adduktor pollicis kalınlığı da benzer olarak bulunmuştur. Bu verilerden yola çıkarak SGLT-2 inhibitörü kullanımının hastaların antropometrik ölçümleri üzerinde etkisi olmadığı düşünülebilir.

EWGSOP2 kriterlerine göre her iki grupta olası sarkopeni sıklığı %12 olarak tespit edilmiştir. Kesin sarkopeni ve şiddetli sarkopeni tespit edilmemiştir. STAR endeksine göre göre değerlendirilecek olursa SGLT-2 inhibitörü kullanan grupta sarkopeni sıklığı %24, kontrol grubunda sarkopeni sıklığı %20 olarak tespit edilmiştir. Aralarında istatistiksel olarak anlamlı fark bulunmamıştır(p=0,61). SGLT-2 inhibitörü kullanan gruptaki hastaların daha uzun zamandır T2DM tanısı olduğu ve glisemik kontrollerinin daha kötü olduğu göz önüne alınacak olursa bu gruptaki hastalarda sarkopeni sıklığının daha fazla olması beklenebilirdi. Sarkopeni sıklığının benzer olması SGLT-2 inhibitörlerinin sarkopeni engelleyici veya yavaşlatıcı etkisi olabileceğini düşündürmektedir.

Çalışmamızın zayıf yönü prospektif bir çalışma olmamasıdır. Dolayısıyla vaka grubunun SGLT-2 inhibitörü tedavisi öncesi kas kütlesi, yağ kütlesi ve sarkopeniye ait diğer verileri bilinmemektedir. Çalışmanın bir başka kısıtlılığı ise katılımcı sayısının düşük olması olarak değerlendirilebilir.

Çalışmanın güçlü yönleri sarkopeni kriterlerinin tek tek değerlendirilmesi, antropometrik ölçümlerin yapılması, ön uyluk kas kalınlığının USG ile değerlendirilmesi ve olgu-kontrol grubunun iyi eşleştirilmesidir. Daha önce yapılan çalışmalarda hastaların kas ve yağ kütlesi değerlendirilirken bizim çalışmamızda tüm sarkopeni parametreleri değerlendirilmiştir. Bu yönüyle SGLT-2 inhibitörü kullanan hastalarda tam anlamıyla sarkopeni değerlendirmesi yapılan ilk çalışmadır.

Sonuç olarak SGLT-2 inhibitörü kullanan yaşlı T2DM tanılı hastalar ile SGLT-2 inhibitörü kullanmayan kontrol grubu sarkopeni sıklığı ve sarkopeni parametreleri açısından benzer olarak bulunmuştur. Bu bilgiler ışığında SGLT-2 inhibitörü ilaçların yaşlı popülasyonda sarkopeni riskini artırmadığı ve kullanımının bu yönüyle güvenli olacağı değerlendirilmiştir. Bu bulguların daha çok hastanın katıldığı prospektif randomize kontrollü büyük çalışmalar ile desteklenmesi gerektiği düşünülmektedir.

References

1. Ford, E.S., W.H. Giles, and W.H. Dietz, Prevalence of the metabolic syndrome among US adults: findings from the third National Health and Nutrition Examination Survey. Jama, 2002. 287(3): p. 356-9.
2. 12. Older Adults: Standards of Medical Care in Diabetes-2019. Diabetes Care, 2019. 42(Suppl 1): p. S139-s147.
3. Valencia, W.M., et al., Diabetes Treatment in the Elderly: Incorporating Geriatrics, Technology, and Functional Medicine. Current Diabetes Reports, 2018. 18(10).
4. Packer, M., et al., Cardiovascular and Renal Outcomes with Empagliflozin in Heart Failure. New England Journal of Medicine, 2020. 383(15): p. 1413-1424.
5. Kalra, S., et al., Basic and clinical pharmaco-therapeutics of SGLT2 inhibitors: a contemporary update. Diabetes Therapy, 2020. 11(4): p. 813-833.
6. Bolinder, J., et al., Effects of Dapagliflozin on Body Weight, Total Fat Mass, and Regional Adipose Tissue Distribution in Patients with Type 2 Diabetes Mellitus with Inadequate Glycemic Control on Metformin. The Journal of Clinical Endocrinology & Metabolism, 2012. 97(3): p. 1020-1031.
7. Sugiyama, S., et al., Dapagliflozin reduces fat mass without affecting muscle mass in type 2 diabetes. Journal of atherosclerosis and thrombosis, 2018. 25(6): p. 467-476.
8. Inoue, M., et al., Effects of canagliflozin on body composition and hepatic fat content in type 2 diabetes patients with non-alcoholic fatty liver disease. Journal of Diabetes Investigation, 2019. 10(4): p. 1004-1011.
9. Cruz-Jentoft, A.J., et al., Sarcopenia: revised European consensus on definition and diagnosis. Age Ageing, 2019. 48(1): p. 16-31.
10. Kara, M., et al., STAR—Sonographic Thigh Adjustment Ratio: A Golden Formula for the Diagnosis of Sarcopenia. American Journal of Physical Medicine & Rehabilitation, 2020. 99(10): p. 902-908.
11. Sugizaki, T., et al., Treatment of diabetic mice with the SGLT2 inhibitor TA-1887 antagonizes diabetic cachexia and decreases mortality. npj Aging and Mechanisms of Disease, 2017. 3(1): p. 1-12.

Keywords: Type 2 diabetes mellitus, sarcopenia, sodium glucose co-transporter

Table 1. Demographic data-antropometric measirements and Sarcopenia parameters

	SGLT-2 (+) (n:45)	SGLT-2 (-) (n:45)	p
Age	69. 8±5. 7	70. 0±5. 6	0. 84
Gender			
Female	26 (57%)	26 (57%)	1. 0
Male	19 (43%)	19 (43%)	
Hypertension	33 (73%)	26 (80%)	0. 45
Coronary Artery Dis.	19 (42%)	19 (42%)	1. 0
Upper Arm Circumference [&](Cm)	30(23-43)	29(21-39)	0. 31
Calf Circumference [¥](Cm)	36. 4±3. 8	36. 6±3. 9	0. 81
Hand Grip Strength [&](Kg)	21 (12-41)	22. 5 (12-39)	0. 93
ASMI[&](Kg/M²)	8. 9 (7. 3-13. 3)	9 (7. 2-13. 2)	0. 92
FFM[¥](Kg)	51. 1±9. 5	49. 4±8. 8	0. 40
Anterior Thigh Thickness [¥](mm)	33. 4±7. 2	32. 4±5. 7	0. 47
6 Meters Walking Speed [&](M/Sn)	1. 0(0. 6-1. 8)	1. 0 (0. 3-2. 0)	0. 14
5 Times Sit And Stand[&](Sn)	12 (8. 6-22)	12 (7. 5-27. 0)	0. 63
Sarcopenia(BIA)	13 (28%)	13 (28%)	1. 0
Sarcopenia(STAR)	11(24%)	9 (20%)	0. 61

n: patient number, categorical variables are given as numbers and percentages. [¥] mean ± standard deviation. [&] median and minimum/maximum values are indicated.

Others

OP-38

THE RELATIONSHIP BETWEEN INFLAMMATORY MARKERS AND ANXIETY IN THE POSTCOVID PERIOD

Erhan Ozenc[1], Velihan Cayhan[2], Hande Selvı Oztorun[1], Rabia Kıpel[3], Busenur Akbay[3], Rana Tuna Dogrul[1], Kamile Sılay[4], Güneş Arık[1]

[1]Ankara City Hospital, Geriatrics
[2]Ankara City Hospital, Radiology
[3]Ankara Yildirim Beyazit Universty Faculty Of Medicine
[4]Ankara Yildirim Beyazit Universty Faculty Of Medicine, Ankara City Hospital, Geriatrics

Background-Aim: It is predicted that people who have experienced the COVID-19 disease severely, may experience increased psychological discomfort in their chronic follow-up period. The aim of our study was to determine whether there is a relationship between inflammatory markers during hospitalization and anxiety scores after discharge in inpatients treated for COVID-19.

79 patients aged 65 and over who were hospitalized in Ankara City Hospital due to COVID-19 acute disease were included in our study. The post-discharge anxiety scores of the participants and their inflammatory markers (CRP, procalcitonin, white blood cell, lymphocyte count, D-dimer, IL-6) during hospitalization were retrospectively scanned and recorded. Patients were divided into two groups with Geriatric anxiety score (VAS) > 12 (increased anxiety risk) and >12 (low anxiety risk) and their data were compared using the SPSS system.

The mean age of 79 elderly patients participating in the study was 71.13±4.69. The proportion of female patients was 48.1% (n:38). The number of people in the group with low GAS score was 49 (65.3%). There was a history of intensive care admission in 49 (65.3%) of the patients. When the patients were divided into two groups according to GAS and compared; there was no difference between the groups in terms of age, gender, inflammatory markers, rate and duration of intensive care hospitalization. The results are summarized in the Table.

There may be many factors related to the anxiety score in the postcovid period in the elderly. In our study, we found that there was no significant relationship between inflammatory markers seen during acute hospitalization and anxiety scores in the post-covid period. There is a need for further studies in which more factors are prospectively investigated in this regard.

References

1. Mario Gennaro Mazza, Rebecca De Lorenzo , Caterina Conte, Sara Poletti, Benedetta Vai, Irene Bollettinia, Elisa Maria Teresa Mellonia, Roberto Furlan, Fabio Ciceri, Patrizia Rovere-Querini, and the COVID-19 BioB Outpatient Clinic Study group, Francesco Benedetti (2020), Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors, Brain, Behavior, and Immunity 89 (2020) 594–600
2. KK Wu, D Lee, AM Sze, VN Ng, VW Cho, JP Cheng, MM Wong, SF Cheung, OT Tsang (2022), Posttraumatic Stress, Anxiety, and Depression in COVID-19 Survivors, East Asian Arch Psychiatry 2022;32:5-10

Keywords: Elderly, COVID-19, Inflammatory markers, Intensive care, Postcovid anxiety

Table 1.

*	GAS (<12) n:49 (65.3%)	GAS(>12) n:26 (34.7%)	p
Age	71.76±4.92	72.22±5.10	.950
Female/male	25 (33.3) / 24 (32.0)	11 (14.7) / 15 (20.0)	.472
CRP	74 (2.49)	54 (3.193)	.176
Procalcitonin	0.09 (0.03-5.38)	0.14 (0.03-2.40)	.482
WBC	7.92 (6.31-9.53)	7.39 (5.93-8.86)	.665
Lymphocyte	1.02 (0.81-1.22)	1.17 (0.94-1.40)	.348
D-Dimer	2.78 (0.77-4.79)	2.38 (0.34-5.11)	.812
IL-6	72.68 (2.7-702.40)	81.91 (3.40-754.70)	.836
Troponin	0.07 (0.00-1.76)	0,01 (0.00-0.12)	.286
Ferritin	415.57 (18-1652)	357 (51-1816)	.388
Intensive Care Hospitalization Rate	13 (17.3%)	3 (4.0%)	.153
Intensive Care Hospitalization Period	2.34 (0-14)	1.15 (0-14)	.229

Others

OP-39

POST-DISCHARGE MENTAL HEALTH FACTORS IN INPATIENT COVID-19 PATIENTS

Erhan Ozenc[1], Velihan Cayhan[2], Hande Selvı Oztorun[1], Rana Tuna Dogrul[1], Gunes Arık[1], Kamile Sılay[3]

[1]Ankara City Hospital, Geriatrics
[2]Ankara City Hospital, Radiology
[3]Ankara Yildirim Beyazit Universty Faculty Of Medicine, Ankara City Hospital, Geriatrics

Background-Aim: The COVID-19 pandemic, which causes important health problems all over the world, can cause psychological problems in those who have had the disease. Our aim in our study was to investigate the relationships of psychological effects by dividing the participants into groups according to lung involvement, age and gender.

Our study included 150 participants, 75 of whom were 65 years and older, who were hospitalized in Ankara City Hospital due to the acute disease of COVID-19. Questionnaires about posttraumatic stress disorder, sleep disorders and anxiety were carried out to the participants by using the tele-medicine method after discharge. The; effects of events scale (IESR), Pittsburgh sleep quality index (PUKI), Patient health questionnaire-9 (PHQ-9) questions were asked. In addition, the Beck anxiety scale was applied to young people and the Geriatric Anxiety Scale (GAS)

was applied to those aged 65 and over for anxiety screening. The severity of lung involvement was evaluated by scoring the hospitalization tomography of the patients by an experienced radiologist.

The mean age of 150 patients participating in the study was 61.75±12.00. The rate of female participants was 50.7% (n:76). Lung involvement was evaluated as severe in 17 patients (11.3%). A high PUKI score was found in 54 (36%) of all participants. High PHQ-9 score was found in 63 patients (42%). IESR was found to be high in 24 patients (16%). Anxiety scores were high in 34.7% of the young and 33.4% of the elderly. In men and those with severe lung involvement, the length of stay in the intensive care unit was significantly longer (p: .028 and p: <0.01, respectively), and the Beck score was significantly higher in women. (p: .044). The mean PHQ9 Score was found to be higher in young people than in the elderly. (p:.007)

Sleep disorders, anxiety and posttraumatic stress disorder can be seen more frequently in the postcovid period. Female gender and the length of stay in the intensive care unit were associated with anxiety. It has been shown that the elderly are able to cope with these moods better than the younger participants.

References

1. Mario Gennaro Mazza, Rebecca De Lorenzo , Caterina Conte, Sara Poletti, Benedetta Vai, Irene Bollettinia, Elisa Maria Teresa Mellonia, Roberto Furlan, Fabio Ciceri, Patrizia Rovere-Querini, and the COVID-19 BioB Outpatient Clinic Study group, Francesco Benedetti (2020), Anxiety and depression in COVID-19 survivors: Role of inflammatory and clinical predictors, Brain, Behavior, and Immunity 89 (2020) 594–600
2. KK Wu, D Lee, AM Sze, VN Ng, VW Cho, JP Cheng, MM Wong, SF Cheung, OT Tsang (2022), Posttraumatic Stress, Anxiety, and Depression in COVID-19 Survivors, East Asian Arch Psychiatry 2022;32:5-10

Keywords: Elderly, postcovid, anxiety, depression, quality of life, posttraumatic stress disorder

Table 1.

*	All	Female	Male	p	CT Mild	CT Severe	p	<65	≥65	p
Female / Male	76(50.7) / 74(49.3)				68(45.3) / 65(43.3)	8(5.3) / 9(6.0)	.752	40(26.7) / 35(23.3)	36(24) / 39(26)	.514
Age	61.75±12.00	61.42±12.26	62.09±11.08	.727	61.32±12.28	65.06±9.02	.727	51.99 ±8.7	71.5 ±4.50	<.001
Intensive Care Hospitalization (%)	21(14)	7(4.7)	14(9.3)	.097	12(8)	9(6)	<0.01	5(3,3)	16(10,7)	.010
Intensive Care Hospitalization period	1.18±3.21	0.61±2.91	1.77±3.93	.028	0.7±2.57	4.7±5.16	.028	0.44 ±1.78	1.93 ±4.06	0.04
Hospitalization period	10(8)	7(6.75)	8(8)	.055	4(4)	4(6)	.663	6(4)	10(8)	<.001
CT score mean±SD	6.34±4.52	6.34±4.77	6.33±4.28	.995				6.68±4.72	6.00±4.32	.359
CT n(%) mild/ severe	133(88.7) / 17(11.3)	68(45.3) / 8(5.3)	65(43.3) / 9(6.0)	.752				67(44.7) / 8(5.3)	66(44.0) / 9(6.0)	.797
PUKI mean±SD	5.39±4.33	5.72±4.68	5.72±4.68	.346	5.57±4.51	4.00±2.15	.346	5.83±4.49	4.96±4.15	.222
PUKI score <5 /≥5	96(64) / 54(36)	48(32) / 28(18.7)	48(32) / 26(17.3)	.828	82(54.7) / 51(34.0)	14(9.3) / 3(2.0)	.094	44(29.3) / 31(20.7)	52(34.7) / 23(15.3)	.174
PHQ9 mean±SD	4.63±4.33	5.18±4.42	4.07±4.53	.129	4.77±4.67	3.53±2.67	.129	5.61±4,94	3.65±3.79	.007
PHQ9 n(%) <5 /≥5	87(58) / 63(42)	41(27.3) / 35(23.3)	46(30.7) / 28(18.7)	.308	76(50.7) / 57(38.0)	11(7.3) / 6(4.0)	.552			
IESR mean±SD	8(15)	8(18)	8(13)	.455	8(15)	9(20)	.459	13.13±13.64	10.65±11.01	.223
IESR score <24 /≥24	126(84) / 24(16)	62(41.3) / 14(9.3)	64(42.7) / 10(6.7)	.412	113(75.3) / 20(13.3)	13(8.7) / 4(2.7)	.368	62(41.3) / 13(8.7)	64(42.7) / 11(7.3)	.656
Beck Total	5(12)	7(13)	4(6)	.031	5(12)	6(7)	.031			
Beck score ≤7 />7	49(65.3) / 26(34.7)	22(29.3) / 18(24.0)	27(36.0) / 8(10.7)	.044	45(60) / 22(29.3)	4(5.3) / 4(5.3)	.335			
GAS	5(10)	6.5(10)	5(12)	.521	7.5(13)	5(3)	.521			
GAS score <11 /≥11	50(66.6) / 25(33.4)	25(33.4) / 11(14.6)	25(33.4) / 14(18.6)	.730	42(56) / 24(32)	8(10.7) 1(1.3)	.320			
PCR Negative/ Positive	16(10.7) / 134(89.3)	8(5.3) / 68(45.3)	8(5.3) / 66(44.0)	.995	13(8.7) / 120(80)	3(20) / 14(9.3)	.322	6(4) / 69(46.0)	10(6.7) / 65(43.3	.290

Frailty

OP-40

THE PREVALENCE OF SOCIAL FRAILTY AND RELATED FACTORS IN TURKISH OLDER ADULTS

Esra Cataltepe, Eda Ceker, Ayse Fadiloglu, Fatih Gungor, Nermin Karakurt, Hacer Dogan Varan

Gazi University Faculty Of Medicine, Department Of Geriatric Medicine

Background: Social frailty, characterized by a lack of social engagement and support, can significantly contribute to developing geriatric syndromes in older adults. The prevalence and related factors of social frailty in Turkish older adults have not yet been investigated. Therefore, this study aims to investigate the prevalence and associated factors of social frailty in Turkish older adults.

Methods: This cross-sectional study included 570 participants aged 65 years and older. Participants with a notable visual or hearing impairment that impacted daily functioning, and those with a history of diagnosed dementia (including individuals on dementia medication), were excluded from the study. Demographic data and comorbidities were recorded. Anthropometric measurements and comprehensive geriatric assessments of the participants were performed. Social frailty was defined using the 5-item-Social Frailty (SFI) Index. Sarcopenia was diagnosed using low handgrip strength and BMI- adjusted low calf circumference (cut-off points for sarcopenia were <33 cm for both genders). Physical frailty was determined using the Fried Frailty Phenotype.

Results: The mean age of the participants was 75.24 ± 6.35 years. The prevalence of social frailty, depression, physical frailty, and sarcopenia was 22.6%, 24.8%, 14.6%, and 25.7%, respectively. Social frailty was found to be significantly higher in women and in those living alone, while significantly lower in married individuals (p<0.001). Depression, physical frailty, and sarcopenia were more commonly observed in patients with social frailty (p<0.001). Furthermore, patients with chronic obstructive pulmonary disease (p: 0.046), heart failure (p < 0.001), and Parkinson's disease (p:0.015) were more socially vulnerable than other comorbid conditions (Table 1). Multivariate logistic regression analysis revealed that age (β=1.046, p:0.02) and depressive mood (β=2.658, p<0.001), significantly increased social frailty, whereas, being married (β=0.253, p<0.01) decreased it even after adjusting for potential confounding factors including age, gender, education level, marital status, physical frailty, malnutrition risk, daily living activities scores, depression, mini-mental state examination score, and comorbidities (diabetes mellitus, hypertension, heart failure, Parkinson's disease, and chronic obstructive pulmonary disease) (Table 2).

Conclusion: Social frailty was more common than physical frailty in Turkish older adults with a prevalence of 22.6 %. Advanced age, depression and not being married were strongly related factors to social frailty.

Keywords: social frailty, geriatric, depression, sarcopenia, physical frailty

Table 1. The general characteristics of patients

	Total n=570	*Social Frail n=129*	*Non-Frail n=441*	*p*
Female, n (%)	357 (62.7)	94 (72.9)	263 (59.8)	0.007
Malnutrition risk, n (%)	155 (27.1)	46 (35.7)	108 (24.5)	0.012
Sarcopenia, n (%)	143 (25.7)	42 (34.4)	101 (23.3)	0.013
Physical Frailty, n (%)	83 (14.6)	33 (25.6)	50 (11.4)	<0.001
Depressive Mood, n (%)	141 (24.8)	55 (42.6)	86 (19.5)	<0.001
Heart Failure, n (%)	51 (8.9)	20 (15.5)	31 (7)	0.003
Chronic Obstructive pulmonary disease, n (%)	36 (6.3)	13 (10.1)	23 (5.2)	0.046
Parkinson's Disease, n (%)	17 (6.3)	8 (6.2)	9 (2)	0.015
Age, mean (SD)	75.24 (6.35)	77.47 (6.86)	74.61 (6.06)	<0.001
Height, cm, mean (SD)	157.18 (9.87)	154.81(10.05)	157.86 (9.73)	0.003
Weight, kg, mean (SD)	72.25 (12.75)	70.72 (13.18)	72.69 (12.60)	0.153
BMI, kg/m2, mean (SD)	72.25 (12.75)	29.74 (5.73)	29.27 (5.25)	0.391
Arm circumference, cm, mean (SD)	29.38 (3.63)	29.13 (3.60)	29.45 (3,64)	0.293
Calf circumference, cm, mean (SD)	32.17 (3.53)	31.84 (3.43)	32.26 (3.32)	0.133
Handgrip strength, kg, mean (SD)	21.41 (7.66)	18.79 (7.18)	22.16(7.64)	<0.001
Gait Speed, m/s, mean (SD)	0.96 (0.30)	0.85 (0.31)	0.99 (0.29)	<0.001
ADL, median(min-max)	6 (0-6)	5 (0-6)	6 (0-6)	0.002
IADL, median(min-max)	8 (1-8)	8 (1-8)	8 (1-8)	<0.001
MNA, median(min-max)	13 (4-14)	13 (5-14)	13 (4-14)	0.006
MMSE, median(min-max)	28 (16-30)	28 (16-30)	28 (16-30)	0.005
GDS, median(min-max)	2 (0-15)	4 (0-13)	2 (0-15)	<0.001

Table 2. The odds ratio of social frailty for associated factors detected in multivariate analysis

Variables	*OR*	*%95 CI*	*p*
Age	1.046	1.007-1.086	0.020
Marital Status (being married)	0.253	0.155-0.413	0.002
Depression	2.658	1.616-4.371	<0.001

Polypharmacy and Inappropriate Drug Use

OP-41

INAPPROPRIATE MEDICATION USE IN OLDER INPATIENTS ACCORDING TO THE TIME CRITERIA: A MULTICENTER, CROSS-SECTIONAL STUDY FROM TÜRKİYE

Gulistan Bahat[1], Serdar Ozkok[1], Birkan Ilhan[2], Tugba Erdogan[1], Duygu Erbas Sacar[1], Meryem Merve Oren[3], Bahar Tekin[4], Timur Selçuk Akpinar[4], Rana Tuna Doğrul[5], Kamile Silay[5], Suna Burkuk[6], Meltem Halil[6], Fatma Erol[7], Sumru Savas[7], Sevnaz Sahin[7], Pinar Arman[8], Deniz Suna Erdincler[8], Emine Gemci[9], Sevgi Aras[9], Murat Varli[9], Melike Yazici[10], Suna Avci[10], Busra Can[11], Asli Tufan[11], Banu Ozulu Turkmen[12], Betul Gulsum Yavuz Veizi[13], Mehmet Ilkin Naharci[13], Ilker Tasci[14], Gozde Sengul Aycicek[15], Zekeriya Ulger[15], Funda Salgur[16], Huseyin Doruk[17], Umut Karabay[2], Mehmet Akif Karan[1]

[1]Istanbul University, Istanbul Medical School, Department Of Internal Medicine, Division Of Geriatrics
[2]Sisli Hamidiye Etfal Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics
[3]Istanbul University, Istanbul Medical School, Department Of Public Health
[4]Koc University Faculty Of Medicine, Department Of Internal Medicine
[5]Ankara Bilkent City Hospital, Department Of Internal Medicine, Division Of Geriatrics
[6]Hacettepe University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[7]Ege University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[8]Istanbul University-cerrahpasa, Cerrahpasa Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[9]Ankara University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[10]University Of Health Sciences, Bursa Yuksek Ihtisas Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics
[11]Marmara University Pendik Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics
[12]Istanbul Prof. Dr. Cemil Tascioglu City Hospital, Department Of Internal Medicine, Division Of Geriatrics
[13]University Of Health Sciences, Gulhane Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics
[14]University Of Health Sciences, Gulhane Training And Research Hospital, Department Of Internal Medicine
[15]Kırıkkale University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[16]Baskent University Faculty Of Medicine, Department Of Family Medicine
[17]Başkent University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics

Objective: The Turkish Inappropriate Medication Use in the Elderly (TIME) criteria set is an internationally validated explicit tool developed to help the management of pharmacotherapy in older adults. It includes a total of 153 criteria: 112 on the medications that are potentially harmful to use (TIME-to-STOP) and 41 on the potentially beneficial but often overlooked medications (TIME-to-START). Here, we aimed to study the prevalence of inappropriate medication use (IMU) in older inpatients according to the TIME criteria set, and to reveal the criteria most commonly seen in general and causing hospitalization.

Methods: This is a cross-sectional study conducted on 13 inpatient clinics (geriatrics and internal diseases) in Türkiye between January 2020-April 2021. Participants aged ≥ 60 were evaluated in terms of demographic and clinical characteristics and geriatric syndromes. "IMU in general" and "IMU causing

hospitalization" were assessed by using the TIME criteria on the first day of their admission.

Results: A total of 405 older inpatients were included (mean age: 77±8, 55.2% female). The prevalence of "IMU in general" and "IMU causing hospitalization" was 82.5% (n=334) and 34.1% (n=138), respectively. The most common TIME-to-STOP criterion in general was "PPIs for multiple drug use indication (no benefit, potential harm)" (7.2%, n=29) and the TIME-to-START criterion was "Vaccination for herpes zoster (reduction in risk of shingles infection and post-herpetic neuralgia)" (73.6%, n=298). The most common TIME-to-STOP criterion causing hospitalization was "Strict blood pressure control (<140/90 mmHg) in patients with orthostatic hypotension/ cognitive impairment (e.g. dementia)/ functional limitation/ low life expectancy (<2 years)/ high risk of falling" (2.5%, n=10). The most common IMU causing hospitalization according to the TIME-to-START was "ONS with MN or MNR if nutritional counseling/ dietary supplementation are not sufficient to achieve nutritional goals." (11.6%, n=47).

Conclusion: Our findings suggest that the prevalence of IMU both in general and resulting in hospitalization are both remarkably high in older inpatients. Since the criteria leading to hospitalization of the older adults in particular point to the frail and malnourished individuals, it can be realized that the more frequent use of the TIME criteria in validated populations has the potential to protect risky groups from adverse outcomes. Longitudinal studies are needed to determine whether the use of the TIME criteria will be successful in reducing IMU in general and IMU causing hospitalization in older adults.

Keywords: frailty, hospitalization, pharmaceutical preparations, polypharmacy

Sarcopenia

OP-42

CLINICAL VALIDATION OF SARC-F BY PROXY AS A PRACTICAL TOOL TO EVALUATE SARCOPENIA IN DEPENDENT OLDER ADULTS

Serdar Ozkok[1], Meryem Merve Oren[2], Caglar Ozer Aydin[1], Humeyra Ozalp[1], Cihan Kilic[1], Yasagul Koc[3], Hafize Dogan[4], Onder Yuksel Eryigit[5], Mehmet Akif Karan[1], Gulistan Bahat[1]

[1]Department Of Internal Medicine, Division Of Geriatrics, Istanbul University, Istanbul Medical School, 34093, Istanbul, Türkiye
[2]Department Of Public Health, Istanbul University, Istanbul Medical School, 34093, Istanbul, Türkiye
[3]Department Of Nursing, Istanbul Kayisdagi Nursing Home, 34755, Istanbul, Türkiye
[4]Department Of General Practice, Istanbul Kayisdagi Nursing Home, 34755, Istanbul, Türkiye
[5]Department Of Health, Istanbul Kayisdagi Nursing Home, 34755, Istanbul, Türkiye

Objective: Sarcopenia is a prevalent disorder in older adults with significant consequent adverse outcomes. Regular screening is recommended for those at risk. SARC-F questionnaire is the most commonly recommended screening tool for sarcopenia. However, it is a self-reported tool, hence, cannot be applied to dependent individuals with communication problems. We hypothesized that implementation of the proxy-reported SARC-F (SARC-F by proxy) would be non-inferior to screen sarcopenia when compared with the standard SARC-F that is originally reported by the patient (standard SARC-F). Thus, we aimed to study the clinical validation of the SARC-F by proxy in identifying sarcopenia in older adults, and to compare its performance with the standard SARC-F.

Methods: This is a cross-sectional study including older adults aged ≥60 years without communication problems and their close proxies. The participants were recruited from geriatric outpatient clinic of a tertiary health center and a nursing home. Standard SARC-F was transformed to SARC-F by proxy and administered to proxies of older adults, and standard SARC-F was administered to the patients simultaneously in different rooms. We defined sarcopenia as probable and confirmed by EWGSOP2 consensus report. We measured handgrip strength via Jamar dynamometer, and muscle mass via bioelectrical impedance analysis. We performed receiver operating characteristics (ROC) and sensitivity/specificity analyses of SARC-F by proxy for identifying sarcopenia and compared its performance with standard SARC-F by DeLong test.

Results: We included 172 older adults (median age, 72 (60-93); males, 55.2%) and 107 proxies in close contact. The prevalence of probable and confirmed sarcopenia was 18.9% and 12.9%, respectively. The median scores of both SARC-F versions were 2 (0-10). For both probable and confirmed sarcopenia definitions, area under the curve (AUC) values of SARC-F by proxy and standard SARC-F were moderate and similar [probable sarcopenia: 0.619 and 0.624 (p=0.9); confirmed sarcopenia 0.613 and 0.645 (p=0.7), respectively] .

Conclusion: SARC-F by proxy showed similar, non-inferior performance with the standard SARC-F in evaluation of sarcopenia. It can be successfully applied to screen sarcopenia in patients with communication problems in our older population. Our results suggest that its use is suitable in dependent older adults., whilst its clinical validations in other populations would provide more insight.

Keywords: mass screening, nursing homes, outpatients, sarcopenia, sensitivity and specificity

Sarcopenia

OP-43

EXAMINING THE RELATIONSHIP BETWEEN OBESITY AND METABOLIC DISEASES IN OLDER ADULTS: IS OBESITY OR SARCOPENIC OBESITY THE PROBLEM?

Serdar Ozkok, Zeynep Fetullahoglu, Cihan Kilic, Mehmet Akif Karan, Gulistan Bahat

Department Of Internal Medicine, Division Of Geriatrics, Istanbul University, Istanbul Medical School, 34093, Istanbul, Türkiye

Objective: Although the concept of sarcopenic obesity (SO) has been around for many years, the first consensus report on its definition was published in 2022. In our study, we aimed to evaluate the relationship of SO, which was determined by the consensus algorithm, with metabolic diseases, i.e., diabetes and dyslipidemia.

Methods: Our study was a retrospective, cross-sectional study, and outpatients aged ≥60 years admitted to the university hospital were included. The diagnosis of sarcopenia was made according to the EWGSOP2 criteria with the presence of low muscle strength+low muscle mass. Threshold values of 27 kg/16 kg were used for hand grip strength in men and women, respectively. Skeletal muscle mass index (SMMI) was determined by adjusting muscle mass for body weight as measured

by a bioimpedance analyzer (BIA). Fat percentage measured via BIA was used for the diagnosis of obesity. Turkish population-specific thresholds were used for detection of low SMMI and obesity (37.4%/33.6%, and 27%/41% in males and females, respectively). Cases were grouped into 4 phenotypes according to their body composition: Non-sarcopenia+Non-obesity (non-S+non-O); Sarcopenia+Non-obesity (only S); Non- sarcopenia+Obesity (only O); sarcopenia + obesity (SO). Non-S+Non-O group was taken as reference. The association of body phenotypes with diabetes and dyslipidemia was evaluated in univariate analyses and multivariate analyses including age, gender, and BMI.

Results: There were 672 participants (69.3% women) in the study. Median age was 76 (61-99). The prevalence of diabetes and dyslipidemia were 31.5% and 30.8%, respectively. Among participants, 55.8% had non-S non-O; 1.8% had only S; 39.3% had only O; and 3.1% had SO phenotype. Among the body phenotypes in multivariate analyses, only SO was independently associated with diabetes [OR (95%CI)=4.1 (1.6-10.7), p=0.004] and dyslipidemia [OR (95%CI)=2.7 (1.1-6.8); p=0.04].

Conclusion: This is the first report using the SO definition and diagnostic criteria suggested by ESPEN&EASO when examining its association with metabolic diseases. Our study suggests that obesity is significantly associated with metabolic diseases only in the presence of accompanying sarcopenia. When examining the deleterious effects of obesity on metabolic health, sarcopenia should be taken into account as an important determinant.

Keywords: aged, diabetes mellitus, dyslipidemias, obesity, sarcopenia

Table 1. Multivariate logistic regression analysis regarding the association of different body composition phenotypes with diabetes mellitus and dyslipidemia

	Diabetes mellitus	*Dyslipidemia*
	Odds ratio (95% confidence interval)	***Odds ratio (95% confidence interval)***
Body composition phenotypes		
Non-S+non-O	Reference	Reference
Only S	1.4 (0.4-4.8), 0.6	0.97 (0.3-3.7), 0.96
Only O	1.4 (0.9-2.1), 0.2	1.5 (0.9-2.4), 0.08
SO	4.1 (1.6-10.7), 0.004	2.7 (1.1-6.8), 0.04

Nutrition

OP-44

ETIOLOGY STUDIES, RESULTS AND MORTALITY IN PATIENTS ADMITTED TO THE GERIATRICS SERVICE FOR WEIGHT LOSS

Serap Boz, Mercan Taştemur, Arzu Nevin Dağdemir, Özgür Öcal, Hande Selvi Öztorun, Rana Tuna Doğrul, Güneş Arık, Kamile Sılay

Ankara Cıty Hospıtal

Aim: Weight loss in the elderly is a gray area where age discrimination is common, where both patients, their relatives and physicians are hesitant for further examination.

A widely accepted definition for clinically significant weight loss is the loss of 4 to 5 percent of total body weight over 6 to 12 months. Involuntary weight loss should cause clinical concern, regardless of whether the patient was initially overweight. There are important studies showing that weight loss increases mortality and morbidity in the elderly.

The main causes of weight loss in the elderly are inadequate nutritional intake (anorexia and malnutrition of old age), catabolic process (cachexia) and sarcopenia due to chronic diseases, caused by aging itself or due to psychological/organic causes.

There are no clear guidelines on how to proceed in the evaluation of a patient with weight loss. Complaints and findings, especially in elderly patients, may be incidental, studies are costly and may not be appropriate in patients with more than one comorbidity.

In our study, we aimed to present the results of further research and 6-month mortality rates of weight loss, which is an important symptom in the elderly.

Material and Method: Between July 2022 and July 2023, 78 patients who were hospitalized in Ankara Bilkent City Hospital due to the investigation of weight loss etiology were included in the study. Demographic data of the patients, comprehensive geriatric evaluation data and examination results were retrospectively scanned from their electronic files. Mortality data were scanned from the national system. Statistics were performed using the Statistical Package for Social Sciences (SPSS) for Windows 26 (IBM SPSS Inc., Chicago, IL). The conformity of the variables to the normal distribution was examined using visual (histogram and probability graphs) and analytical methods (Kolmogorov-Smirnov/ Shapiro-Wilk tests). Descriptive analyzes were given using the mean and standard deviation for normally distributed variables, and median and maximum-minimum or interquartile range values for non-normally distributed variables. The frequencies of categorical variables were expressed as (%). The results were accepted as 95% confidence interval, statistical significance $p<0.05$.

Results: The mean age of 78 patients included in the study was 75.13±7.79 years. 38 (48.7%) were female. The mean number of hospitalization days of the patients was 15.50 (1-51). Demographic data and comprehensive geriatric evaluation results are given in Table-1.

Only endo-colon was performed in 13 (16.7%) patients, only TAP-CT was performed in 15 (19.2%) patients, endo-colon + TAP CT was performed in 17 (21.8%) patients, only USG was performed in 4 (5.1%) patients. On the other hand, advanced multiple examinations including at least three examinations including PET, local MR, contrast MR and/or CT, bone marrow biopsy were performed in 20 (25.6%) patients.

The diagnoses detected in the patients are shown in Table-2. The 6-month mortality status of the patients is also shown in Table-3.

Conclusions: In the results of our study, we found that weight loss in the elderly has many causes other than malignancy and the 6-month mortality rate is relatively low. Patients who can benefit from further examination should be examined without age discrimination in weight loss, as in all matters in the elderly.

Keywords: Elderly, Weight Loss, Comprehensive Geriatric Evaluation, Mortality, Age Discrimination

References

Up To Date: Approach to the patient with unintentional weight loss

Table 1. (Percentages in cells show percentages in the total. Missing values are included in the calculation of the percentages. The results of the descriptive analyses were presented in mean and standart deviation for the normally distributed variables and in median and range for the non-normally distributed variables. The frequencies of the categorical variables were expressed as (%))

Age		75.13±7.79
Gender	Women	38(48.7)
	Men	40(51.3)
Weight Loss	1-5 kg	22(28.2)
	5-10 kg	27(34.6)
	>10 kg	29(37.2)
Dwelling Place	Nursing Home	7(9)
	Society	71(91)
Attendant Person	Alone	10(12.8)
	Partner	34(43.6)
	Partner and Children	23(29.5)
	Children	4(5.1)
	Caregiver	7(9)
Education Status	<5 years	57(73.1)
	6-8 years	8(10.3)
	>8 years	13(16.7)
Illness	DM	36(46.2)
	HT	53(67.9)
	CAD	14(17.9)
	CHF	7(9)
	Dementia	24(30.8)
	Hypothyroidism	5(6.4)
	Hyperthyroidism	6(7.7)
Number of Drugs		7(0-18)
Enteral Product Use		35(44.9)
Cigarette		15(19.2)
Alcohol		1(1.3)
Osteoporosis	No	8(13.1)
	Osteopenia	23(37.7)
	Osteoporosis	30(49.2)
Laboratory	Glucose	130.5±54.6
	Creatine	0.84(0.27-4.76)
	Na	138.5(128-151)
	K	4.12±0.53
	Ca	9.20(8.20-11.3)
	T.Protein	62.86
	Albumin	37(13-48)
	AST	23.5(5-128)
	ALT	15(5-151)
	Ferritin	115.5(7-1636)
	Sediment	33.5(5-124)
	Ferrous	40(8-156)
	TIBC	7.23(3.01-24.22)
	Leukocyte	5.42±2.53
	Hb	11.57±1.82
	Vitamin B12	442(93-5124)
	Folate	10(2-48)
	Vitamin D	67(18-210)
	TSH	1.22(0.01-22.3)
	HbA1c	5.9(4.8-11.5)
	CRP	13.7(5-293)
Katz		5(0-6)
Lawton-Brody		5(0-8)
MNA		9(3-14)
GDS		4.71(0-13)
MMT		23(8-30)

Table 2. The frequencies of the categorical variables were expressed as (%)

Diagnosis	***n(%)***
No Diagnosis	19(24.4)
Malignancy	18(23.1)
Dementia	14(17.9)
Psychiatric Causes	8(10.3)
Causes Related to GIS	10(12.8)
Endocrinological Causes	4(5.1)
Causes Related to Infection	5(6.4)

Table 3. The frequencies of the categorical variables were expressed as (%)

Mortality	***n(%)***
Alive	55(70.5)
0-1 month mortality	6(7.7)
0-3 month mortality	19(24.4)
0-6 month mortality	22(28.3)
>6 month mortality	1(1.3)

Falls

OP-45

INVESTIGATION OF FACTORS AFFECTING THE NUMBER OF FALLS IN PATIENTS TO THE GERIATRICS OUTPATIENT CLINIC

Rıdvan Erten[1], Ertuğrul Demirel[1], Atacan Aras[1], Hande Selvi Öztorun[2], Rana Tuna Doğrul[1], Güneş Arık[1], Kamile Sılay[2]

[1]Ministry Of Health Of The Republic Of Turkey, Ankara City Hospital, Geriatrics

[2]Ankara Yıldırım Beyazıt University Faculty Of Medicine, Ankara City Hospital, Geriatrics

Introduction: Falls are a prevalent issue among the elderly population, that cause a significant threat to their independence and resulting in considerable morbidity and mortality. Also falls are one of the most important cause of fatal or non fatal injuries. Risk factors that contribute to falls in older adults include advanced age, cognitive and sensory impairments, lower extremity weakness, gait and balance problems, a history of falls, multiple drug use, and environmental factors. Assessing fall risks entails the use of various scales. The objective of our study is to investigate the factors that may be correlated with the frequency of falls among patients who sought treatment at the geriatric outpatient clinics of Ankara Bilkent City Hospital from October 2021 to March 2022.

Material- Method: A total of 399 patients enrolled the study who were examined at the geriatrics outpatient clinics of Ankara Bilkent City Hospital during the period of 27/09/21 -04/03/22. Of these patients, 384 were included in the study, whose fall count data was available. The demographic characteristics of patients, their chronic diseases, number of drugs used, polypharmacy status, history of falling, number of falls in the last year, urinary incontinence, osteoporosis, presence of sleep problems, Katz Activities of Daily Living (ADL), Lawton-Brody Instrumental Activities of Daily Living (IADL), Mini Nutritional Assessment short-form (MNA-SF) Mini-Mental State Examination (MMSE), Geriatric Depression Scale (GDS), and laboratory values were documented. The factors affecting the falls were investigated.

Results: The study included a total of 384 patients, whose mean age was 77.29±7.25, with 228 (59.8%) being female. The demographic information and comprehensive geriatric evalu-

ation results are presented in Table-1. The correlation analysis revealed a weak positive correlation between the number of falls and certain factors including diabetes, polypharmacy, urinary incontinence, and sleep problems. The correlation coefficients for these factors were found to be R: 0.135 p: 0.008, r: 0.125 p: 0.015, r: 0.111 p: 0.030, and r: 0.168 p: <0.005, respectively. Notably, the number of falls was lower in individuals without diabetes (n: 184 (75.1%), Z: -2.617 p: 0.009), while a higher number of falls was observed in those with polypharmacy (n: 147 (66.5%), Z: -2.391 p: 0.016), urinary incontinence (n: 195 (51.6%), Z: -2.140 p: 0.032), and sleep problems (n: 145 (79.2), Z: -3.24 p: <0.001).

Conclusion : According to outcomes of our research, it was established that the incidence of falls may have a correlation with diabetes, urinary incontinence, polypharmacy and sleep disorders. These specific medical conditions should be regarded as risk factors, not solely for falling, but also for an amplification in the frequency of falls, thus necessitating the requirement for appropriate screening protocols.

Keywords: Falls, Number of Falls, Comprehensive Geriatric Evaluation, Diabetes, Polypharmacy

Table 1. General characteristics of the patients

Total	N: 384
Age (SD)	77.29(7.27)
Gender, female	228 (59.8%)
Education, <5 /6-8 / >8 years	254 (70.4 %)/ 10(28%)
Hypertension	261 (68.5%)
Diabetes mellitus	138 (36.2%)
COPD (Chronic obstructive pulmonary disease)	42 (11.0 %)
CKD (Chronic kidney disease)	30 (7.9%)
Number of drugs used	5 (0.2%)
Number of drugs used	5 (0.2%)
Polypharmacy	219 (57.8%)
Fall history	112 (29.5%)
Number of falls	0 (0-8)
Urinary incontinence	153(51.2%)
Osteoporosis	117 (33.0%)
Sleep problems	195 (52.0%)
Katz	6 (0-6)
Lawton-brody	7 (0-8)
MMSE	26.5(0-30)
MNA-SF	12 (2-14)
GDS	4 (0-15)
Glucose (mg/dL)	101(24-347)
Creatinine (mg/dL)	1.01(+-0.611)
Sodium (mEq/L)	140.02(123-152)
Potassium (mEq/L)	4.36 (+-0.48)
Calcium (mg/dL)	9.47 (+-0.55)
Phosphorus (mg/dL)	3.5(1.20-7.30)
Protein (g/L)	68.73(47-83)
Albumin (g/L)	42.34+-(4.4)
AST (aspartate aminotransferase) (U/L)	19(1-157)
ALT (alanine aminotransferase) (U/L)	21.33(+-19.88)
WBC (white blood cell) (x10^9/L)	7.05 (1.23-16.04)
Hemoglobin (g/dL)	12.88 (+-1.93)
Vitamin D (nmol/L)	40 (13-254)
Vitamin B12 (ng/L)	362 (165-11036)
TSH (thyroid stimulating hormone) (mU/L)	1.58(0.008-14.88)
CRP (C-reactive protein) (g/L)	0.006 (+-0.727)

* Percentages in cells show percentages in the total. Missing values are included in the calculation of the percentages . the results of the descriptive analyzes were presented in mean and standard deviation for the normally distributed variables and in median and range for the non-normally distributed variables . the frequency of the categorical variables were expressed as (%).

Nutrition

OP-46

RAPID MALNUTRITION ASSESSMENT WITH QUESTIONING ANOREXIA OF AGING/WEIGHT LOSS: HOW USEFUL ARE THESE QUESTIONS IN DETECTING GLIM-DEFINED MALNUTRITION?

Zeynep Fetullahoglu[1], Serdar Ozkok[2], Pinar Kucukdagli[3], Cihan Kilic[1], Mehmet Akif Karan[1], Gulistan Bahat Ozturk[1]

[1]Istanbul University Istanbul Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[2]Hatay Training And Research Hospital, Department Of Geriatrics
[3]Sisli Hamidiye Etfal Training And Research Hospital, Department Of Geriatrics

Introduction: Malnutrition is recommended to be screened at regular intervals with validated tools, to identify older adults in risk of associated adverse outcomes. Most validated tools for malnutrition screening require time and equipment and rapid assessment with simply asking about loss of weight or appetite is rather preferred when malnutrition is suspected, especially in primary care and settings with high demand. Here, we aimed to study whether the presence of at least one of these components of malnutrition is sufficient enough to detect older outpatients with malnutrition identified by the GLIM criteria (1).

Methods: This is a retrospective, cross-sectional study conducted on older outpatients ≥60 years admitted to a university hospital, between May 2018-January 2020. We assessed anorexia by using the self-reported question about decreased food intake due to loss of appetite in the past three months, digestive problems, and chewing or swallowing difficulties, and asked whether they suffered from weight loss in the past three months. We used the GLIM criteria for malnutrition diagnosis. We estimated muscle mass via Tanita BC-532 bioelectrical impedance analysis, and used population specific thresholds to identify reduced muscle mass. We calculated the sensitivity, specificity, positive (PPV), and negative predictive values (NPV) of having at least one positive component in rapid inquiry in detecting GLIM-defined malnutrition.

Results: We included 200 older adults (mean age: 73.8±6.9, 67.5% female). According to the GLIM criteria, the malnutrition prevalence was 28%. The anorexia of aging prevalence was 15%, 16,5% had weight loss in the past three months, and 9% of them had both anorexia and weight loss. Having at least one component positive demonstrated a low performance in identifying malnutrition according to the GLIM (sensitivity: 37.6%), but showed a high level of specificity (95.1%). The PPV and NPV were 61.1% and 77.1%, respectively.

Conclusion: Our study suggests that rapid inquiry may overlook individuals with malnutrition according to the GLIM criteria, even if the keystones already exist. This finding can be attributed to the fact that the GLIM panel did not limit the malnutrition concept to appetite or weight loss, and offered a broader perspective by implementing muscle health or disease burden. It is envisaged that examining and removing the factors that create barriers to the optimum malnutrition screening will avoid rapid and random assessments to overlook malnourished individuals.

Keywords: GLIM, malnutrition, anorexia of aging, weight loss

Frailty

OP-47

MODIFIED FRAILTY INDEX -11 TO PREDICT PROGNOSIS AFTER ACUTE CORONARY SYNDROME IN OCTOGENARIAN POPULATION

Zehra Güven Çetin

Ankara Bilkent City Hospital

Background-Aim: As life expectancy continues to increase in the developing world, it becomes increasingly important to address healthcare concerns for elderly patients and the challenges that come with aging. Among the elderly coronary artery disease (CAD) is the leading cause of death, with patients over 77 years accounting for a third of acute myocardial infarction (AMI) cases [1,2]. Managing CAD and acute coronary syndrome (ACS) in elderly patients can be challenging due to co-morbidities, bleeding tendencies, in adherence to medication, and cognitive impairments. Additionally, frailty is a significant factor in this population which is a complex condition, making them more vulnerable and less able to recover from stress. Frailty and cardiovascular disease are closely linked, which serves as both a risk and a prognostic factor. Regardless of the increased cardiovascular risk factors like hypertension, and diabetes with age, the pathophysiology of frailty includes increased inflammation, thrombogenicity, and hormonal alterations that promote atherosclerosis [3,4]. Observational studies showed that frail patients were treated less with percutaneous coronary interventions and guideline-directed medical treatment, which influenced the outcomes as well [5]. There are various frailty indices that differ in their composition but generally include a patient's functional status and comorbidity burden. In this study, we aimed to examine the prognostic impact of frailty evaluated with the modified frailty index with 11 factors (mFI-11) in octogenarian patients diagnosed with ACS.

Our study has been meticulously planned as a retrospective cohort study.

In this study, we aimed to examine the prognostic impact of frailty evaluated with the modified frailty index with 11 factors (mFI-11) in octogenarian patients diagnosed with ACS. In the current study, we enrolled a total of 206 patients aged over 80 presenting with ACS. Patients were divided into two groups: high-risk frailty when the mFI-11 score was ≥ 3 and low-risk frailty when the score was less than 3 (Figure 1).

There were 70 patients in the low mFI-11 group and 136 in the high mFI-11 group. Patients in the high mFI-11 group had a higher mean age and a higher prevalence of CAD, hypertension, and diabetes, which are all components of mFI-11. The mean left ventricular ejection fraction was statistically similar between the low and high mFI-11 groups, with 52.7 ± 7.9% and 51.4 ± 10.3%, respectively (Table 1). After one year of follow-up, one patient in the low mFI-11 group and 18 patients in the high mFI-11 group had died (p=0.006). The incidence of recurrent myocardial infarction was 2 in the low mFI-11 group and none in the high mFI-11 group (p=0.048). Stroke occurred in 1 patient in the low mFI-11 group and nine patients in the high mFI-11 group, which was statistically similar (p=0.101). Major bleeding was significantly higher in the high mFI-11 group, with a p-value of 0.032. Overall major adverse cardiac and cardiovascular events (MACCE) were significantly higher in mFI-11 high group (p=0.07) (Table 1). Furthermore, univariable and multivariable regression analysis models demonstrated that mFI-11 is an independent predictor of one-year MACCE with an odds ratio of 1.438 (95% CI 1.073-1.927, p=0.015) (Table 2).

Our study showed that the mFI-11 is a good tool to predict one-year mortality and MACCE following an acute coronary syndrome in the octogenarian population. This is the first study in the literature pointing to the prognostic impact of mFI-11 in this population. Based on our results frailty is associated with both ischemic events and bleeding, which is consisting with the previous studies [4,6,7]. The recognition of frailty is crucial in enabling healthcare practitioners to administer appropriate management strategies, including invasive therapy and antithrombotic medication. It also empowers patients to make informed decisions regarding their care. Moreover, due attention ought to be given to the therapeutic value of frailty as it pertains to clinical interventions.

Our study showed that the mFI-11 is a good tool to predict one-year mortality and MACCE following an acute coronary syndrome in the octogenarian population. This is the first study in the literature pointing to the prognostic impact of mFI-11 in this population.

References

1. Wang H, Naghavi M, Allen C et al. (2016) Global, regional, and national life expectancy, all-cause mortality, and cause-specific mortality for 249 causes of death, 1980–2015: a systematic analysis for the Global Burden of Disease Study 2015. The Lancet 388:1459-1544. https://doi.org/10.1016/S0140-6736(16)31012-1
2. Alexander KP, Newby LK, Cannon CP et al. (2007) Acute coronary care in the elderly, part I: Non-ST-segment-elevation acute coronary syndromes: a scientific statement for healthcare professionals from the American Heart Association Council on Clinical Cardiology: in collaboration with the Society of Geriatric Cardiology. Circulation 115:2549-2569. https://doi.org/10.1161/CIRCULATIONAHA.107.182615
3. Doody H, Livori A, Ayre J et al. (2023) Guideline concordant prescribing following myocardial infarction in people who are frail: A systematic review. Arch Gerontol Geriatr 114:105106. https://doi.org/10.1016/j.archger.2023.105106
4. Dou Q, Wang W, Wang H et al. (2019) Prognostic value of frailty in elderly patients with acute coronary syndrome: a systematic review and meta-analysis. BMC Geriatr 19:222. https://doi.org/10.1186/s12877-019-1242-8
5. Malkin CJ, Prakash R, Chew DP (2012) The impact of increased age on outcome from a strategy of early invasive management and revascularisation in patients with acute coronary syndromes: retrospective analysis study from the ACACIA registry. BMJ Open 2:e000540. https://doi.org/10.1136/bmjopen-2011-000540
6. Llao I, Ariza-Sole A, Sanchis J et al. (2018) Invasive strategy and frailty in very elderly patients with acute coronary syndromes. EuroIntervention 14:e336-e342
7. De Servi S, Landi A, Savonitto S et al. (2023) Antiplatelet Strategies for Older Patients with Acute Coronary Syndromes: Finding Directions in a Low-Evidence Field. Journal of Clinical Medicine 12:2082

Keywords: mFI-11, frailty, octogenarian, acute coronary syndrome

Modified Frailty Index with 11 Factors

Variables	Point
Functional Status (only independent)	1
Diabetes Mellitus	1
Hypertension requiring medical treatment	1
Heart Failure	1
History of Myocardial Infarction	1
History of peripheric vascular disease or rest pain	1
History of Cerebrovascular accident or transient ischemic attack	1
History of a cerebrovascular event with neurological deficit	1
History of COPD or current pneumonia	1
Prior PCI, Cardiac surgery, or angina	1
Impaired sensorium	1

Each variable was assigned a score of 1 point.
The resulting score ranges from 0-11, with a score of less than 3 indicating a low degree of frailty and a score of 3 or higher indicating a high degree of frailty.
COPD; Chronic obstructive pulmonary disease, PCI; Percutaneous coronary intervention

Figure 1. mFI-11 components

Table 1. Demographic, clinical, and laboratory characteristics and 1-year outcome of the patients

Variables	*Low mFI-11 (70)*	*High mFI-11 (136)*	*p*
Age	83.4 ± 2.9	84.9 ± 3.4	0.002
Male gender, n (%)	39 (55.7)	76 (55.9)	0.982
Hypertension, n (%)	46 (65.7)	119 (87.5)	<0.001
Diabetes mellitus, n (%)	10 (14.3)	57 (41.9)	<0.001
Previous CAD, n (%)	6 (8.6)	47 (34.6)	<0.001
LvEF, %	52.7 ± 7.9	51.4 ± 10.3	0.387
Heart Rate, bpm	76.0 ± 11.6	81.5 ± 14.8	0.008
Systolic BP, (mmHg)	128.2 ± 20.8	121.6 ± 19.0	0.023
WBC, x1000/uL	8.9 ± 3.5	9.8 ± 3.5	0.091
Hemoglobin, g/dL	13.0 ± 1.3	12.6 ± 1.8	0.169
Platelet count, x1000/uL	225.3 ± 65.7	233.2 ± 68.5	0.427
Creatinine, mg/dL	1.03 ± 0.32	1.08 ± 0.32	0.315
Outcomes			
MACCE, n (%)	4 (5.7)	27 (19.9)	0.007
Mortality, n (%)	1 (1.4)	18 (13.2)	0.006
Recurrent MI, n (%)	2 (2.9)	0 (0)	0.048
Major Bleeding, n (%)	4 (5.7)	22 (16.2)	0.032
Stroke, n (%)	1 (1.4)	9 (6.6)	0.101

mFI-11; modified Frailty index -11, LvEF; Left ventricular ejection fraction, CAD; Coronary Artery Disease, bpm; beats per minute, BP; Blood pressure, MI; Myocardial infarction, MACCE; Major adverse cardiac and cardiovascular events

Table 2. Univariate and Multivariate Regression Analysis for Detecting MACCE

	Univariate	*Multivariate*
	OR (95% confidence interval)	OR (95% confidence interval)
Age	1.184 (1.061-1.322, p=0.030)	1.135 (1.006-1.280, p=0.039)
Heart Rate	1.031 (1.004-1.058, p=0.025)	1.018 (0.988-1.048, p=0.243)
mFI-11	1.676 (1.286-2.185, p<0.001)	1.438 (1.073-1.927, p=0.015)
SBP	0.983 (0.963-1.003, p=0.093)	0.992 (0.971-1.013, p=0.448)
Hgb	0.826 (0.658-1.037, p=0.100)	0.868 (0.685-1.100, p=0.241)

MACCE; Major adverse cardiac and cardiovascular events, mFI-11; modified Frailty index -11, SBP; systolic blood pressure, Hgb; Haemoglobin

Frailty

OP-48

INVESTIGATION OF FACTORS DETERMINING QUALITY OF LIFE AND FRAILTY IN PATIENTS VISITING GERIATRICS OUTPATIENT CLINIC : A CROSS-SECTIONAL FIELD STUDY

Zumrud Mehti[1], Funda Salgur[2], Huseyin Doruk[1]

[1]Department Of Internal Medicine, Division Of Geriatrics, Baskent University Ankara Hospital, Ankara, Turkey
[2]Department Of Family Medicine, Baskent University Ankara Hospital, Ankara, Turkey

Introduction: The main goal of this evaluation is to identify and treat the conditions that reduce the quality of life of elderly individuals and cause them to be frail, to take preventive measures, to enable the elderly to lead a more physically active life, to improve the quality of life, and to reduce mortality and morbidity due to frailty.

Material-Method: Patients aged 65 years and older who applied to the Geriatrics outpatient clinic between January 2019 and December 2022 were included in the study. The EQ-5D (EuroQol) general quality of life scale, SF-36 quality of life (short) form and Frail frailty questionnaire were used as data collection tools. In addition, laboratory values, chronic diseases, Mini Mental State Examination (MMSA), Mini Nutritional Test (MNA), Clock Drawing Test, Yesavage Geriatric Depression Scale (YGDS), Barthel Basic Activities of Daily Living (BADL), Lawton Instrumental Activities of Daily Living Tests (IADL), calf circumference and brachial biceps muscle measurements were recorded. The relationship between the measured parameters and patients' quality of life and frailty status was analyzed.

Results: 396 participants were included in the study. A score of 0 on the Frail scale was considered non-frail, a score of 1-2 was considered pre-frail, and a score of 3 and above was considered frail. It was found that 19.7% of the patients were non-frail, 49.7% were pre-frail and 30.6% were frail. Significant correlations were found between mean age, female gender, education level, marital status, loss of spouse, living environment, caregiver, comorbid conditions, vitamin B12, hemoglobin level, sedimentation values and exercise and frailty groups ($p<0.01$), ($p<0.001$). A statistically significant correlation was evaluated between the measurements within the scope of the Multidimensional Geriatric Assessment (MGA) and frailty ($p<0.001$).

All subcomponents of the SF-36 short form, Eq-5D score and VAS score, which we used to assess quality of life, were found to be lower in the pre-frailty and frail group, respectively ($p<0.001$). Furthermore, sociodemographic characteristics such as age, gender, education level, caregiver, marital status, BMI, vitamin B12, folic acid, sedimentation, vitamin D and Hb levels were statistically significantly correlated with quality of life.

Conclusion: Early diagnosis and treatment of frailty can reduce disability and hospitalization rates in elderly individuals. Nutrition, self-care, movement, protection of cognitive functions, keeping away from situations that cause depression, early identification and treatment of sarcopenia and frailty will have a positive effect on both the quality of life and frailty of the elderly.

In the approach to the elderly, ensuring that they are physically independent, protecting their vital functions and improving their quality of life are among the main goals. Multidimensional Geriatric Assessment (MGA) is applied to every elderly patient in the geriatric outpatient clinic and reveals the medical, psychological, social, economic and physical problems of elderly individuals. The main objective of this evaluation is to identify and treat the conditions that reduce the quality of life of the elderly and cause them to be fragile, to take preventive measures, yield more physically active life, increase the quality of life, and reduce mortality and morbidity due to fragility. In the light of these findings, it is aimed to have an idea about the services that can be provided to physicians for early diagnosis and improvement of treatment.

The population of this cross-sectional study consists of patients aged 65 and over who applied to the Geriatrics Outpatient Clinic of Başkent University Ankara Hospital between January 2019 and December 2022. EQ-5D (EuroQol) general quality of life scale, SF-36 quality of life assessment (short form) form and Frail frailty questionnaire were used as data collection tools. In addition, MGA was applied to the patients, including laboratory values, chronic diseases, *Mini Mental* State Examination (MMSE), Mini Nutrition Test (MNA), Clock Scratch Test, Yesavage Geriatric Depression Scale (YGDS), Barthel Basic Activities of Daily Living (BADL), Lawton Instrumental Activities of Daily Living Tests (IADL), calf circumference and dynamometric measurements of the brachial biceps muscle were recorded. The re-

lationship between the patients' quality of life and frailty status and the measured parameters were examined. Data were evaluated in computer environment using IBM SPSS ("The Statistical Package for Social Sciences") (Windows, Version 25.0, Aronk, NY: IBM Corp.). In this study, the statistical significance level was accepted as $p<0.05$.

A significant relationship correlated between quality of life and frailty with age, gender, education level, marital status, comorbidities, caregiver, BMI, and laboratory parameters examined. With early diagnosis and treatment of frailty, we can reduce the rates of disability and hospitalization in elderly individuals. In order for elderly individuals to continue their remaining lives with a better quality, it is important to evaluate the findings well and to eliminate the deficiencies. Since quality of life and frailty are associated with multifactorial causes, further research is needed on this subject.

396 participants were included in the study. Patients with a score of 0 on the frail vulnerability scale were evaluated as non-frail, 1-2 points as pre-frail, and those with a score of 3 and above as the frail patient group. According to studies, 19.7% of the patients were non-frail, pre-frail accounted for almost half (49.7%) and rest (30.6%) fell into frail group. The mean age of the participants was 79.37±6.58 years, with a minimum patient age of 65, a maximum of 105 years, and 79.3% of them were between 65-84 years old. The mean age was 76.57±5.57 in the non-frail group, 79.24±6.55 in the pre-frail group, and 81.36±6.57 in the frail group. A similar statistically significant result was found between the age groups of the patients and the Frail frailty scale ($p<0.01$). The rate of frail was higher in patients aged 85-105 years. Statistically, 22.3% of individuals aged 65-84 are non-frail, 50.3% are pre-frail, and 37.4% are frail, while 9.8% of those aged 85 and over were non-frail, 47.6% were pre-frail and 42.7% were frail.

A statistically significant difference been found between female gender, education level, marital status, loss of spouse, living environment, caregiver, comorbid conditions and fragility levels ($p<0.001$). A significant relationship was also found between laboratory parameters such as vitamin B12, hemoglobin level, sedimentation values and fragility groups ($p<0.01$). No relationship been found between smoking, BMI, vitamin D and fragility. There was a statistically significant difference between exercise and frailty levels ($p<0.01$). In our study, a statistically significant relationship was evaluated between the Barthel scale, Lawton scale, MNA, Clock Scratch Test, MMSE, YGDS, handgrip scores, and calf circumferences and fragility, which we administered to our patients within the scope of MGA ($p<0.001$).

In our study, quality of life was evaluated using the Eq-5D (EuroQol) and SF-36 short-form quality of life scales. The Eq-5D score appeared to be lower in both the frail and pre-frail groups. It was concluded that the individual's health perception VAS score was 68.07±11.51 in the non-frail group, 56.39±10.48 in the pre-frail group, and 51.73±12.49 in the frail group, and that frailty had seen a negative effect on the general health perception. A significant correlation been observed between all sub-components of the SF-36 short form scale as mean as physical function, physical role difficulty, emotional role difficulty, vitality/energy, mental health, pain and general health perception scores and Frail vulnerability degree ($p<0.001$).

When the patients participating in the study were compared with the SF-36 short form sub-components, it was determined that sociodemographic characteristics such as age, gender, education level, caregiver, and marital status were associated with quality of life. In addition, a statistically significant relationship was evaluated between BMI, laboratory values of vitamin B12, folic acid, sedimentation, vitamin D and Hb levels and quality of life of elderly individuals.

References

Picca A, Coelho-Junior HJ, Calvani R, Marzetti E, Vetrano DL. Biomarkers shared by frailty and sarcopenia in older adults: A systematic review and meta-analysis. Ageing Research Reviews. 2022;73:101530.

Pilotto A, Custodero C, Maggi S, Polidori MC, Veronese N, Ferrucci L. A multidimensional approach to frailty in older people. Ageing Res Rev. 2020;60:101047.

Crocker TF, Brown L, Clegg A, Farley K, Franklin M, Simpkins S, et al. Quality of life is substantially worse for community-dwelling older people living with frailty: systematic review and meta-analysis. Qual Life Res. 2019;28(8):2041-56.

Keywords: Aged, Frailty, Quality of life

Sarcopenia

OP-49

COMPARISON OF SARC-F AND ISHII SCORE IN SCREENING FOR SARCOPENIA IN OLDER ADULTS WITH TYPE 2 DIABETES MELLITUS: WHICH SCRENING TOOL SHOULD WE USE?

Yavuz Sultan Selim Akgül[1], Burcu Eren Cengiz[1], Gülşah Güneş Şahin[2], Derya Koçaslan[1], Neziha Özlem Deveci[1], Sibel Akın[1]

[1]Erciyes University Faculty Of Medicine, Department Of Internal Medicine; Division Of Geriatrics

[2]Cappadocia University, School Of Health Science, Department Of Nutrition And Dietetics

Background: Sarcopenia is common in the older adults. Type 2 diabetes mellitus (DM), which is highly prevalent in older adults, is a risk factor for sarcopenia. Early detection of sarcopenia is important for the implementation of preventive and therapeutic measures. We aimed to compare the SARC-F questionnaire and Ishii score, which are screening methods for sarcopenia, in patients with type 2 DM.

Materials and Methods: This cross-sectional study was carried out in 462 older adult diabetic patients aged ≥ 60. Comprehensive geriatric assessments of all patients were performed. Sarcopenia was defined in line with the The European Sarcopenia Working Group 2 (EWGSOP2). Muscle strentgth and mass was assessed using handgrip dynamometer and BIA device, respectively. The skeletal muscle mass (SMM) (kg) was adjusted for weight and defined as skeletal muscle mass index (SMMI). The cut-off values (37.4% for male and 33.6% for female) recommended for the Turkish population were used for SMMI. A score of ≥4 on SARC-F means positive screening for sarcopenia. The Ishii score estimates the probable sarcopenia based on an equation-derived score using on three variables age, HGS and CC. Score in male was calculated by the following formula: $0.62 \times (\text{age-64}) - 3.09 \times (\text{HGS-50}) - 4.64 \times (\text{CC-42})$. Score in female was calculated by the following formula: $0.80 \times (\text{age-64}) - 5.09 \times (\text{HGS-34}) - 3.28 \times (\text{CC-42})$. For the Ishii test, a total score of ≥105 in male and ≥120 in female indicates sarcopenia. The success of SARC-F questionnaire and Ishii score in screening for sarcopenia were compared.

Results: The median age of the patients was 69 (64-75). There were 131 male patients with a median age of 72 (67-76) and 331 female patients with a median age of 68 (65-74). The prevalence of sarcopenia based on Ishii score and SARC-F was 28.4% and 40.9%, respectively. The sensitivities of Ishii score and SARC-F in screening for sarcopenia were 84% and 47%, respectively. The specificities of Ishii score and SARC-F were 67% and 69%, respectively. PPV and NPV for the Ishii score were 79% and 45%, respectively. PPV and NPV for the SARC-F were

71% and 55% , respectively. The AUC values of Ishii score and SARC-F were 0.790 and 0.598, respectively.

Conclusion: The findings of the our study have revealed for the first time that the Ishii score is significantly better than SARC-F in terms of sensitivity, specificity, and overall diagnostic accuracy in screening for sarcopenia in older adults with type 2 DM. The Ishii score can be used to screen for sarcopenia in older adults with type 2 DM in daily practice.

Keywords: Ishii score, Older adults, SARC-F, Sarcopenia, Type 2 Diabetes Mellitus

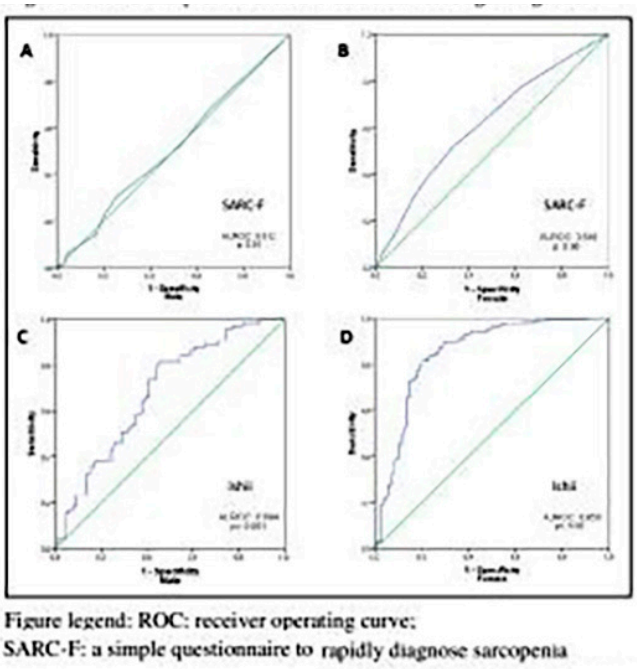


Figure 1. ROC analyses for SARC-F and Ishii score against gender

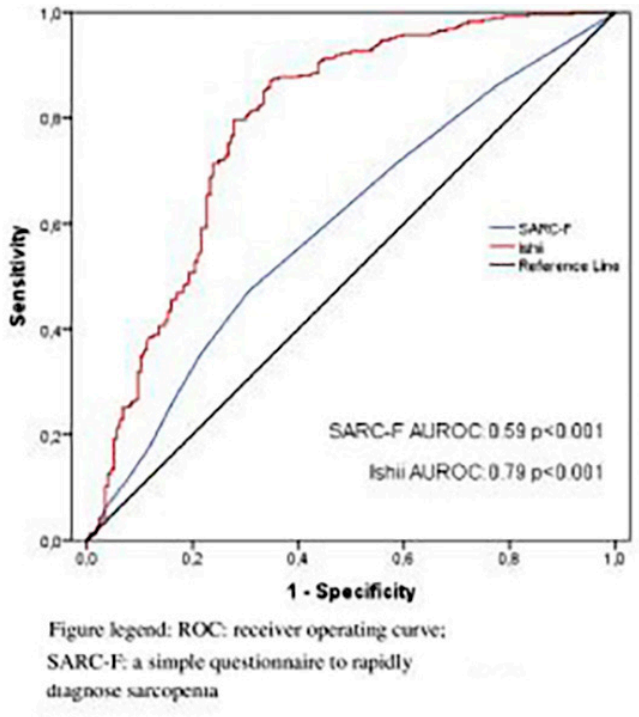


Figure 2. Comparison of ROC analyses between the SARC-F and Ishii score for screening for sarcopenia

Table 1. The characteristics of the participants

Variables	*Overall (n=462*	*Male (n=131)*	*Female (n=331)*	*p value*
Age (years)	69 (64-75)	72 (67-76)	68 (65-74)	0.002*
BMI (kg/m2)	31.2 (27.7-36.6)	28.4 (25.3-33.0)	32.4 (29.4-37.5)	<0.001*
Weight (kg)	78 (69.5-88)	78.9 (70-91.2)	77 (69-87)	0.107*
Height (m)	1.5 (1.5-1.6)	1.7 (1.6-1.7)	1.5 (1.5-1.6)	<0.001*
HGS (kg)	20 (16-26)	27 (22-33)	19 (14.6-22)	<0.001*
CC (cm)	38 (35-43)	38 (34-43)	38 (36-43)	0.191*
WC (cm)	107 (100-115)	105 (99.7-112.5)	108 (100-115)	0.162*
BF%	45 (35.6-50)	31.5 (27.8-36.9)	47.7 (43.5-51.6)	<0.001*
SMM (kg)	19.6 (17.1-24.9)	26.0 (23.5-30.2)	18.5 (16.2-21.2)	<0.001*
SMMI (%)	25.8 (22-31.7)	33.4 (29.6-37.7)	24.2 (21.0-26.9)	<0.001*
4 m walking speed (m/s)	1 (0.8-1.3)	1.2 (0.8-1.4)	1 (0.8-1.2)	0.002*
Glucose (mg/dl)	136 (108-188)	135 (109-200)	136 (108-180)	0.470*
HBA1C (%)	7.2 (6.4-8.7)	7.4 (6.6-8.7)	7.2 (6.4-8.7)	0.180*
Ishii score	91 (62-118)	95 (60-116)	91 (64-118)	0.725*
SARC-F	3 (1-5)	2 (0-4)	3 (1-6)	<0.001*
Ishii classification	-	-	-	<0.001**
Non-sarcopenia, n (%)	331 (71.6)	78 (60)	253 (76)	-
Sarcopenia, n (%)	131 (28.4)	53 (40)	78 (24)	-
SARC-F classification	-	-	-	<0.001**
Non-sarcopenia, n (%)	273 (59.1)	94 (72)	179 (54)	-
Sarcopenia, n (%)	189 (40.9)	37 (28)	152 (46)	-

BMI:body mass index; HGS: hand grip strength; CC: calf circumference; WC: waist circumference; BF%: body fat percentage; SMM: skeletal muscle mass; SMMI: skeletal muscle mass index; SARC-F: a simple questionnaire to rapidly diagnose sarcopenia; The student's t-test and Mann-Whitney U-test were used for all variables. All variables, the median (25p-75p) are presented. *Mann Whitney U test; **Pearson χ2 test

Table 3. Sensitivity, specificity, PPV, NPV, and AUROC values for SARC-F and Ishii score

-	*Sensitivity, %*	*Specificity, %*	*PPV*	*NPV*	*AUROC*
Total	-	-	-	-	-
SARC-F	47	69	0.71	0.55	0.598 (0.54-0.65)
Ishii score	84	67	0.79	0.45	0.790 (0.74-0.83)
Male	-	-	-	-	-
SARC-F	31	74	0.54	0.52	0.512 (0.41-0.61)
Ishii score	80	56	0.62	0.59	0.684 (0.59-0.77)
Female	-	-	-	-	-
SARC-F	52	66	0.76	0.44	0.616 (0.55-0.68)
Ishii score	79	81	0.90	0.40	0.850 (0.80-0.90)

PPV: positive predictive value; NPV: negative predictive value; AUROC: area under the receiver operating curve; SARC-F: a simple questionnaire to rapidly diagnose sarcopenia

Table 2. Characteristics of Study Participants According to the Presence of Sarcopenia (Reference diagnosis for sarcopenia is EWGSOP2 definition. Gender is presented as the number (percent). For other variables, the median (25p-75p) are presented.

-	*Non-Sarcopenia(n=176)*	*Sarcopenia (n=286)*	*p value*
Age (years)	68 (64-73)	70 (66-76)	0.003*
Gender	-	-	<0.001**
Male, n(%)	66 (50.4%)	65 (49.6%)	-
Female, n(%)	110 (33.2%)	221 (66.8%)	-
BMI (kg/m2)	30.5 (26.9-34.9)	31.7 (28.4-37)	0.019*
Weight (kg)	78 (70-90)	77 (69-87.9)	0.427*
Height (m)	160 (154-167)	155 (150-160)	<0.001*
HGS (kg)	27 (22-35)	18 (14-20)	<0.001*
CC (cm)	38 (35-43)	38 (35-43)	0.997*
WC (cm)	106 (99-114)	108 (100-116)	0.105*
BF% (%)	38.5 (28.1-47.6)	46.5 (40-51.4)	<0.001*
SMM (kg)	23.3 (18.7-28.4)	19 (16.1-22.7)	<0.001*
SMMI (%)	29.5 (23.6-38.3)	25.1 (21.3-29)	<0.001*
4 m walking speed (m/s)	1.2 (0.9-1.4)	0.9 (0.8-1.2)	<0.001*
Glucose (mg/dl)	132 (108-179.8)	142 (109-194)	0.452*
HBA1C (%)	7.3 (6.5-8.7)	7.23 (6.4-8.7)	0.759*
Ishii score	60.7 (31.9-87)	103.9 (83.7-128)	<0.001*
SARC-F	2 (1-2)	2 (1-3)	0.002*

BMI:body mass index; HGS: hand grip strength; CC: calf circumference; WC: waist circumference; BF%: body fat percentage; SMM: skeletal muscle mass; SMMI: skeletal muscle mass index; SARC-F: a simple questionnaire to rapidly diagnose sarcopenia; *Mann Whitney U test; **Pearson χ2 test)

Falls

OP-52

THE EFFECTIVENESS OF A FALL DETECTION DEVICE IN OLDER NURSING HOME RESIDENTS: A PILOT STUDY

Büşra Can[1], Aslı Tufan[1], Şevval Karadağ[2], Nurdan Şentürk Durmuş[1], Mümine Topçu[3], Berrin Aysevinç[3], Songül Çeçen Düzel[3], Sevda Dağcıoğlu[4], Nazire Afşar Fak[5], Ali Serdar Fak[3]

[1]Marmara Üniversitesi Pendik Eğitim Ve Araştırma Hastanesi, Geriatri Bilim Dalı
[2]Vivasmarttech, Marmara Üniversitesi Teknopark Ar-ge Şirketi
[3]Marmara Üniversitesi Hipertansiyon Ve Ateroskleroz Eğitim, Uygulama Ve Araştırma Merkezi
[4]Huzurevi Konsültan Hekimi, Nöroloji Anabilim Dalı
[5]Marmara Üniversitesi Pendik Eğitim Ve Araştırma Hastanesi, Nöroloji Anabilim Dalı

Background and Aim: Although device technology has now become part of the falls prevention guidelines, real-world research to confirm its utility in preventing falls is still limited. This study aims to investigate the effectiveness of a non-wearable fall detection device in older nursing home residents.

Materials and Methods: The study was conducted in a nursing home in Istanbul. Fall detection devices were installed in thirteen resident rooms, while the remaining thirteen rooms on the same floor were used as controls. The device used radar sensing and radio wave reflection to analyze movements. Once a fall was detected, the device triggered an alarm in form a signal sent to a monitoring center. Demographic data, comorbidities, list of medications, functional, nutritional and frailty status and fear of falling were recorded at the initial presentation. Blood pressure and heart rate were measured in the seated position and after 1 and 3 minutes of standing. Comprehensive geriatric assessment was administered to all residents by the same geriatrician. The residents were followed up for three months. Fall alarm with fall incident reported by the device was confirmed with camera recordings.

Results: A total of twenty-six residents were enrolled in the study. The participants had a mean age of 82 ± 10 years and 89% of the residents were female (table 1). Two residents from the control group and one resident from the study group experienced a fall event during follow up. The fall events in the control group were identified retrospectively by the nursing home staff. As for the study group, "false alarm" and "fall without fall incident" occurred in seven residents each (table 2). A "fall with fall incident" was detected in one resident followed by a prompt response from the staff who were notified by the alarm. One resident was transferred to the hospital and died due to a non-fall related reason.

Conclusion: Device technology may provide an opportunity for timely intervention to prevent falls in institutionalized older adults.

Keywords: Falls, fall detection device, nursing home

Table 1. Characteristics of the study and control groups

Variables	*No device n=13, n(%)*	*Device Installed n=13, n(%)*	*p value*
Age	81. 9 ± 9.3 (65-100)	82. 7 ± 10.1 (60-95)	0.83
Gender (M/F)	2 (15.4) /11 (84.6)	1 (7.7)/ 12 (92.3)	0.54
Walking aid use	0 (0.0)	4 (30.8)	0.01
Vision impairment	5 (38.5)	7 (53.8)	0.43
Hearing impairment	3 (23.1)	3 (23.1)	0.10
Smoking	1 (7.7)	0 (0.0)	0.23
Previous fracture	2 (15.4)	3 (23.1)	0.62
Falls in the last year	6 (46.2)	8 (61.5)	0.43
Fear of falls	7 (53.8)	10 (76.9)	0.21
Orthostatic hypotension	4 (30.8)	3 (23.1)	0.66
Number of comorbidities	3.0 (1-7)	5.0 (2-7)	0.16
Number of drugs	9.1 ± 3.2 (4-15)	10.8 ± 3.0 (5-16)	0.23
Body Mass Index	26.5 ± 4.8 (18.7- 35.5)	26.2 ± 3.2 (20.9- 33.7)	0.84
MNA-SF score	11 (8-14)	10 (3-11)	0.18
FRAIL score	2 (0-4)	2 (0-5)	0.10
ADL score	11 (6-18)	13 (8-18)	0.09
Fasting Plasma Glucose	92.0 (72-181)	110.0 (72-166)	0.46
Mortality	0 (0.0)	1 (7.7)	0.23

Table 2. Alarm categories and the number of residents in each category

	n=13, n (%)
Total number of False Alarms, median (min-max)	2.0 (1-6)
Fall Alarm without fall incident	7 (53.8)
False Alarm	7 (53.8)
No Vision	6 (46.2)
Fall Alarm with Fall Incident	1 (7.6)

Sarcopenia

OP-53

THE RELATIONSHIP BETWEEN HAND GRIP STRENGTH AND FINGER TAPPİNG TEST IN GERIATRIC PATIENTS

Büşragül Yılmaz[1], Güneş Arık[1], Hande Selvi Öztorun[1], Rana Tuna Doğrul[1], Leyla Aydın[2], Kamile Sılay[1]

[1]Ankara City Hospital Geriatric Clinic, Ankara, Türkiye
[2]Ankara Yıldırım Beyazıt University, Department Of Physiology, Ankara

Introduction: The term sarcopenia refers to the reduction of both muscle mass and function with aging.Detection of low muscle quantity and quality is used to confirm the diagnosis of sarcopenia. (1,2) The finger-tapping(FT) test is a commonly employed quantitative assessment tool used to measure motor performance in the upper extremities. (3,4) In our study, we aimed to compare the finger-tap test(FTT) and handgrip strength in patients in the geriatric population without dementia.

Metods: A total of 44 participants with MMT score over 24 and over 65 years of age were included in our study.A 20-second FTT was applied to the participants.Handgrip strength was measured using a dynamometer.It was investigated whether there was a relationship between FTT and handgrip strength.

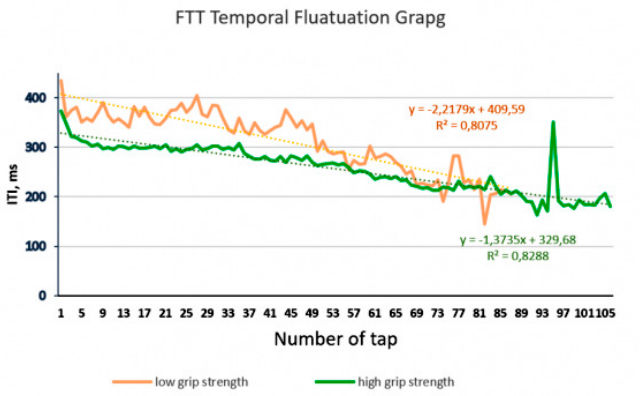
Results: A total of 44 patients(45.4% male,54.6% female,median age 77 years) were included in the study.Participants were divided into 2 groups according to their lowgrip strength(GS-L) and highgrip strength (GS-H) (n=19 and n=25,respectively). When the number of FTT tapping results were compared,it was calculated as 58.4±17.78(35-98)taps for the GS-L group and 71.6±20.89(48-106)taps for the GS-H group($p<0.05$). When the data were analyzed in terms of inter-tapping interval(ITI, ms),mean±SD (first tap-last tap; %change) values were 298.9±69.58(434.8-223.6; 51.4) for GS-L ,was 252.2±48.29(372.8-1165.9; 44.5) for GS-H.When analyzed by adding trend lines to the temporal fluatuation graph of the ITI in FTT, it was calculated as R2=0.8075 for the GS-L group and as R2=0.8288 for the GS-H group.

Conclusion: Our study is still in progress and from the data obtained so far, a statistically significant difference was found between the motor functions of the groups with low and highgrip strength.In addition, it was noted that the movements continued faster and longer in those with GS-H together,the variability between taps was lower,in other words,the movements were more consistent.We think that these results are clinically important,especially for individuals over the age of 65.

References

1. Dhillon, R. J., & Hasni, S. (2017). Pathogenesis and Management of Sarcopenia. Clinics in geriatric medicine, 33(1), 17–26. https://doi.org/10.1016/j.cger.2016.08.002
2. Cruz-Jentoft, A. J., Bahat, G., Bauer, J., Boirie, Y., Bruyère, O., Cederholm, T., Cooper, C., Landi, F., Rolland, Y., Sayer, A. A., Schneider, S. M., Sieber, C. C., Topinkova, E., Vandewoude, M., Visser, M., Zamboni, M., & Writing Group for the European Working Group on Sarcopenia in Older People 2 (EWGSOP2), and the Extended Group for EWGSOP2 (2019). Sarcopenia: revised European consensus on definition and diagnosis. Age and ageing, 48(4), 601. https://doi.org/10.1093/ageing/afz046
3. Aydin, L., Kiziltan, E., & Gundogan, N. U. (2016). Polyphasic Temporal Behavior of Finger-Tapping Performance: A Measure of Motor Skills and Fatigue. Journal of motor behavior, 48(1), 72–78. https://doi.org/10.1080/00222895.2015.1040111
4. Aoki, T., & Fukuoka, Y. (2010). Finger tapping ability in healthy elderly and young adults. Medicine and science in sports and exercise, 42(3), 449–455. https://doi.org/10.1249/MSS.0b013e3181b7f3e1

Keywords: sarcopenia, dynopeni, finger tapping



Sarcopenia

OP-54

MALNUTRITION ASSESSED BY GLIM CRITERIA USING SIX DIFFERENT APPROACHES FOR REDUCED MUSCLE MASS: WHICH VERSION IS BETTER ASSOCIATED WITH MORTALITY?

Caglar Ozer Aydin[1], Serdar Ozkok[2], Birkan Ilhan[2], Nefise Seker[3], Pinar Kucukdagli[2], Ozlem Yilmaz[2], Cihan Kilic[2], Mehmet Akif Karan[2], Gulistan Bahat[2]

[1]Istanbul Goztepe Prof. Dr. Suleyman Sahin State Hospital, Department Of Internal Medicine, Division Of Geriatrics
[2]Istanbul University , Istanbul Medical School, Department Of Internal Medicine, Division Of Geriatrics
[3]Istanbul University , Istanbul Medical School, Department Of Public Health

Objective: The Global Leadership Initiative on Malnutrition (GLIM) criteria suggest alternative methods to be used for assessment of muscle mass, and which of these methods is more strongly associated with adverse outcomes remains an issue to be clarified. Our primary outcome was to report malnutrition prevalence defined by six different GLIM approaches and study their relationship with mortality.

Methods: This retrospective follow-up study included the data of outpatients admitted to the outpatient clinic of a tertiary hospital. We used six different approaches for GLIM, based on method used to identify reduced muscle mass: i. skeletal muscle mass (SMM)/height^2, ii. SMM/BMI, iii. handgrip strength (HGS), iv. Calf circumference (CC), v. CC adjusted for BMI, and vi. GLIM without third phenotypic criterion (P3). We evaluated survival in malnutrition with Kaplan-Meier log rank test. Cox proportional hazards model was used to identify the relationships of different GLIM versions with mortality.

Results: The study population included 224 older individuals, with a median age of 72, and female predominance (68.8%). The prevalence with different GLIM versions ranged between 4.0-34.1%. During a median follow-up period of 31 months, 14 (6.3%) participants died. According to unadjusted analyses, only GLIM (SMM/h^2), GLIM (HGS), GLIM (CC) and GLIM (without P3) were significantly associated with increased mortality risk [HR (95%CI) were 3.8 (1.1-13.7), 4.3 (1.4-12.8), 4.6 (1.3-16.7) and 7.3 (2.0-26.5), respectively]. After final adjustments made for age and gender, it was revealed that none of the versions were predictors of mortality in older adults living in the community.

Conclusion: GLIM criteria have a room for improvement as different options for muscle mass assessment are allowed, and this study aimed to fill the gap in the literature on whether malnutrition diagnosed by alternative GLIM definitions had a predictive validity in community-dwelling older adults. Further outcome studies using larger cohorts and different pragmatic approaches are needed to detect the ideal GLIM definition for malnutrition assessment.

Keywords: malnutrition, mortality, older adults, sarcopenia, survival

Sarcopenia

OP-55

THE EFFICACY OF NINTENDO WII FIT AND INSPIRATORY MUSCLE TRAINING ON PHYSICAL PERFORMANCE AND SARCOPENIA IN OLDER ADULTS WITH HEART FAILURE

Cihan Kılıç[1], Rengin Demir[2], Zerrin Yiğit[2], Serdar Özkök[1], Gülistan Bahat Öztürk[1], Mehmet Akif Karan[1]

[1]Istanbul University, Istanbul Faculty Of Medicine, Department Of Geriatrics

[2]Istanbul University-cerrahpasa, Institute Of Cardiology, Department Of Cardiology

Background-Aim: Alternative cardiac rehabilitation (CR) programs have been developed in recent years to overcome the underuse of clinical based CR. The aim of this study is to investigate the effectiveness of home-based CR programs "exergame" and "Inspiratory Muscle Training (IMT)" on physical performance and sarcopenia components in older adults with HF with reduced ejection fraction (HFrEF) and to compare their effectiveness with each other.

This is a prospective, randomized-controlled trial including older adults with HFrEF aged ≥60 years. Nintendo Wii Fit Plus (NWFP) group ran three sessions/week, 60 minutes/session, with a supervised Nintendo Wii game console for eight weeks. IMT group worked for eight weeks using the Threshold IMT device for two sessions, 15 minutes/day. No intervention was applied to control group. Physical performance measures and sarcopenia components were assessed at the beginning and end of the eight-week CR program. Linear regression analyses were performed to identify whether interventions were independently associated with improvement in aforementioned measurements.

There were 18 participants, 16 (88.9%) were male. Mean age was 68.9±3.4. Chair stand test (p=0.03), usual gait speed (p=0.04), timed up-and-go test (TUG) (p=0.03), and 6-minute walk test (6MWT) showed significant improvements in NWFP group, while IMT and control groups demonstrating no significant improvement. According to the comparison of the sum of within-group differences, TUG and 6MWT showed significant differences between groups (p=0.03 and 0.04, respectively). Improvement in TUG and 6MWT were independently associated with study group after adjustments for age, EF, and Charlson comorbidity index (Table 1 and Table 2).

Our study suggests that NWFP is successful and should be better implemented in CR practice in order to improve physical performance and aerobic capacity in older adults with HFrEF.

References

Cicek, A., Ozdincler, A.R., Tarakci, E. (2020). Interactive video game based approaches improve mobility and mood in older adults: A nonrandomized, controlled trial. *J Bodyw Mov Ther*, 24(3), 252-259.

Cruz-Jentoft, A.J., Bahat, G., Bauer, J., Boirie, Y., Bruyere, O., Cederholm, T. et al. (2019). Sarcopenia: revised European consensus on definition and diagnosis, Age and Aging, 48(1), 16-31

Giannitsi, S., Bougiakli, M., Bechlioulis, A., Kotsia, A., Michalis, L.K. et al. (2019) 6-minute walking test: a useful tool in the management of heart failure patients. Ther Adv Cardiovasc Dis, 13, 1-10

Jaarsma, T., Klompstra, L., Strömberg, A., Ben Gal, T., Martensson, J., van der Wal, M.H.L. et al. (2021). Exploring factors related to non adherence to exergaming in patients with chronic heart failure. ESC Heart Fail, 8(6), 4644-4651.

Keywords: Heart Failure, Exergame, Inspiratory Muscle Training, Physical Performance, Sarcopenia

A scene and equipment location from the game 'Heading' in the NWFP game show.

Deep breathing exercise against resistance applied with an IMT device.

Table 1. Variables significanly associated with change in TUG[1]

		ß2	SE3	Beta	t4	p5	%95 CI6	%95 CI6
Model 1	Study Group7	-1,367	0,390	-0,655	-3,505	0,003	-2,199	-0,536
Model 1	Age	-0,168	0,096	-0,328	-1,755	0,100	-0,372	0,036
Model 2	Study Group7	-1,382	0,417	-0,662	-3,316	0,005	-2,269	-0,494
Model 2	EF8	-0,410	0,035	-0,228	-1,144	0,270	-0,116	0,035
Model 3	Study Group7	-1,319	0,394	-0,632	-3,344	0,004	-2,159	-0,478
Model 3	Charlson Comorbidity Index9	-0,424	0,269	-0,298	-1,576	0,136	-0,997	0,149

[1]TUG=Timed Up and Go Test, 2β=regression coefficient, 3SE=standard error, 4t=degrees of freedom, 5p=significance value, 6%95CI=95% Confidence Interval, 7Study Group (Nintendo, IMT, Control), 8EF=ejection fraction , 9Charlson Comorbidity Index

Table 2. Variables significanly associated with change in 6MWT[1]

		ß2	SE3	Beta	t4	p5	%95 CI6	%95 CI6
Model 1	Study Group7	18,333	7,438	0,540	2,465	0,026	2,479	34,187
Model 1	Age	0,167	1,827	0,020	0,091	0,928	-3,727	4,060
Model 2	Study Group7	16,860	7,342	0,497	2,297	0,036	1,212	32,508
Model 2	EF8	-0,575	0,626	-0,199	-0,919	0,372	-1,909	0,758
Model 3	Study Group7	18,110	7,369	0,534	2,458	0,027	2,405	33,816
Model 3	Charlson Comorbidity Index9	-1,677	5,027	-0,072	-0,334	0,743	-12,393	9,039

[1]6MWT=6 Minute Walk Test, 2β=regression coefficient, 3SE=standard error, 4t=degrees of freedom, 5p=significance value, 6%95CI=95% Confidence Interval, 7Study Group (Nintendo, IMT, Control), 8EF=ejection fraction , 9Charlson Comorbidity Index

Pressure Sores

OP-56

ASSESSMENT OF ANXIETY IN CAREGIVERS OF PATIENTS WITH PRESSURE ULCERS

Eyüp Sami Akbas

Department Of Internal Medicine, Division Of Geriatric Medicine, Faculty Of Medicine, Gaziantep University, Gaziantep, Turkey

Background: Pressure-induced skin and soft tissue ulcers are usually caused by prolonged compression between the soft tissue on the bony prominence and the external surface in bedridden patients. They are most frequently seen in the sacral, thoracic and ischial regions. In this study, we aimed to investigate the characteristics of patients with pressure ulcers and the prevalence of anxiety in caregivers.

Methods: Thirty-two patients and their caregivers were included with pressure ulcers who were followed up in the Geriatrics and Palliative Care Clinics of Gaziantep University Faculty of Medicine.Demographic data and general characteristics of the patients and their caregivers were recorded. The Beck Anxiety Inventory was used to determine anxiety symptoms and levels in caregivers. Anxiety levels were categorized based on points scored, with 8-15 points indicating mild anxiety, 16-25 points indicating moderate anxiety, and 26-63 points indicating severe anxiety. Patients with an age of under than 18 and had stage 1 pressure ulcers were excluded the study.

Results: The median age of the patients was 77 years (min-max: 18-94). Of the caregivers 53.1% were female and 68.7% had anxiety symptoms. The prevalence of diabetes mellitus, hypertension, dementia, malignancy for patients was 37.5%, 34.4%, 34.4% and 31.3% respectively. The feeding methods for the patients were as follows: oral 16 patients, enteral (nasogastric tube or percutaneous gastroenterostomy) 6 patients, and parenteral 10 patients. Of the patients, 65.6% had stage 3, 28.1% had stage 2, and 6.3% had stage 4 pressure ulcers (Table 1). The caregivers had a median age of 51, ranging from 17 to 78 years old. Out of the 32 caregivers, 26 (81.3%) were female, 24 (75%) were married, 6 (18.8%) were single, and 2 (6.3%) were widowed or divorced. Among the caregivers, 13 (40.6%) had completed high school, 8 (25%) had completed primary school, 6 (18.8%) had graduated from university, and 5 (15.6%) were illiterate.

In the analysis of the degree of closeness with the patient, it was determined that 16 (50%) caregivers were the children of the patient. 25 (78.1%) caregivers were unemployed. It was found that 19 (59.4%) of the caregivers had a low-income level and 25 (78.1%) of them lived with the patient. In the examination of the habits and exercise habits of the caregivers, it was determined that 7 (21.9%) caregivers were smokers, 3 (9.4%) caregivers were alcohol users, and 8 (25%) caregivers exercised regularly (Table 2).

The relationship between pressure ulcer stage in patients and anxiety level in caregivers was examined. The mean Beck anxiety index score was 11.78 in stage 2 pressure ulcers, 12.22 in stage 3/4.There was no difference in Beck Anxiety Inventory scores between patients with different pressure ulcer stages (p=0.915) (Table 3). According to the chi-square analysis, there was no association found between the presence of anxiety and the stage of pressure ulcers (p=0.314) (Table 4).

Conclusion: This study found that caregivers of patients with pressure ulcers have high levels of anxiety, which can lead to negative outcomes and affect the patient's treatment and management. Also in our study, we determined that pressure ulcer of patients was not associated with presence of anxiety in caregivers. Our study emphasized the importance of evaluating caregivers of patients with pressure ulcer in terms of anxiety.

Keywords: Pressure ulcer,anxiety,caregiver

Table 2. Characteristics and sociodemographic features of caregivers

	n	%
Age*	51 (17-78)	
Caregiver gender		
Female	26	81.3
Male	6	18.7
Marital status		
Married	24	75.0
Single	6	18.8
widow/ divorced	2	6.3
Educational status		
Illiterate	5	15.6
Primary School	8	25.0
High School	13	40.6
University	6	18.8
Degree of closeness with the patient		
Wife	4	12.5
Child	16	50.0
First degree relative	6	18.8
Second degree relative	4	12.5
Paid caregiver	2	6.3
Employment status		
Working	7	21.9
Not working	25	78.1
Income level		
Low	19	59.4
Medium	12	37.5
High	1	3.1
Living with the patient	25	78.1
Smoking	7	21.9
Alcohol	3	9.4
Regular exercise	8	25.0
Beck Activity Index score*	10 (0-45)	
BAI rating		
No anxiety	10	31.3
Mild level	14	43.8
Moderate level	3	9.4
Severe Level	5	15.6

* median (min-max).

Table 1. Characteristics and sociodemographic features of patients

	n	%
Age of patient	77 (18-94)	
Gender of patient		
Female	17	53.1
Male	15	46.9
Comorbidities		
Diabetes mellitus	12	37.5
Hypertension	11	34.4
Dementia	11	34.4
Malignancy	10	31.3
Nutritional status		
Oral	16	50.0
Enteral (NT+PEG)	6	18.7
Parenteral	10	31.3
Number of drugs*	13 (6-24)	
Decubitus stage		
Stage 2	9	28.1
Stage 3	21	65.6
Stage 4	2	6.3

* median (min-max).

Mean Beck Anxiety Inventory score for caregivers based on ulcer stage.

Stage of pressure ulcer	Beck Anxiety Inventory Scale (mean±SD)	p
Stage 2 (n=9)	11.78±9.39	0.915
Stage 3-4 (n=23)	12.22±10.69	
Total (n=32)	12.09±10.19	

Association between presence of caregiver anxiety and stage of pressure ulcer of patients.

	Anxiety		Total
Stage of Pressure Ulcer	No	Yes	
Stage 2	4(44.4%)	5(55.6%)	9
Stage 3	6(26.1%)	17(73.9%)	23

p=0.314

Polypharmacy and Inappropriate Drug Use

OP-57

A SNAPSHOT OF THE GERIATRIC TYPE II DIABETIC PATIENTS

Mehmet Göl[1], Kazım Ersin Altınsoy[2], Sedat Özdemir[3], İbrahim Halil Türkbeyler[4]

[1]Gaziantep Islam Science And Technology University, Faculty Of Medicine, Department Of Physiology
[2]Gaziantep Islam Science And Technology University, Faculty Of Medicine, Department Of Emergency Medicine
[3]Gaziantep Islam Science And Technology University, Faculty Of Medicine, Department Of Internal Medicine
[4]Gaziantep Islam Science And Technology University, Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics

Background: In fact, polypharmacy is inevitable and necessary in individuals with comorbidities. Also, it is actually defined as a "geriatric syndrome", and due to the increased morbidity and mortality risk it brings, especially in the elderly (1). For example, in an observational study, it was seen that patients who used more than five drugs per day are four times more likely to be hospitalized. One of the most important reasons for polypharmacy is that the guidelines for diagnosis and treatment approaches of particular diseases are not regulated well enough according to comorbidities. Therefore, each new diagnosis results in the addition of a new therapeutic agent to the prescription (2). In a study conducted with 585 patients over 65 years of age from Turkey, the prevalence of polypharmacy was found to be 24.1% (3). According to the data of the World Health Organization, half of the drugs prescribed or sold in the world in 2019 were actually unnecessary and actually harmed individuals using these drugs (4). So, a good regulation is indispensable.

Diabetes mellitus (DM), one of the most important comorbidities, affects 19.3% of individuals aged ≥65 worldwide (5). It has been revealed that polypharmacy in type II diabetes is associated with difficulty in complying with the prescription, inability to stick to the ordinary prescription, use of inappropriate drugs, drug adverse effects, high hospitalization and mortality risk, regardless of other variables (6). Moreover, polypharmacy complicates glycemic control in type II diabetes (7).

Malnutrition is also a commonly encountered syndrome in elderly population. It is reported the malnutrition prevalence is as a high as 24.5% among community-dwelling elderly in Türkiye (8).

In this study, we aimed at determining the certain descriptive characteristics such as prevalence of polypharmacy, malnutrition, and depressive symptoms along with demographic features, among type II geriatric diabetic patients.

Materials and Methods: The study was conducted with 71 female and 64 male geriatric patients with type II DM, aging between 65 and 85, who were being regularly followed up in geriatrics outpatient–clinics of internal medicine department in Dr. Ersin Arslan Training and Research Hospital, Gaziantep Islam Science and Technology University (GISTU). Ethical approval was obtained from the GISTU Non–Interventional Local Ethics Committee with protocol number 2021/30. Descriptive statistics were presented as mean ± standard deviation or in percentages.

Results: More than 85% of the elderly were either uneducated or primary school graduated. 32.59% were either malnourished or at risk of malnutrition. Nearly half of the patients suggested depression diagnosis. Only 20% of the patients declared that they have been following up a regular physical activity schedule.

Conclusion: Descriptive features such as depressive symptoms, polypharmacy, and malnutrition prevalence were found to be consistent with other studies conducted in Türkiye. It should be kept in mind that polypharmacy will prevent the targeted treatment and effectiveness from being achieved and may produce undesirable results. Therefore, the ongoing treatment of the elderly in each medical branch should be considered with a multidisciplinary approach.

Keywords: Depression, Diabetes Mellitus, Malnutrition, Polypharmacy.

Table 1. Certain demographic characteristics, nutritional status, depressive symptoms and polypharmacy prevalence of the elderly (n=135).

Mean age (65-85)	71.38 ± 5.16
Gender: Female / Male	71 (52.51 %) / 64 (47.49 %)
Educational Status: Uneducated / Primary school / Secondary school / High school / Vocational school or more advanced	61 (45.18 %) / 55 (40.07 %) / 13 (9.62 %) / 2 (1.48 %) / 4 (3.65 %)
Marital status: Married / Others	87 (64.44 %) / 48 (35.56 %)
Depressive symptoms: YGDS-SF ≤5 / YGDS-SF >5	68 (50.37 %) / 67 (49.63 %)
Being malnourished or at risk of malnutrition	44 (32.59 %)
MNA-SF: 0-7 / 8-11 / 12-14	12 (8.88 %) / 32 (23.70 %) / 91 (67.42 %)
Residential status: Living with spouse / Living with relatives / Living alone	77 (57.03 %) / 28 (20.74 %) / 30 (22.23 %)
BMI: <20 / 20-25 / 25-30 / >30	2 (1.48 %) / 39 (28.88 %) / 52 (38.51 %) / 42 (31.13 %)
Smoking	37 (27.40 %)
Alcohol intaking	5 (3.70 %)
Physical activity	27 (20.00 %)
Number of daily drugs being prescribed and used routinely (1-15)	4.91 ± 2.85
Polypharmacy (≥4 therapeutic agents having been used daily)	102 (75.55 %)

BMI; body mass index, MNA-SF; Mini-nutritional assessment short form, YGDS-SF; Yesavage geriatric depression scale short form.

Frailty

OP-58

LOW WAIST TO HIP RATIO IS ASSOCIATED WITH PHYSICAL FRAILTY IN OLDER ADULTS

Nirgul Bilger, Esra Cataltepe, Eda Ceker, Ayse Fadiloglu, Fatih Gungor, Nermin Karakurt, Hacer Dogan Varan

Gazi University Faculty of Medicine, Department of Geriatric Medicine, Ankara, Türkiye

Background: Frailty is a condition characterized by reduced physical strength and increased vulnerability to stressors, leading to adverse health outcomes. The waist-to-hip ratio (WHR), has been shown to be associated with cardiovascular risk and mortality. However; it is also known that post myocardial infarction all-cause long-term mortality was generally lower for overweight and obese older patients relative to those with normal weight. The relation between WHR, an indicator of abdominal obesity, and frailty has not yet been investigated. This study aimed to identify the association between WHR and frailty in older adults.

Methods: This was a cross-sectional study including 704 older patients (461 females and 243 males) aged 65 years and older. Patients with a history of diagnosed dementia were excluded. Sociodemographic and health-related data of the participants were recorded and anthropometric measurements were performed. All participants underwent a comprehensive geriatric assessment. Frailty was assessed using the Fried Frailty Index. Sarcopenia was diagnosed with the presence of low handgrip strength and BMI-adjusted low calf circumference. SPSS version 21 was used for statistical analysis.

Results: The study included 704 patients with a mean age of 74.7 ± 6.09 years. Frailty was present in 131 (18.6%) of participants. General characteristics of the participants are presented in Table 1. Daily living activity scale, Mini Mental Test and Mini Nutritional Assesment Test scores were significantly lower in frail patients ($p<0.001$). Frail patients had higher rates of medication use ($p<0.001$). Dynapenia, osteoporosis and sarcopenia were more commonly observed in frail patients ($p<0.001$). The waist-to-hip ratio, arm circumference and calf circumference were significantly lower in frail patients ($p<0.001$, $p=0.003$, $p=0.011$, respectively) and malnourished patients ($p<0.001$, $p=0.011$, $p=0.001$, respectively). Multivariate logistic regression analysis revealed that advanced age ($\beta=1.110$, $p<0.001$), polypharmacy ($\beta=1.188$, $p=0.041$), lower WHR ($\beta=0.056$, $p=0.045$) and lower education level (uneducated to university graduated) ($\beta=0.133$, $p<0.001$) had a strong relation with physical frailty, even after adjusting for potential confounding factors (Table 2). The area under the curve (AUC) of WHR for frailty was determined to be 0.600 (95% CI, 0.553-0.637; $p<0.001$). The optimal cut-off point for WHR was ≤0.9 for all individuals (Figure 1).

Conclusion: The waist-to-hip ratio had a strong relation with frailty. Low waist-to-hip ratio can be a warning for the risk of frailty in older adults.

Keywords: Frailty, waist-to-hip-ratio, geriatric

Table 1. General characteristics of the participants according to the frailty status

	Total n=704	Non-frail n=573	Frail n=131	p
Sex, Female n (%)	461 (65.5)	368 (64.2)	103 (78.6)	<0.001*
Age, mean (SD)	74.7 (6.09)	74 (5.6)	78.3 (6.8)	<0.001†
Educated n(%) Uneducated Primary school Middle school High school University	131 (18.6) 275 (39.1) 43 (6.4) 96 (13.6) 154 (21.9)	94 (16.5) 212 (37.1) 41 (7.2) 77 (13.5) 147 (25.7)	37 (28.5) 63 (48.5) 4 (3.1) 19 (14.6) 7 (5.4)	<0.001*
Height, cm, mean (SD)	156 (9.26)	157.6 (9.18)	152.9 (8.67)	<0.001†
Weight, kg, mean (SD)	71.1 (13.4)	71.8 (12.9)	67.4 (14.8)	0.001†
BMI, kg/m², Median (min-max)	28.4 (13.9-68.7)	28.6 (13.9-47.4)	27.8 (17.8-68.7)	0.154†
Polypharmacy median(min-max)	3 (0-12)	3 (0-11)	4 (0-12)	0.001†
DM n(%)	242 (34.4)	196 (33.9)	46 (35.1)	0.554*
HT n(%)	510 (72.4)	408 (71.2)	102 (77.9)	0.131*
KAH n(%)	169 (24)	129 (22.6)	40 (30.5)	0.054*
KDAH n(%)	22 (3.1)	18 (3.1)	4 (3.1)	0.963*
Dynapenia n(%)	281 (39.9)	190 (33.2)	91 (69.5)	<0.001*
Sarcopenia n(%)	164 (23.3)	106 (18.5)	58 (44.3)	<0.001*
Osteoporosis n(%)	185 (26.3)	137 (25.2)	48 (40.3)	0.001*
Waist circumference, cm, median(min-max)	100 (60-140)	100 (60-140)	98 (67-131)	0.262†
Hip circumference, cm, mean (SD)	107.8 (10.8)	107.6 (10.4)	108.4 (12.3)	0.449†
Waist/hip ratio median(min-max)	0.91 (0.64-1.22)	0.92 (0.68-1.29)	0.89 (0.64-1.22)	<0.001†
Calf circumference, cm, median(min-max)	32 (21-48)	32.5 (23-48)	32 (21-42)	0.001†
Arm circumference, cm, Median (min-max)	29 (18-44)	29 (20-44)	28 (18-39)	0.011†
Handgrip strength, kg, median(min-max)	28.5 (6.8-48)	30.8 (6.8-48)		<0.001†
Gait Speed, m/s, median(min-max)	1 (0.18-2.12)	1 (0.9-2.1)	0.59 (0.18-1.25)	<0.001†
GİYA median(min-max)	6 (1-6)	6 (3-6)	5 (1-6)	<0.001†
EGTYA	8 (0-8)	8 (1-8)	6 (0-8)	<0.001†
MNA, median(min-max)	13 (4-14)	13 (4-14)	10 (4-14)	<0.001†
MMSE, median(min-max)	29 (13-30)	29 (14-30)	26 (13-30)	<0.001†
GDS, median(min-max)	1 (0-15)	1 (0-15)	3 (0-15)	<0.001†

*Independent Samples Student T-Test
†Mann-Whitney U Test
‡Chi square test

Table 2. The Result of Multivariate logistic regression analysis for Frailty

	OR	95 % CI	p
Age	1.110	1.071-1.152	<0.001
Polypharmacy	1.188	1.058-1.334	0.004
Waist/hip ratio	0.948	0.003-0.935	0.045
Education level (university)	0.139	0.056- 0.316	<0.001
Dependent variable: frailty, independent variable: age, gender, education level, polypharmacy, calf circumference, arm circumference, waist/hip ratio, diabetes mellitus, hypertension, coronary artery disease and chronic obstructive disease			

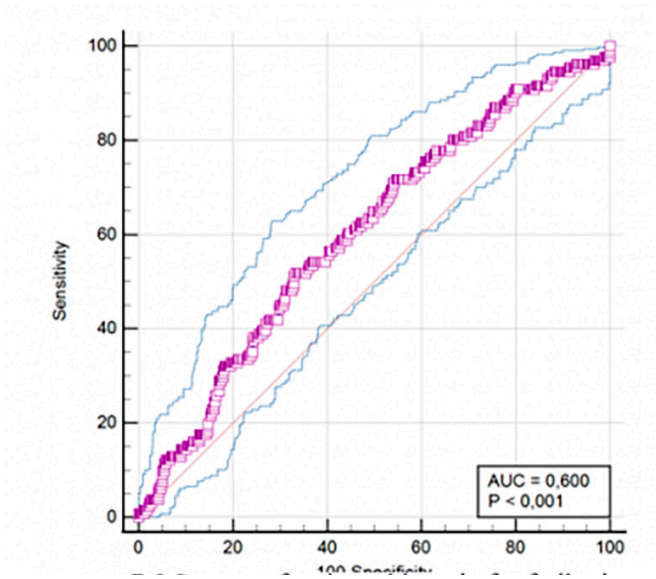


Figure 1. ROC curve of waist to hip ratio for frailty in the general study population

Falls

OP-59

DECREASED LIMITS OF STABILITY PREDICTS FALL RISK IN COMMUNITY-DWELLING OLDER ADULTS: A 2-YEAR FOLLOW-UP STUDY FROM A UNIVERSITY HOSPITAL

Kubra Baba[1], Merve Guner[2], Semra Topuz[3], Serdar Ceylan[2], Arzu Okyar Bas[2], Cafer Balcı[2], Burcu Balam Dogu[2], Mustafa Cankurtaran[2], Meltem Gülhan Halil[2]

[1]Hacettepe University Faculty Of Medicine, Department Of Internal Medicine, Ankara, Turkey
[2]Hacettepe University Faculty Of Medicine, Department Of Internal Medicine, Divisions Of Geriatrics, Ankara, Turkey
[3]Hacettepe University Faculty Of Physical Therapy And Rehabilitation, Department Of Physical Therapy And Rehabilitation

Introduction: Falls are the one of the important public health problems that lead to injuries, disabilities, and even death in older adults. One in every three older adults experienced falls in one year. Falls are caused by a variety of etiologic factors. We aimed to identify factors that predict fall risk in community-dwelling older adults in a two-year follow-up period through comprehensive geriatric assessment (CGA), force platform, and muscle ultrasound (US) parameters.

Methods: Our study included 64 patients who had followed up over two years. At the first visit CGA, muscle US, performance tests, and balance assessments were conducted. At the second visit CGA, muscle US, and performance tests were repeated. Patients were categorized according to fall history during the follow-up period.

Results: The mean age of the study population 74.3 years and 65.6 % of the participants were female (n=42). In our study, the prevalence of falls was 42.1%(n=27). The mean follow-up time was 30.4±6.0 months. It was observed that the rectus femoris muscle thickness significantly decreased in patients who experienced falls during the follow-up period (The median RF muscle thickness in fallers was 13.8 and 12.4 mm at the first and second assesments respectively in fallers, and *p=0.005*. The median RF muscle thickness in non fallers was 12.2 and 12.7 mm at the first and second assesments, p=0.46). According to the force plate, the increased anterioposterior sway was independently associated with a history of falls (Table1).

Conclusion: The force plate, which is an objective and reliable method to assess balance, could be used to determine the risk of falls in older individuals. Additionally, a decrease in the lower extremity muscles, especially the rectus femoris muscle, defined by Muscle US may predict falls in older adults. Larger population studies are necessary to support our findings.

Keywords: falls; muscle ultrasound; rectus femoris thickness; balance parameters

Table 1 The relationship between falls during the follow-up and balance parameters

	Patient (n=64)	Fallers (n=27)	Nonfallers (n=37)	p
Anteroposterior Sway(cm)				
NSEO-AP	0,67 [0,16-3,48]	0,63 [0,16-3,48]	0,70 [0,27-1,90]	0,17
NSEC-AP	0,82 [0,25-2,61]	0,68[0,27-2,6]	0,82 [0,25-1,79]	0,36
PSEO-AP	1,0 [0,47-3,0]	0,91 [0,55-3,01]	1,15 [0,47-2,01]	0,31
PSEC-AP	1,46 [0,52- 3,02]	1,56 [0,52-2,92]	1,39 [0,72-3,02]	0,77
Mediolateral Sway(cm)				
NSEO-ML	0,42 [0,10-2,47]	0,33 [0,10-2,47]	0,49 [0,17-1,82]	0,18
NSEC-ML	0,36 [0,10- 2,28]	0,29 [0,11-2,28]	0,48 [0,10-1,08]	0,24
PSEO-ML	1,02 [0,20-5,38]	0,98 [0,48-5,38]	1,06 [0,20-3,80]	0,50
PSEC-ML	1,44 [0,31-5,07]	1,26 [0,46-3,72]	1,64 [0,31-5,07]	0,13
Limits of Stability				
Forward (cm)	6,23 [3,01-11,12]	5,36 [3,01-10,57]	6,53 [3,73-11,12]	**0,046**
Back (cm)	3,18 [0,47-9,77]	2,71 [0,47-7,23]	3,59 [0,69-9,77]	**0,019**
Left (cm)	6,30 [2,58-14,21]	5,98 [2,64-13,88]	6,49 [2,58-14,21]	0,26
Right(cm)	6,08 [1,18-14,19]	6,39 [1,26-11,95]	5,91 [1,18-14,19]	0,95
LoS score	69,3 [4,9-92,1]	69,0 [13,3-89,4]	69,5 [4,90-92,1]	0,63

Data are median [interquartile range] values.
LoS, Limits of Stability; NSEC-AP, anteroposterior sway for normal stability with eyes closed; NSEO-AP, anteroposterior sway for normal stability with eyes open; PSEC-ML, mediolateral sway for perturbated stability with eyes closed; PSEO-ML, mediolateral sway for perturbated stability with eyes open

Frailty

OP-60

MORTALITY PREDICTION OF THE CLINICAL FRAILTY SCALE IN COMMUNITY-DWELLING OLDER ADULTS

Merve Hafızoğlu, Arzu Okyar Baş, Didem Karaduman, Zeynep Şahiner, Cansu Atbaş, Mert Eşme, Burcu Balam Doğu, Meltem Gülhan Halil, Mustafa Cankurtaran, Cafer Balcı

Hacettepe University, Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatric Medicine, Ankara, Turkey

Aim: To evaluate the association between the Clinical Frailty Scale (CFS) and mortality in community-dwelling older adults admitted to outpatient clinics.

Objectives: A total of 229 participants, who underwent comprehensive geriatric assessment (CGA) in the geriatric outpatient clinic, were followed up for 2 years. CGA included Activities of Daily living (ADL), Instrumental Activities of Daily Living (IADL), Hand-grip Strength Test (HGST), gait speed, Mini-Mental State Examination (MMSE), Mini Nutritional Assessment – short form (MNA-sf), Yesevage Geriatric Depression Scale (YGDS), CCI (Charlson Comorbidity Index), and CFS.

Results: The mean age of participants was 75.3±6.7 years, and 141 (61.5%) of them were female. The mortality rate was 21.3%. There was a significant difference between the deceased and alive in terms of age, ADL, IADL, HGST, gait speed, MMSE, MNA-sf, and CFS scores. The CFS scores were found a significant independent predictor of mortality after adjustment for age, gender, CCI, and multimorbidity (RR=2.309, 95% CI:

1.507 to 3.536, p<0.001). Based on AUC analyses, the association of the CFS scores and mortality was statistically significant (AUC=0.817, 95% CI: 0.744 to 0.889, p< 0.001).

Conclusion: In this study, we emphasized the importance of defining frailty by demonstrating the power of an easy-to-use method such as CFS to predict mortality in community-dwelling people. Thus, we concluded that if frailty is detected at the reversible stage, life expectancy and quality can be improved.

Keywords: Clinical frailty scale, comprehensive geriatric assessment, mortality, older adults

References

1. Falk Erhag H, Guðnadóttir G, Alfredsson J, et al. The Association Between the Clinical Frailty Scale and Adverse Health Outcomes in Older Adults in Acute Clinical Settings- A Systematic Review of the Literature. Clin Interv Aging. 2023; 18:249-261. doi: 10.2147/CIA.S388160.
2. Lee JH, Park YS, Kim MJ, et al. Clinical Frailty Scale as a predictor of short-term mortality: A systematic review and meta-analysis of studies on diagnostic test accuracy. Acad Emerg Med. 2022; 29:1347-1356. doi: 10.1111/acem.14493.

Frailty

OP-61

INTRINSIC CAPACITY AND FRAILTY RELATIONSHIP IN OLDER ADULTS FROM AN AGEING COUNTRY

Serdar Ceylan, Merve Güner, Arzu Okyar Baş, Yelda Öztürk, Meltem Koca, Burcu Balam Doğu, Meltem Gülhan Halil, Mustafa Cankurtaran, Cafer Balcı

Hacettepe University Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatrics

Introduction: Impaired intrinsic capacity (IC) and frailty are often seen together in older adults. Preventing IC impairment is important to reduce frailty and its adverse outcomes (1). The present study aimed to evaluate the relationship between IC and frailty in older adults from an ageing country.

Material and Method: Patients who applied to the geriatric outpatient clinic of a university hospital were included in this cross-sectional study. One point is given for unimpaired in each area, including cognition, locomotion, vitality, vision, hearing and psychological capacities. The lowest score is zero and the highest score is six. FRAIL scale, Modified Fried Frailty Phenotype (mFFP), and CFS are reference tools to determine the frailty status of the patients.

Results: The median age of 103 patients were was 72.0 (IQR:11.0). The ratio of female patients was 65.1% (n=65). The number of patients with multimorbidity was 72 (69.9%). The median of the FRAIL scale was 1.0 (3.0), the median of mFFP was 1.0 (3.0), and the median of CFS was 3.0 (1.0). The number of patients with at least one IC impairment was 84 (81.6%). The number of patients with cognitive impairment was 21 (20.4%), locomotion impairment was 37 (35.9%), vitality impairment was 30 (29.1%), vision impairment was 42 (40.8%), hearing impairment was 36 (35.0), with psychological impairment was 35 (34.0%). When we investigated the relationship between frailty and IC, there were negative correlations between the FRAIL scale, mFFP, and CFS and IC (Spearman rho: -0.66, p<0.001; -0.67, p<0.001; -0.70, p<0.001 respectively). When the relationship between IC scores and frailty was examined by ROC curve analysis, the cut-off score for all three frailty screening scales for robust and pre-frail/frail identification was five; the cut-off value for robust/pre-frail and frail identification was determined as four.

Conclusion: Frailty and IC impairment are related and often coexisting concepts. Attention should be taken to frailty if the number of IC impairments exceeds two.

Keywords: frailty, intrinsic capacity, older adult

References

1. Liu S, Kang L, Liu X, Zhao S, Wang X, Li J, Jiang S. Trajectory and Correlation of Intrinsic Capacity and Frailty in a Beijing Elderly Community. Frontiers in medicine. 2021;8.

Others

OP-62

FRAILTY AND COMPREHENSIVE GERIATRIC EVALUATION IN OLDER PATIENTS WITH PSORIASIS: A CASE-CONTROL STUDY

Zeynep şahiner, Merve Güner, Serdar Ceylan, Merve Hafızoğlu, Cansu Atbaş, Didem Karaduman, Arzu Okyar Baş, Yasemin Polat Özer, Cafer Balcı, Burcu Balam Doğu, Meltem Gülhan Halil, Mustafa Cankurtaran

Geriatrics, Hacettepe University

Aim: Psoriasis is a systemic inflammatory disease and systemic inflammation has a great importance in the development of geriatric syndromes, especially fragility and sarcopenia.

Materials and methods: A total of 126 patients over the age of 60 were included in the study (63 controls and 63 patients with psoriasis). The frailty status of the patients was evaluated with 3 frailty scales (cfs, fried, frail). Arm circumference and calf circumference measurements were made; measurement of hand grip strength; Muscle measurements were made by ultrasonography, bioimpedance and Tanita analysis were performed.

Results: The mean age of individuals diagnosed with psoriasis was 65 (60-82), and the mean age of the control group was 67 (60-84). Other demographic characteristics are given in table 1. The frailty status of the patients was determined by the 3 frailty scales and the frailty rate according to the cfs, fried and frail scales, respectively, in the psoriasis group; 26 (36.5), 31(49.2), 30(47.6) in the control group; 23(41.3), 35(55.6) , 22(34.9) (p: 0.58, 0.48, 0.15). HGS measurement in the psoriasis group; 8(12.7) and 20(31.7)(p: 0.010) in the control group.

Conclusion : In our study, we examined the comprehensive geriatric assessment and vulnerability in individuals over 60 years of age with a diagnosis of psoriasis. As a result of our study, the risk of frailty was found to be 20% in individuals living in the community and diagnosed with psoriasis. According to the results of the correlation analysis with fragility scales, the percentage of fat measured by bia and tanita in patients with psoriasis was evaluated to be correlated with fragility(Table-2). Considering that older patients with psoriasis are an important risk factor for living with frailty, comprehensive geriatric assessment management of these individuals should be provided.

Keywords: Psoriasis, Frailty, Geriatric population

References

Lieber SB, Navarro-Millán I, Rajan M, Curtis JR, Sattui SE, Lui G, Schwartzman S, Mandl LA. Prevalence of Frailty in Ankylosing Spondylitis, Psoriatic Arthritis, and Rheumatoid Arthritis: Data from a National Claims Dataset. ACR Open Rheumatol. 2022 Apr;4(4):300-305.

Table 2. Correlation analysis of frailty assessment with muscle evaluation in patients with psoriasis

	CFS		Fried		FRAIL	
	rho	p	rho	p	rho	p
HGS	-0.499	<0.001	-0.416	0.001	-0.370	0.003
Metabolik age,tanita	0.150	0.24	0.187	0.14	0.263	0.037
Tanita fat%	0.283	0.025	0.307	0.014	0.315	0.012
BIA fat%	0.336	0.007	0.263	0.037	0.207	0.10

HGS, Handgrip strength; BIA,Bioelektrik impedans analizi

*Normally distributed variables are given as mean ± standard deviation, non-normally distributed variables are given as median, interquartile range, categorical variables are given as number (n) and percentage (%).

Table- 1: Clinical and demographic characteristics

	Psoriatic, n:63	Non-psoriatic, n:63	p-value
Age, years	65 (60-82)	67 (60-84)	0.546
Sex, female	31(49.2)	36(57.1)	0.37
Smoking	13(20.6)	7(11.1)	0.14
Polypharmacy	18(29.0)	24(38.1)	0.28
Living with frailty, CFS	26 (36.5)	23(41.3)	0.58
Living with frailty, FFI	31(49.2)	35(55.6)	0.48
Living with frailty, FRAIL	30(47.6)	22(34.9)	0.15
SARC-F≥4	11(17.5)	12(19.0)	0.82
Low HGS	8(12.7)	20(31.7)	0.010
Osteoporosis	7(11.1)	17(27.0)	0.023
CFS	3.0[1.0]	3.0[1.0]	0.76
FRIED	0.0[2.0]	1.0[2.0]	0.63
FRAIL	0.0[2.0]	0.0[1.0]	0.23
Gait speed	3.63[1.31]	3.97[1.67]	0.11
TUG	9.47[3.31]	10.0[5.56]	0.14
TA	4.45[2.25]	4.1[1.1]	0.070
SMI	10.64[2.1]	10.02[2.5]	0.15
Fat%	35.9[14.4]	40.3[15.7]	0.19
Phase Angle	5.7[3.0]	4.8[2.3]	0.006

CFS,Clinical frailty scale;SARC-F, Strenght,ambulation,rising from a chair, climbing stairs and falling; FFI,fried frailty scale;TUG,Time up and go,HGS, Handgrip strength;SMI,Skeletal muscle index

Incontinence

OP-63

EVALUATION OF OXIDATIVE STRESS PARAMETERS IN OLDER PATİENTS WITH URINARY INCONTINENCE

Zeynep Şahiner[1], Serdar Ceylan[1], Merve Güner[1], Didem Karaduman[1], Merve Hafızoğlu[1], Cansu Atbaş[1], İbrahim İleri[2], Ayşe Dikmeer[3], Arzu Okyar Baş[1], Cafer Balcı[1], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1]

[1]Geriatrics, Hacettepe University
[2]Ordu State Hospital, Geriatric Medicine
[3]Konya City Hospital, Geriatric Medicine

Aim: Urinary incontinence (UI) is defined as any type of involuntary loss of urine. It is a common problem in older patients. Pathophysiological changes in the urinary system due to aging result in especially vascular insufficiency, ischemia and hypoxia and cause functional and structural changes in the urinary system. In this study, we aimed to examine the relationship between urinary incontinence and oxidative stress markers and homeostasis parameters inolder patients.

Materials and methods: A total of 145 patients over the age of 60 were included in the study (44 patients with incontinence, 101 patients without incontinence). frailty was evaluated with cfs, sarcopenia with handgrip, malnutrition risk with mna-sf, activities of daily living with adl and iadl. Polypharmacy, multimorbidities were questioned. Urinary incontinence was defined as "the complaint of any involuntary leakage of urine in the past 12 months". Thiol/disulfide homeostasis tests, disulfide bonds are first reduced to form free functional thiol groups. Unused reductive sodium borohydride is consumed and removed for maldehyde, including reduced and native thiol; all thiol groups were determined after reaction with 5,5'-dithiobis-2-nitrobenzoic acid. The amount of dynamic disulfide was calculated by determining half of the difference with the total thiol. The continance present group and the control group were compared according to serum total thiol, native thiol, disulfide, IMA (Ischemia Modified Albumin) levels.

Results: The mean age of individuals with urinary incontinence was 74.5 (69.0-82.5), the mean age of the control group was 71.0 (68.0-75.5). Other demographic characteristics are given in Table 1. The frailty status of the patients was evaluated with cfs, the mean cfs was 4.0 (3.0-5.0) in the incontinent group, 3.0 (3.0-4.0) in the control group (p: 0.002), the mean mna-sf of the patients with incontinence was 12.0 (10.0-14.0), and the mean of the patients without incontinence was 13.0. (12.0-14.0) (p:0.008). While the disulfide and disulfide native thiol ratios were 14.6 (13.3-16.2), 5.0 (4.4-5.7) in the incontinence group, 16.0 (14.4-17.9) , 5.3 (4.7-6.2) (p: 0.005), (p: 0.049) in the non-incontinence group, respectively.) were found to be statistically significant.

Conclusion: In our study, we evaluated comprehensive geriatric evaluation and oxidative stress parameters in individuals with urinary incontinence over 60 years of age. Oxidative stress occurs as a result of an imbalance between the body's oxidant radicals and antioxidant defense mechanisms.

As a result of our study, native thiol and IMA levels were found to be similar in incontinence and normal elderly patients, while the ratio of disulfide and disulfide native thiol was found to be significantly different. Recently, studies on the relationship between oxidative stress, chronic inflammation and the parameters included in comprehensive geriatric assessment have increased with aging, incontinence is a geriatric syndrome with an increased frequency in the elderly, more comprehensive and molecular studies on oxidative stress and geriatric syndromes are needed.

Keywords: Urinary incontinence, Oxidative stress parameters, Geriatric population

Table- 1: Clinical and demographic characteristics

	Total	Incontinence		p
		Absent (N=101) (N, %)	Present (N=44) (N, %)	
Age (median, 25p-75p)	72.0 (68.0-76.5)	71.0 (68.0-75.5)	74.5 (69.0-82.5)	0.03
Sex (female)	87 (60.0)	54 (53.5)	33 (75.0)	0.02
Marital status (married)	90 (62.9)	65 (65.0)	25 (58.1)	0.44
Education	107 (73.8)	69 (68.3)	38 (86.4)	0.02
Multimorbidity	125 (86.2)	86 (85.1)	39 (88.6)	0.58
Polypharmacy	74 (51.0)	49 (48.5)	25 (56.8)	0.36
Katz ADL	6.0 (5.0-6.0)	6.0 (6.0-6.0)	5.5 (5.0-6.0)	**<0.001**
Lawton-Brody IADL	8.0 (7.0-8.0)	8.0 (7.0-8.0)	8.0 (6.0-8.0)	0.04
MNA-SF	13.0 (11.0-14.0)	13.0 (12.0-14.0)	12.0 (10.0-14.0)	**0.008**
≤11	41 (28.3)	23 (22.8)	18 (40.9)	0.03
CFS	4.0 (3.0-5.0)	4.0 (3.0-5.0)	4.0 (3.0-4.0)	**0.002**
≥4	74 (51.0)	45 (44.6)	29 (65.9)	0.02
Handgrip Strength				
Female	16.8±5.0	17.1±4.6	16.4±5.6	0.51
Male	27.6±8.0	28.6±7.5	22.9±8.7	0.03
Native thiol	298.6±61.8	300.9±64.8	293.2±54.8	0.49
Disülfid	15.4 (14.2-17.0)	16.0 (14.4-17.9)	14.6 (13.3-16.2)	**0.005**
Disülfid/native thiol	5.2 (4.6-6.0)	5.3 (4.7-6.2)	5.0 (4.4-5.7)	**0.049**
IMA	0.84 (0.67-0.93)	0.85 (0.67-0.94)	0.84 (0.69-0.89)	0.35
C-reactive protein	0.45 (0.30-0.84)	0.50 (0.27-0.90)	0.40 (0.30-0.77)	0.62
Albumin	4.2 (4.0-4.4)	4.2 (4.0-4.4)	4.2 (3.9-4.3)	0.17

*Normally distributed variables are given as mean ± standard deviation, non-normally distributed variables are given as median, interquartile range, categorical variables are given as number (n) and percentage (%).

ADL: Activities of daily living, IADL: Instrumental activities of daily living, MNA-SF: Mini Nutritional Assessment Short-Form, SARC-F: Strength, ambulation, rising from a chair climbing stairs and falls, CFS: Clinical frailty scale,IMA: Ischemia-Modified Albumin

Others

OP-64

EVALUATION OF THE LONG-TERM EFFECTS OF PNEUMOCOCCAL VACCINE IN OLDER ADULTS : A SINGLE-CENTER STUDY

Yasemin Polat Özer[1], Zeynep Şahiner[1], Merve Güner[1], Kerim Çayıröz[2], Lütfü Kılıç[2], Mert Eşme[1], Cafer Balcı[1], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Meltem Gülhan Halil[1]

[1]Geriatrics, Hacettepe University
[2]İnternal Medicine, Hacettepe University

Aim: People 65 years of age and older receive the pneumococcal vaccine to protect against serious diseases such as pneumonia, sepsis, and meningitis caused by the streptococcal pneumonia agent. In our study, we aimed to examine the long-term results of pneumococcal vaccination in individuals aged 65 and over, comprehensive geriatric evaluation, and its relationship with chronic diseases.

Methods: We evaluated 407 geriatric patients aged 65 or over admitted to the Hacettepe University geriatrics outpatient clinic for this retrospective study between December 2021–July 2022. The data were collected by examining the anamnesis and physical examination records of the individuals who applied to the geriatric outpatient clinic within the specified date range in our hospital's registry system. The rates of hospitalization and mortality, pneumonia and antibiotic use within 1 year after pneumococcal vaccination were determined by scanning the electronic system and calling the patients by phone. A total of 407 patients, 50 of whom had pneumonia in the last 1 year, and 357 without pneumonia, were included in the study. Within the scope of the study, sociodemographic and clinical information form, comprehensive geriatric assesment (CGA) and laboratory values were recorded.

Results: A total of 407 patients with a median (IQR) age of 72 (65–91) years were enrolled in the study, and 256 (62.9%) patients were female. Of the 407 patients included in total, 50 were categorized into 2 groups as those who had pneumonia within 1 year after pneumococcal vaccination (n=50) and those who did not have pneumonia (n=357). Demographic and clinical characteristics of patients with and without pneumonia after pneumococcal vaccination are summarized in Table -1. Diabetes mellitus (DM) was found to be statistically significantly higher in the pneumonia group (p=0.003). The number of those diagnosed with chronic obstructive pulmonary disease was statistically significantly higher in the pneumonia group (p<0.001). There was no significant difference between the two groups in terms of gender, education, smoking status, multimorbidity, CGAs and laboratory values.

Concluisons: The study was evaluated as developing or not developing pneumonia in the last 1 year after the pneumococcal vaccine. Chronic diseases such as DM and COPD were more common in the pneumonia developing group. Long-term and large population studies are needed to understand the long-term effects of the pneumococcal vaccine and its relationship with the diseases.

Keywords: Geriatric population, pneumococcal vaccine, pneumonia

References

Milucky J, Carvalho MG, Rouphael N, Bennett NM, Talbot HK, Harrison LH, et al. Streptococcus pneumoniae colonization after introduction of 13-valent pneumococcal conjugate vaccine for US adults 65 years of age and older, 2015-2016. Vaccine. 2019;37(8):1094-100.

Table 1: Demographic and Clincal Characteristics

	Total	PNOMONİA		p
		Present Pnomonia (n=50, 12.2%) (n,%)	Absent Pnomonia (n=357, 87.8%) (n,%)	
Sex (female)	256(62.9)	31(62.0)	225(63.0)	0.888
Education (>8 years)	100(25.4)	9(19.1)	91(26.3)	0.489
Smoker	111(28.5)	14(30.4)	97(28.2)	0.752
Married	237(60.3)	32(68.1)	205(59.2)	0.245
COPD	45(11.1)	16(32.0)	29(8.2)	**<0.001**
HT	298(73.4)	38(76.0)	260(73.0)	0.657
CAD	114(28.1)	14(28.0)	100(28.2)	0.980
DM	174(42.8)	31(62)	143(40.1)	**0.003**
MALIGNANCIA	52(12.8)	7(14.0)	45(12.6)	0.788
Multimorbidity (≥2 chronic diseases)	317(79.6)	40(81.6)	277(79.4)	0.713
CKD	32(7.9)	7(14.0)	25(7.1)	0.096
Polypharmacy (≥5 drugs)	210(52.5)	27(56.3)	183(52.0)	0.579
BMI (≥30)	165(43.3)	16(34.8)	149(44.5)	0.213
Comprehensive Geriatric Assessment				
Living with frailty (CFS≥4)	217(55.5)	26(55.3)	191(55.5)	0.979
Malnutrition (MNA-SF≤11)	107(27.5)	11(23.4)	96(28.1)	0.502
Probable sarcopenia +	150(46.2)	21(53.8)	129(45.1)	0.304

COPD, Chronic obstructive pulmonary disease;HT, hypertension;CAD, Coronary artery disease;DM, Diabetes mellitus; CKD, Chronic kidney disease; BMI, body mass index; CFS,Clinical frailty scale; MNA-SF: Mini Nutritional Assesment Short-Form,

*Normally distributed variables are given as mean ± standard deviation, non-normally distributed variables are given as median, interquartile range, categorical variables are given as number (n) and percentage (%).

Sarcopenia

OP-65

INVESTIGATION OF THE RELATIONSHIP OF TWO DIFFERENT PROBABLE SARCOPENIA AND DEPRESSION IN GERIATRIC OUTPATIENTS

Meriş Esra Bozkurt

Division Of Geriatrics, Istanbul Medical School, Istanbul University

Background: Changes in body composition with aging result in sarcopenia. Sarcopenia is an important geriatric syndrome in elderly patients because of its consequences such as falling, frailty, malnutrition and mortality. Depression, on the other hand, is another geriatric syndrome that is clinically different in older individuals from younger individuals and is important because of its negative consequences. In our study, we aimed to define probable sarcopenia with two different measurement methods in geriatric outpatients and to examine the relationship between different definitions of probable sarcopenia and depression.

Methods: The files of the participants aged 60 and over who applied to the geriatric outpatient clinic of a university hospital between December 2012 and February 2023 were analysed. Age, gender, marital status, smoking, physical activity status, number of drugs-diseases were recorded retrospectively in the patient files. Dementia patients were excluded from the study. Depression was screened with the geriatric depression scale long form (GDS-LF), which consists of 30 questions. GDS-LF >10 was considered geriatric depression. Probable sarcopenia was defined by two different measurement techniques. Firstly, probable sarcopenia was defined by measurement of hand grip strength <35/20kg in male and female, respectively. Secondly, probable sarcopenia was defined as 5 times the time to get up from the chair >15 seconds. Frailty was screened with the FRAIL scale. Malnutrition was screened by the Mini Nutritional Test Short Form (MNA-SF).

Results: Of the 2023 patients who applied to the geriatrics outpatient, 455 were included in the study. Median age of the participants was 72 (60-96), 70.5% (306) were female, 55.8% (242) were married, 71.7% (311) were primary school graduates and above, 41.2% (179) were depressed. The prevalence

of probable sarcopenia was found to be 21.2% (92) according to measurement of by hand grip strength and 33.4% (146) by 5 times chair rise test. In univariate analysis results, geriatric depression was not associated with the definition of probable sarcopenia of measurement by hand grip strength (p=0.386). The definition of probable sarcopenia based by 5 times chair stand test measurement method was statistically significant (p=0.016) with depression (Table 2). In the results of multivariate regression analysis: age (p=0.018), gender (p=0.034), polypharmacy (p=0.021) and frailty (p<0.001) were found to be independently associated with geriatric depression (Table 2).

Conclusion: While depression was associated with age, gender, polypharmacy and frailty in elderly outpatients, it was not found to be associated with probable sarcopenia. Sarcopenia may develop in the later stages of depression if frailty is not intervened early.

Keywords: geriatric depression, probable sarcopenia, different definitions, relationship

Table 2: Multivariate regression analysis results: factors independently associated with depressed mood in older adults after adjusting for age, gender, educational status, daily physical activity status, polypharmacy, probable sarcopenia, undernutrition and frailty.

	P	OR	95 % CI Lower	Upper
Age	0.018*	0.957	0.922	0.992
Gender	0.034*	0.572	0.341	0.959
Education	0.355	0.934	0.807	1.080
Daily physical activity status	0.056	0.789	0.619	1.006
Polypharmacy	0.021*	0.562	0.345	0.917
Probable sarcopenia (CST)	0.555	0.843	0.478	1.486
Undernutrition	0.508	0.844	0.511	1.394
Frailty (frail prefrail)	<0.001*	0.393	0.243	0.635

CST: Chair Stand Test, CI: Confidence interval, OR: Odds ratio * significant p values

Table 1: Characteristics data of the study population according to the presence of depression in univariate analyses.

	Depressed Mood (n=179)	Normal Mood (n=255)	Total (n=434)	p value
	41.2 %	58.8 %	100 %	N/A
Age*	72 (60-93)	73 (60-96)	72 (60-96)	0.287
Gender (n, %)				
Male	32 (17.9%)	96 (37.6%)	128 (29.5%)	<0.001*
Female	147(82.1%)	159 (62.4%)	306 (70.5%)	
Education (n, %)				
Illiterate	38 (21.2%)	29 (11.4%)	67 (15.4%)	
Literate	27 (15.1%)	29 (11.4%)	56 (12.9%)	
Primary school	63 (35.2%)	110 (43.1%)	173 (39.9%)	0.002*
Middle school	19 (10.6%)	12 (4.7%)	31 (7.1%)	
High school	17 (9.5%)	34 (13.3%)	51 (11.8%)	
College-faculty	13 (7.3%)	35 (13.7%)	48 (11.1%)	
Master-doctorate	2 (1.1%)	6 (2.4%)	8 (1.8%)	
Marital Status (n, %)				
Single	4 (2.2%)	7 (2.7%)	11 (2.5%)	
Married	96 (53.6%)	146 (57.3%)	242 (55.8%)	0.840
Divorced	4 (2.2%)	6 (2.4%)	10 (2.3%)	
Widowed	75 (41.9%)	96 (37.6%)	171(39.4%)	
Smoking Status (n, %)				
Smoker	16 (8.9%)	16 (6.3%)	32 (7.4%)	0.039*
Quit	34 (19%)	75 (29.4%)	109 (25.1%)	
Never	129 (72.1%)	164 (64.3%)	293 (67.5%)	
Daily physical activity status (n, %)				
Never	26 (14.5%)	16 (6.3%)	42 (9.7%)	
Sometimes	8 (4.5%)	7 (2.7%)	15 (3.5%)	<0.001*
1-2 times per week	71 (39.7%)	78 (30.6%)	149 (34.3%)	
Everyday	74 (41.3%)	154 (60.4%)	228 (52.8%)	
Sarcopenia Parameters				
Probable sarcopenia (HGS)	64 (35.8%)	81 (31.8%)	92 (21.2%)	0.386
Probable sarcopenia (CST)*	48 (26.8%)	44 (17.3%)	145 (33.4%)	0.016*
Low gait speed (UGS ≤ 0.8)*	58 (32.4%)	51 (20%)	109 (25.1%)	0.003*
Geriatric syndromes (n, %)				
Falls	77 (43%)	85 (33.3%)	162 (37.3%)	0.040*
Undernutrition (MN+MNR) β	48 (26.8%)	46 (18%)	94 (21.7%)	0.029*
Frailty (frail+prefrail) ϰ	140 (78.7%)	124 (48.8%)	162 (37.5%)	<0.001*
Urinary incontinence	96 (53.6%)	83 (32.5%)	179 (41.2%)	<0.001*
Faecal incontinence	14 (7.8%)	5 (2%)	19 (4.4%)	0.003*
Constipation λ	66 (37.1%)	70 (27.5%)	136 (31.3%)	0.034*
Sleep Disorders	92 (51.3%)	77 (30.2%)	169 (39%)	<0.001*
Chronic pain	129 (72.1%)	118 (46.3%)	247 (56.9%)	<0.001*
Quality of Life (0-100) *	50 (10-100)	70 (15-100)	70 (0-100)	<0.001*
Polypharmacy (n, %) ⊥	144 (80.4%)	84 (33.1%)	314 (72.5%)	0.002*
Number of chronic drugs* ⊥	6 (1-17)	5 (0-14)	5 (0-17)	<0.001*
Number of chronic diseases*	4 (1-10)	3 (0-8)	3 (0-10)	<0.001*
ADL*	6 (1-6)	6 (1-6)	6 (1-6)	<0.001*
IADL*	8 (1-8)	8 (0-8)	8 (0-8)	<0.001*

Sarcopenia

OP-66

INVESTIGATION OF THE EFFECTS OF LOWER EXTREMITY TELEREHABILITATION ON PHYSICAL AND EMOTIONAL STATUS IN PATIENTS WITH SARCOPENIA

Nurten Gizem Tore[1], Esra Çataltepe[2], Deran Oskay[1], Berna Göker[3], Hacer Doğan Varan[2]

[1]Department Of Physiotherapy And Rehabilitation, Faculty Of Health Sciences, Gazi University
[2]Division Of Geriatric Medicine, Department Of Internal Medicine, Faculty Of Medicine, Gazi University
[3]Division Of Rheumatology, Department Of Internal Medicine, Faculty Of Medicine, Gazi University

Objective: This study aims to compare the effects of lower extremity telerehabilitation and home-based exercise programs on the physical and emotional status of older adults with sarcopenia.

Method: Thirty patients with sarcopenia were randomized into two groups (Fifteen in the telerehabilitation group and fifteen in the home-based exercise group as the control). Exclusion criteria included having participated in a physiotherapy and rehabilitation program in any health institution in the last six months, illiteracy, amputation, uncontrollable hypertension and diabetes, blurred vision, hearing loss, cognitive problems, inadequate cooperation, and lack of willingness to participate in the study. During the eight-week treatment of the patients in the telerehabilitation group, exercises were performed under the supervision of a physiotherapist via simultaneous video-conferencing. The control group was provided with a brochure demonstrating how to do the exercises. Demographic information, lower extremity pain intensity and number of falls in the last two months of the patients were recorded. Patients completed the thirty second chair stand test (30 CST), International Physical Activity Questionnaire Short Form (IPAQ-SF), Hospital Anxiety and Depression Scale (HADS), Falls Efficacy Scale (FES), Nottinham Health Profile (NHP), Fatigue Severity Scale (FSS), 6-Minute Stepper Test (6-MST) and the thickness of the quadriceps muscle was evaluated using ultrasound by the geriatrician before and after the eight-week treatment program of both treatment programs. Patient satisfaction was evaluated after each treatment.

Results:. The mean age of patients was 77.43±4.49 and 66.7% of them were women. There was no statistical difference between the groups in the baseline assessments. Compared to pre-treatment, after treatment, the telerehabilitation group showed better results for lower extremity pain intensity, number of falls in the last 2 months, 30 CST, IPAQ-SF, HADS, FES, emotional reactions and physical mobility subsets of NHP and 6-MST ($p<0.05$). Furthermore, the thickness of quadriceps muscle was increased statistically significantly in this group ($p<0.05$). However, control group showed better results only for IPAQ-SF, anxiety subset of HADS, physical mobility subset of NHP and FSS ($p<0.05$). When two groups were compared after the treatment, the telerehabilitation group achieved better results than the control group in terms of lower extremity pain intensity, 30 CST, IPAQ-SF, energy level subset of NHP, and treatment satisfaction ($p<0.05$).

Conclusion: This study demonstrated that telerehabilitation is superior to self-managed home-based exercise programs in the treatment of patients with sarcopenia. With the increasing older population, this internet-based innovative approach can be used to prevent physical disabilities. In this way, many sarcopenia pa-

tients with internet access can be reached and their treatment can effectively be continued.

Keywords: Digital treatment, eHealth, Exercise, Quadriceps thickness

Cognitive Disorders

OP-67

EVALUATION OF DELIRIUM INCIDENCE AND ITS RELATIONSHIP WITH MORTALITY IN HOSPITALIZED GERIATRIC PATIENTS

Damla Unal Toprak[1], Tugce Emiroglu Gedik[2], Alper Doventas[1], Deniz Suna Erdincler[1]

[1]Division Of Geriatrics, Department Of Internal Medicine, Cerrahpaşa Faculty Of Medicine, İstanbul University-cerrahpaşa, İstanbul, Turkey
[2]Department Of Geriatrics, Kanuni Sultan Suleiman Training And Research Hospital, Istanbul, Turkey

Background-Aim:bDelirium is an important geriatric syndrome with acute onset, fluctuating course, and deterioration in attention and cognitive status. It occurs as an indicator of the underlying medical problem. Particularly in older adults with dementia or frailty, delirium may be the only obvious sign of underlying problems. It is the most common complication affecting hospitalized geriatric population. In the literature, delirium was detected in 8-17% of the older people who applied to the emergency department and in 18-35% of the hospitalized geriatric patients. Especially after high-risk operations such as cardiac or hip fracture surgery, delirium rate increases up to 50%. The DSM-V criteria is used for the diagnosis of delirium and if early diagnosis and treatment is not performed delirium can cause serious morbidity and mortality. In this study, we aimed to evaluate delirium incidence, delirium associated factors, and effects of delirium on 1- and 3-year mortality in hospitalized geriatric patients.

This retrospective, cross-sectional study included the patients who were hospitalized in Cerrahpaşa Medical Faculty Geriatrics Inpatient Unit in 2019. Patients under the age of 65 years and/or who did not have sufficient data in terms of DSM-V delirium diagnostic criteria were excluded from the study. Demographic and clinical data of the patients were obtained by examining the patient files. 1- and 3-year mortality data of the patients were taken from hospital and national data systems. SPSS 20.0 statistical program was used in the data analysis.

In 2019, 279 patients were hospitalized in Cerrahpaşa Faculty of Medicine Geriatrics Inpatient Unit. After applying the exclusion criteria, 205 patients were included in this study. Of the patients, 82 (40%) were male and 123 (60%) were female; mean age was 81.1±7.9 years. During hospitalization, 44 (21.5%) of the patients were diagnosed with delirium. Also, 61 (29.8%) patients had dementia, 41 (20%) had malignancy, 84 (41%) had malnutrition and 129 (61.9%) had polypharmacy. When we evaluated the factors associated with delirium, age, malnutrition, and dementia were found to be statistically significantly associated with delirium (p=0.004, p<0.001 and p<0.001, respectively). In terms of total mortality, 60 (29.3%) patients died in the first year and 117 (57.1%) died in the first three years. Among patients diagnosed with delirium during hospitalization, 23 (52.3%) died in the first year and 35 (79.5%) died in the first three years. There was a statistically significant relationship between the presence of delirium and 1-year and 3-year mortality (p<0.001 and p=0.001, respectively). In the Cox regression analysis, delirium was associated with 1-year mortality (p=0.005 OR: 2.411 95% CI 1.22-3.76) and 3-year mortality (p=0.017 OR: 1.726, 95% CI 1.08-2.74). According to the Cox regression analysis, also malignancy and malnutrition were associated with 1-year and 3-year mortality (Malignancy: p=0.001 OR: 2.742, 95% CI 1.49-5.04 for 1-year mortality, p=0.001 OR: 2.189, 95% CI 1.40-3.42 for 3-year mortality; malnutrition: p=0.019 OR: 2.008, 95% CI 1.11-3.60 for 1-year mortality, p=0.010 OR: 1.708, 95% CI 1.13-2.57 for 3-year mortality).

According to our study, the incidence of delirium in hospitalized geriatric patients was found to be consistent with the literature and both 1-year and 3-year mortality were associated with delirium. In this study, delirium increased 1-year mortality by 2.4 times and 3-year mortality by 1.7 times. In a study evaluating delirium in patients applied to the emergency department in Turkey, delirium was found to be associated with 6-month mortality (OR: 1.82, 95% CI 1.02–3.23) and 5-year mortality (OR: 1.75, 95% CI 1.16–2.66). In another study, geriatric inpatients were evaluated and the 1-year mortality of the patients diagnosed with delirium as a result of psychiatric consultation was found to be higher than the patients without delirium (OR: 1.37, 95% CI 1.01–1.87), but 2-year and 3-year mortality were not associated with delirium.

With this study, it was showed that delirium increased both 1-year and 3-year mortality, and the importance of the prevention, early diagnosis and treatment of delirium in hospitalized geriatric patients was clearly demonstrated.

References

1. Inouye SK, Westendorp RG, Saczynski JS. Delirium in elderly people. Lancet. 2014;383(9920):911-922. doi:10.1016/S0140-6736(13)60688-1
2. Hshieh TT, Inouye SK, Oh ES. Delirium in the Elderly. Clin Geriatr Med. 2020;36(2):183-199. doi:10.1016/j.cger.2019.11.001
3. Kılıçaslan İ, Thet MS, Karahacıoğlu B, et al. Delirium, dementia, and depression (3D) assessment of older patients in the emergency department: 5-year survival analysis. Turk J Med Sci. 2022;52(2):380-396. doi:10.55730/1300-0144.5325
4. Tsai MC, Weng HH, Chou SY, Tsai CS, Hung TH, Su JA. Three-year mortality of delirium among elderly inpatients in consultation-liaison service. Gen Hosp Psychiatry. 2012;34(1):66-71. doi:10.1016/j.genhosppsych.2011.09.015

Keywords: Delirium, mortality, hospitalized, geriatric

Sarcopenia

OP-68

THE PREVALENCE OF PROBABLE SARCOPENIA IDENTIFIED BY CHAIR-STAND TEST AND ASSOCIATED FACTORS IN OLDER OUTPATIENTS

Emine Asci Civelek, Meris Esra Bozkurt, Serdar Ozkok, Zeynep Fetullahoglu Durmus, Mehmet akif Karan, Gulistan Bahat

Istanbul Medical School Department Of Internal Medicine Division Of Geriatrics

Introduction: Probable sarcopenia is mostly identified by handgrip strength(HGS) measurement in routine practice or for research purposes. However, the chair-stand test (CST) is a valuable alternative as it directly assesses the strength of muscles responsible for mobility, and may be an indirect indicator of muscle power as well. Here we aimed to study the prevalence of probable sarcopenia in older outpatients via CST and identify the significantly associated factors.

Methods: We included outpatients ≥60 years old admitted to a university hospital between July 2012 and May 2023. We obtained information on demographic and clinical variables, and

performed comprehensive geriatric assessment. We applied five-times CST, with a threshold of >15 sec considered as probable sarcopenia. We performed univariate and multivariate analyses to detect the parameters associated with probable sarcopenia.

Results: We included 504 individuals with a median age of 73(60-96); 67.5%(340) were female. Probable sarcopenia prevalance was 16.9%. Older age [OR (95%CI)=1.11 (1.06-1.16), p<0.001], female gender [OR (95% CI)=2.0 (1.02-3.92), p=0.045], frailty [OR (95% CI)=3.3 (1.63-6.64), p=0.001], and impairment in activities of daily living [OR (95%CI)=2.2 (1.2-4.1), p=0.02] were independently associated with probable sarcopenia.

Conclusions: Our study suggests that frailty demonstrates the strongest association with probable sarcopenia. This close relationship is no surprise as both concepts partly overlap, especially on parameters of impaired physical function. Given the recent reports showing that poor CST performance also predicts impairment in frailty status in older adults, CST as an instrument-free method of measuring muscle strength seems likely to gain more ground in geriatric practice(1).

Keywords: sarcopenia, chair stand test

References

1: Burbank at all Muscle power predicts frailty status over four years: A retrospective cohort study of the National Health and Aging Trends Study. Journal of Frailty, Sarcopenia and Falls, 8(1), 1-8. https://doi.org/10.22540/JFSF-08-001

Sarcopenia

OP-69

SARCOPENIC OBESITY VS SARCOPENIA BY USING TWO ALTERNATIVE ADJUSTMENT METHODS FOR LOW MUSCLE MASS:WHICH ONE BETTER PREDICTS POOR PHYSICAL PERFORMANCE?

Ezgi Pinar[1], Serdar Ozkok[2], Cihan Kilic[1], Humeyra Ozalp[1], Mehmet Akif Karan[1], Gulistan Bahat[1]

[1]Istanbul University, Istanbul School Of Medicine, Department Of Internal Medicine, Division Of Geriatrics
[2]Hatay Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics

Objective: ESPEN & EASO consensus paper on sarcopenic obesity (SO) recommends measured muscle mass to be adjusted for body size (i.e., body weight) to assess "relative sarcopenia"[1]. However some authors suggest that body mass index (BMI) would better represent body size and should be preferred instead. We aimed to find out the adjustment method that is more related to impaired timed up-and-go test (TUG) and to study whether SO or only sarcopenia (S) is more detrimental in terms of physical performance.

Methods: This is a retrospective, cross-sectional study including older outpatients ≥60 years admitted to a university hospital. Handgrip strength (HGS) was measured via Jamar dynamometer and muscle mass and fat percentage were estimated via bioelectrical impedance analysis. Skeletal muscle mass index (SMMI) was calculated by adjusting SMM for body weight (SMM:W) or BMI (SMM:BMI), and EWGSOP2 definition was used for sarcopenia diagnosis (reduced HGS+reduced SMMI)[2]. Obesity was defined by fat percentage method. TUG ≥ 20 s was accepted as poor physical performance. Individuals were grouped into 4 phenotypes: Non-sarcopenia+Non-obesity (non-S+non-O) (reference); Sarcopenia+Non-obesity (only S); Non- sarcopenia+Obesity (only O); sarcopenia + obesity (SO). The association of body phenotypes with impaired TUG was evaluated in univariate and multivariate analyses including age and undernutrition according to the Mini-Nutritional Assessment-Short Form <12 points[2].

Results: We included 1504 older adults in our study (69.0% female, median age: 75). According to the TUG test, 79 (5.5%) had poor physical performance. When we used SMM:W, only "only S" was independently associated with an increased risk of impaired TUG (OR=11.0 (3.6-34.0), p<0.001). When we used SMM:BMI, S alone demonstrated lower risk for impaired TUG, compared to SMM:W adjustment (OR=3.0 (1.1-7.8), p=0.03). SO was also associated with impaired TUG with SMM:BMI (OR=3.2 (1.5-6.9), p=0.002). When we compared SO and only S head to head, "only S" group demonstrated significantly higher risk of impaired TUG compared to SO group (OR=4.9 (1.02-23.5), p=0.048) with SMM:W, but there was no significant difference between groups with SMM:BMI.

Conclusion: SMM adjustment for weight suggested by SO consensus paper demonstrated stronger relationship of sarcopenia with poor physical performance, compared to BMI adjustments. Moreover, it seems that obesity accompanying sarcopenia may be protective in terms of poor physical performance compared to sarcopenia alone.

Keywords: sarcopenia

Osteoporosis

OP-70

PREVALENCE OF OSTEOSARCOPENIA - TERTIARY CENTRAL OUTPATIENT CLINIC RESULTS

Gulcin Ozalp, Meris Esra Bozkurt, Zeynep Fetullahoglu, Tugba Erdogan, Cihan Kılıc, Serdar Ozkok , Gulistan Bahat Ozturk, Mehmet Akif Karan

Istanbul University,ıstanbul Medical School, Department Of Internal Medicine, Division Of Geriatrics

Introduction: Osteosarcopenia is a syndrome that defines the coexistence of osteoporosis and sarcopenia, two chronic musculoskeletal diseases associated with aging. We aimed to determine the frequency of osteosarcopenia in patients who applied to our outpatient clinic.

Material and Method: The records of patients who applied to the outpatient clinic between November 2012 and August 2022 were analyzed in a cross-sectional prevalence study. Demographic data of the patients, body composition and bone mineral density measured by DXA, and hand grip strength were recorded.

Results: The data of 923 of the 2013 patients evaluated within the scope of the study calendar could be accessed. The mean age of the cases was 76 (60-99), and 68.7% of them were women. There were 175 people diagnosed with osteoporosis. (19%). The number of people with probable sarcopenia was 379 (41.1%) and 93 (10%) with osteosarcopenia were identified. The cut-off thresholds for hand grip strength were respectively 32 kg and 22 kg for males and females. A significant relationship was found between probable sarcopenia and osteoporosis in the univariate analysis (p<0.001).

Conclusion: It is important to increase awareness of osteosarcopenia in the evaluation of osteoporotic patients. It should be noted that the treatment of sarcopenia (such as exercise and nutrition) is an important co-factor in the treatment of osteoporosis.

Keywords: Osteosarcopenia, osteoporosis, hand grip strength, sarcopenia

Others

OP-71

RELATIONSHIP BETWEEN BLOOD TYPE AND SYMPTOMS OF SARS-COV-2 INFECTION

Mercan Taştemur, Hilal Heybeli, Kamile Sılay, Rana Tuna Doğrul, Hande Selvi Öztorun, Güneş Arık

Ankara City Hospital, Department Of Geriatrics, Bilkent, 06800, Ankara, Turkey

Objective: There are studies in the literature investigating the relationship between blood group and some cancers and infectious diseases. Blood group antigens are found in many tissues, including leukocytes. Therefore, blood group antigens may play a role in infections. In this study, the aim is to evaluate the association between blood type and SARS-Cov-2 infection and symptoms.

Methods: During the pandemic, 651 patients who were hospitalized and treated with Covid-19 disease in a specialised hospital for Covid-19 patients were retrospectively scanned, and the blood group information of 438 patients was accessed and included in the study. 121 patients (27.6%) had O blood type. The clinical features and laboratory tests of the patients were obtained retrospectively from the hospital records. Data analysis was performed using SPSS Statistics 26.0 program. After determining whether the distributions of numerical variables, laboratory data and scale scores were normal or not by histogram and Kolmogorov-Smirnov test, comparisons between groups were made with Student's t-test or Mann-Whitney test according to distribution. In terms of categorical variables, comparison was made with the chi-square test.

Results: The mean age was 72.3 ± 10.9 (37-96) years and 45% (192) were females. The mean age of those with O blood group was found to be significantly lower. In terms of disease symptoms, only those with O blood group had a significantly higher rate of fever response than the other group. Diarrhea was observed more frequently in those with Non-O blood group. There was no difference between the two groups in terms of other symptoms, gender and chronic diseases. Mortality rates were also found similar between the two groups (21.5% in those with O blood group, 20.8% in the other group, p=0.8). There was no significant difference between the groups in terms of Brescia Covid severity index.

Conclusion: There are very few studies investigating the association between blood type and Covid-19 disease severity. In a study of 186 patients in Turkey, blood group A was found to be associated with an increased risk of Covid-19 infection, but no correlation was found with the severity of infection (1). This may be related to the frequency of blood groups in the general population. In epidemiological studies conducted on blood donors in Turkey, blood group A is the most frequently detected, followed by O blood group in the community. In our study, we found that the fever response was better in those with O blood group. This may be due to the lower mean age of patients with O blood group (70.5±12.4 vs. 72.9±10.29). More comprehensive studies are needed to explain the reasons for this situation.

Keywords: Blood type, SARS-Cov-2, Covid-19, infections

Table 1. Characteristics of the patients in terms of O and Non-O (A+B+AB) blood groups

	Kan Grubu		p
	O n=121	Non-O (A+B+AB) n=317	
Age Mean±SD	70.5±12.4	72.9±10.2	0,03
Female Gender (n,%)	62 (%51.2)	135 (%42.6)	0,1
Oxigen requirenmet (n,%)	68 (%56.2)	197 (%62.1)	0,2
Fever (n,%)	50 (%41.3)	99 (%31.2)	0,04
Dyspnea (n,%)	59 (%48.8)	158 (%49.8)	0,8
Cough (n,%)	40 (%33.1)	126 (%39.7)	0,1
Diarrhea (n,%)	3(%2.5)	25 (%7.9)	0,04
Muscle pain (n,%)	14 (%11.6)	21 (%6.6)	0,08
DM type 2 (n,%)	53 (%43.8)	121 (%38.2)	0,2
Brescia severity index (median, min-max)	2(0-7)	2(0-3)	0,9
Exitus (n,%)	26(%21.5)	66(%20.8)	0,8

Others

OP-72

ASSOCIATION BETWEEN INFLAMMATORY PARAMETERS AND ABO BLOOD GROUPS IN COVID-19 PATIENTS AGED 65 YEARS AND OVER

Hilal Heybeli, Mercan Taştemur, Kamile Sılay, Rana Tuna doğrul, Hande Selvi Öztorun, Erhan Özenç, Atacan Aras, Güneş Arık

Ankara City Hospital, Department Of Geriatrics, Bilkent, 06800, Ankara, Turkey

Objective: There are studies investigating the relationship between blood groups and some diseases. It is known that blood group antigens are used as receptors by some pathogens. It has also been shown that there is a relationship between blood type and microbiome diversity. The risk of Covid-19 disease is multifactorial, but blood group antigens may also be a contributing factor to the disease-related inflammatory response. In our study, we aimed to investigate whether inflammatory parameters such as CRP, IL-6, Ferritin differ between A, B, AB and O blood groups.

Methods: In a tertiary hospital where Covid-19 patients were admitted during the pandemic, 651 hospitalized patients were retrospectively scanned, and 383 patients aged 65 and over were included in the study. The clinical features and laboratory tests of the patients were obtained retrospectively from the hospital records. Data analysis was performed using SPSS Statistics 26.0 program. After determining whether the distributions of numerical variables, laboratory data and scale scores were normal or not by histogram and Kolmogorov-Smirnov test, comparisons between groups were made with ANOVA and Kruskal Wallis test according to distribution. In terms of categorical variables, comparison was made with the chi-square test.

Results: The mean age was 75.2±7.5 (65-96), and 45.4% of the patients had A blood group, 19.8% B blood group, 25.3% O blood group, 9.4% AB blood group. There was no difference between the groups in terms of age, gender, and chronic diseases. However, the proportion of those who needed oxygen support was found to be significantly higher in patients with A blood group. Mortality rates were found to be higher in those with A blood group compared to other blood groups. Among the inflammatory parameters, only IL-6 levels were found to be significantly higher in patients with A blood group. The findings are summarized in Table.1.

Conclusions: Our study is important in showing that blood group A is an important risk factor for poor outcome in Covid-19 disease. The fact that the increased IL-6 levels were significantly higher in those with A blood group also indicates that blood group is an important factor affecting the immune response and inflammation.

Keywords: ABO blood type, SARS-Cov-2, Covid-19, inflammation

Table 1 : Clinical Characteristics of Patients by Blood Groups

	Blood Types				
	A 174 (45.4%)	B 76 (19.8%)	O 97 (25.3%)	AB 36 (9.4%)	p
Age Mean ±SD	75,6±7.5	74,5±7.6	75,4±7.1	74,5±8.4	0,6
Gender, Female %,n	44.8%(78)	46.1% (35)	54.6% (53)	30.6% (11)	0.09
DM type 2 %,n	39.1% (68)	39.5% (309	48.5% (47)	41.7% (15)	0,4
IV Steroid treatment required %, n	63% (109)	56.6% (43)	53.6% (52)	50% (18)	0,3
Fever present%,n	30.4% (59)	28.6% (24)	41.3% (50)	%41 (16)	0,2
Oxygen needed %, n	67.8% (118)	51.3% (39)	57.7% (56)	52.8% (19)	0,050
ICU care needed%, n	32.8% (57)	22.4% (17)	33% (32)	13.9% (5)	0,052
Exitus %,n	27% (47)	10.5% (8)	25.8% (25)	19.4% (7)	0.029
CRP Mean ±SD	89,7± 60	74±58	83±62	76±63	0,2
Ferritin Median (min-max)	342 (20-13338)	267 (13-4300)	364 (17-12390)	266 (24-1927)	0,09
IL-6 mean±SD	85±172	45±50	59±67	38±69	0,035

Anti-Aging and Healthy Aging

OP-73

THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY LEVEL AND COGNITIVE HEALTH FOR ACTIVE AGING

Önder Yüksel Eryiğit[1], Mustafa Hakan Yılmaztürk[2], Bilal Yıldırım[2], Tülay Aytekin Aktaş[3], Lizge Beyaztaş[3–4], Orhan Gazi Kocamış[3], Hafize Doğan[3]

Background: The World Health Organization has defined healthy aging as the process of maintaining functional ability to ensure well-being in elderly. When considering a prescription for healthy aging, the crucial role of physical activity becomes evident. Therefore, regular physical activity can be approved as an effective lifestyle factor in promoting healthy cognitive aging. The purpose of our study was to examine how cognitive health physical activity levels were related in nursing home.

Materials and Methods: The study included residents living in İBB Darülaceze who met the inclusion criteria. An age and gender distribution of the participants was recorded. The participants' levels of physical activity were assessed using the Physical Activity Scale for the Elderly (PASE). Cognitive health was evaluated using the Mini-Mental State Examination (MMSE).

Results: A total of 268 residents participated in the study, with 192 (71.6%) being male and 76 (28.4%) female. The mean age of the participants was 73.2±8.75. The average physical activity level was found to be 99.6 (ranging from 0 to 440). Cognitive health was recorded with a mean score of 26.06 (ranging from 17 to 30). There was a statistically significant negative correlation between age and physical activity level. Similarly, a statistically significant negative correlation was found between age and cognitive health. Furthermore, there was a statistically significant positive correlation between the level of physical activity and cognitive health.

Conclusion: İncreasing age leads to a decline in physical activity and cognitive health parameters. A significant correlation was also found between physical activity and cognitive well-being, in line with other studies in the literature. The importance of assessing both physical activity levels and cognitive health status must be considered in order to achieve an active aging.

Keywords: Active Aging, Physical Activity, Cognitive Health, Nursing Home

Falls

OP-74

FACTORS RELATED TO HIGH FALL RISK IN NURSİNG HOME RESIDENTS ACCORDING TO MORSE SCALE

Önder Yüksel Eryiğit[1], Mustafa Hakan Yılmaztürk[2], Bilal Yıldırım[2], Tülay Aytekin Aktaş[3], Lizge Beyaztaş[3–4], Orhan Gazi Kocamış[3], Hafize Doğan[3], Bülent Saka[5]

[1]Istanbul Metropolitan Municipality Head Of Health Department, Istanbul, Turkey
[2]Istanbul Metropolitan Municipality Health Department, Istanbul, Turkey
[3]Istanbul Metropolitan Municipality Health Department Darulaceze Directorate, Istanbul, Turkey
[4]Institute Of Graduate Education İn Physiotherapy And Rehabilitation, Department Of Physiotherapy And Rehabilitation, Istinye University, Istanbul, Turkey
[5]Department Of Internal Medicine, Istanbul Faculty Of Medicine, Istanbul University, Istanbul, Turkey

Background: A fall is a significant risk factor for morbidity, mortality, and poor quality of life for people receiving chronic care. The Morse Fall Scale is a frequently preferred risk assessment tool in hospitals and nursing homes. In this study we aimed to investigate potential associations between fall risk determined by the Morse Fall Scale and other measurements and geriatric syndromes in nursing home residents.

Material and Method: Residents of IBB Darülaceze Directorate were included in this study. Gender, age, body mass index (BMI), number of falls in the last 3 and 6 months were recorded. The fall risk of the residents was assessed with the Morse Fall Scale. In addition, the Mini Mental Status Test (MMST), muscle strength measurement, Mini Nutritional Assessment - Short Form (MNA-SF), Katz Index of Independence in Activities of Daily Living, Timed Up and Go Test (TUG) and Single Leg Stance Test (SLST) were used to assess the clinical status of the residents.

Results: A total of 276 residents were included in the study (72.1% male). The mean age of all residents was 73 (41-102 years), averagely 72 (41-96 years) for male and 76 (52-102 years) for female. A total of 10.3% (male) and 9.3% (female) of residents were underweight, 20.0% (male) and 30.7% (female) were obese, and 2.6% (male) and 6.7% (female) were morbidly obese, respectively. There was at least one fall in the last 6 months for 8.6% of men and 13% of women. According to MMSE scores, 12.0% and 38.2% of male and 38.2% of female residents had early, 5.8% and 9.2% had moderate cognitive dysfunction, respectively. Muscle strength was found to be low in 43.7% of the residents. According to MNA-SF results, 9.0% of males and 16.2% of females were at risk of malnutrition. As a result of the Morse Fall Scale, 33.7% of men and 59.8% of women were at risk of falling ($p<0.001$). There was an independent

relationship between the risk of falling according to the Morse Fall Scale and age (p=0.046), MMSE (p=0.048), low muscle strength (p=0.008), Katz Index of Independence in Activities of Daily Living (p<0.001), BMI (p=0.038), MNA-SF score (p=0.048) and TUG duration (p=0.017). There was an inverse correlation between SLST duration and Morse score, but this relationship was not statistically significant.

Conclusion: In nursing home residents, sarcopenia, a low Katz score, aging, female gender, obesity, low cognitive capacity, malnutrition, and low physical performance were associated with a higher incidence of falls according to the Morse scale.

Keywords: Fall, Risk assessment, Nursing home, Geriatric assessment

Polypharmacy and Inappropriate Drug Use

OP-75

INAPPROPRIATE DRUG USAGE IN OLDER PATIENTS STAYING IN AN INTENSIVE CARE UNIT AND ITS RELATIONSHIP WITH CLINICAL OUTCOMES

Muhammed Kürşad Mavuş, Dursun Elmas, İbrahim Güney, Muhammet Cemal Kızılarslanoğlu

University Of Health Sciences Türkiye, Konya City Hospital, Department Of Internal Medicine

Aim: This study aimed to evaluate the inappropriate drug usage rate in hospitalized older patients in an intensive care unit (ICU) among their drugs given first day of ICU admission and its relationship with clinical outcomes.

Methods: Older patients hospitalized in an ICU between 01.01.2019 and 01.01.2020 were included in the study. In addition to the general demographic characteristics of the patients, the chronic diseases, the drugs used, the dates of hospitalization and discharge, the reasons for hospitalization, the number of drug treatments given on the first day of admission to the ICU, the last conditions and dates in the hospital and ICU were recorded. The treatments given were evaluated according to the TIME to STOP criteria.

Results: Of the 218 patients included in the study [50.9% female, median age 79 years (60-100)], 18.3% used 4-10 drugs, and 75.7% used more than ten drugs. The most common accompanying chronic disease was hypertension, with 51.8%. Gastrointestinal causes were the first among the reasons for admission to the ICU, with 32.1%. According to the TIME to STOP criteria, 47.2% of the patients were found to have used at least one inappropriate drug. Multiple drug use (≥10 drugs) was found to increase the risk of inappropriate drug use (OR: 2.751; 95% CI: 1.301-5.816; p=0.007). It was determined that the duration of hospitalization and the number of drugs given on the first day of ICU hospitalization in patients with inappropriate drug use were higher than those without inappropriate drug use (respectively, 13 versus 8 days, p=0.002, and 7 drugs versus 6 drugs, p<0.001).

Conclusion: It has been shown that most of the older patients hospitalized in the ICU have polypharmacy and inappropriate drug use and that inappropriate drug use may be associated with length of stay in the hospital.

Keywords: Older, polypharmacy, Time to Stop criteria, rational drug use, inappropriate drug use

Sarcopenia

OP-76

THE RELATIONSHIP BETWEEN SARCOPENIA, SARCOPENIA RELATED QUALITY OF LIFE AND ULTRASOUND FINDINGS OF RECTUS FEMORIS MUSCLE IN OLDER OUTPATIENTS

Ahmet Yalçın[1], Yavuz Metin[2], Mürsel Karadavut[1], Melih Gaffar Gözükara[3], Sinan Arı[1], Emine Gemci[1], Büşra Yürümez[1], Seher Yiğit[1], Volkan Atmış[1], Sevgi Aras[1], Murat Varlı[1]

[1]Geriatric Medicine Department, Ankara University School Of Medicine
[2]Radiology Department, Ankara University School Of Medicine
[3]Ankara Sincan Province Health Directorate

Purpose: Skeletal muscle ultrasonography stands out as a promising method for detecting sarcopenia. We aimed to evaluate the relationship between sarcopenia, sarcopenia related quality of life and US findings of the Rectus Femoris muscle.

Methods: A total of 300 older individuals were included in this cross-sectional study. Sarcopenia was diagnosed according to European Working Group on Sarcopenia in Older People 2 criteria. Rectus F muscle thickness, cross-sectional area, fascicle length, pennation angle, stiffness and echogenicity were measured by an experienced radiologist using a B-mode US device. Quality of life was determined by Sarcopenia- Quality of life questionnaire. Corelation analysis, receiver operating analysis, sensitivity and specificity analysis were performed.

Results: The median age of participants was 72. 191 (63.9%) and 109 (36.1%) of participants were males and females, respectively. The prevalence of sarcopenia was 15.6%. Fascicle length, cross-sectional area and thickness showed highest sensitivity (81%) and specificity (87%) for men. Fascicle length and pennation angle showed highest sensitivity (87%) and specificity (66%) for women. Rectus Femoris ultrasound parameters differed across SarQoL quartiles and higher Sarcopenia- Quality of life scores are associated with better ultrasound parameters. All ultrasound parameters had positive correlations with Sarcopenia-Quality of life.

Conclusion: Different Rectus Femoris ultrasound parameters are useful for detecting sarcopenia according to gender. Combination of these parameters can increase diagnosis accuracy. Ultrasound parameters are associated with sarcopenia related quality of life.

Keywords: Aged; Sarcopenia; Quadriceps Femoris; Quality of life; Ultrasonography

Others

OP-77

INCIDENTAL FINDINGS DETECTED IN ABDOMINOPELVIC ULTRASOUND IN GERIATRIC INDIVIDUALS: SINGLE CENTER EXPERIENCE

Sinan Arı[1], Yavuz Metin[2], Volkan Atmış[1], Ahmet Yalçın[1], Seher Yiğit[1], Murat Varlı[1]

[1]Geriatric Medicine Department, Ankara University School Of Medicine
[2]Ankara University School Of Medicine, Department Of Radiology

Aim: Incidental findings (IFs) are considered to be previously undetected abnormalities that are unexpectedly discovered and unrelated to the purpose of the examination, potentially of clinical significance. Nowadays, the incidence of incidental lesions is

increasing with the increased use of USG. Our aim in this study was to demonstrate the frequency and necessity of incidental lesions detected in asymptomatic geriatric individuals and to make an additional contribution to the literature.

Material: This is a prospective cohort study conducted in older individuals. All patients underwent abdominal USG examination by the same experienced radiologist. All intraabdominal solid organs and intestinal segments from the dome of the liver to the pelvic level were evaluated.

Results: The median age of the 339 patients was 72 (65-92) years and 215 (63.4%) of the patients were female. The most common USG finding in the entire study group was renal mass and the majority of these were benign masses. This was followed by hepatomegaly. Hepatomegaly and hepatic steatosis showed a statistically significant decrease with increasing age (p=0.001 and p=<0.001, respectively). ALT values and ALT/AST ratio were found to be statistically significantly higher as the degree of hepatic steatosis increased (p=<0.001 vs. p=<0.001, respectively). The most common USG finding in men was prostatic hypertrophy, while atrophy of the internal genital organs was the most common finding in women. Abdominal aortic aneurysm and bladder trabeculation were significantly more common in men (p=0.014 and p=<0.001, respectively), whereas hepatic steatosis and history of previous cholecystectomy were significantly more common in women (p=0.005 and p=<0.001, respectively).

Conclusion: As a result, the majority of incidental findings detected by USG in the elderly population are benign conditions. However, USG can contribute to the investigation of the etiology of patients with symptomatic and clinical findings as an easy-to-apply, rapid evaluation and relatively inexpensive method.

Keywords: Incidental lesion, abdominopelvic ultrasound, older adult

Frailty

OP-79

VALIDITIY AND RELIABILITY OF THE FIVE-ITEM SOCIAL FRAILTY INDEX IN THE TURKISH POPULATION

Nermin Karakurt, Esra Çataltepe, Eda Çeker, Ayşe Fadıloğlu, Fatih Güngör, Hacer Doğan Varan

Gazi University Faculty Of Medicine, Department Of Geriatric Medicine, Ankara, Türkiye

Background: Frailty, characterized by significant vulnerability to stress factors, is associated with a decrease in physiological reserves with aging. Frailty encompasses physical, social, psychological and cognitive components, however the scope of the social frailty entity is not yet clear in the literature and there is no gold standard index for its diagnosis. Makizako et.al, determined social frailty with the Five-Item Social Frailty Index, finding that it shows a strong correlation with the risk of developing disability. The aim of this study is to validate the 'Five-Item Social Frailty Index' in Turkish and to investigate its reliability.

Methods: Three hundred and eight patients aged 65 years or over were included in the study. Patients with dementia, active malignancies, active infections, or those who could not be communicated with in Turkish for any reason were excluded. Sociodemographic and health-related data of the participants were recorded. All participants underwent comprehensive geriatric assessment. The Five-Item Social Frailty Index was translated to Turkish using the forward-backward translation method (Table 1). After translation, it was tested for intelligibility on fifteen patients. For the inter-rater reliability assessment, the five questions were asked to fifty- five patients by two experts, sequentially on the same day in different rooms. For intra-rater reliability, forty- three patients were asked the same five questions by the same expert at one-week intervals. Intra-rater and inter-rater consistency were evaluated. SPSS version 21 was used for statistical analysis.

Results: The mean age of 308 participants was 74.8±6.2. Of these; 151(49%) were female, 57 (18.5%) were illiterate, and 84 (27.3%) had university degrees. When their marital status was analyzed, 207 (67.2%) were married, 98 (31.8%) were widowed, and 3 (1%) were single. In terms of social frailty, 143 (46.4%) of the participants were robust, 149 (48.4%) were prefrail, and 16 (5.2%) were frail. Social frailty was less common in women, married people, those who exercised at least 1-2 days a week for 30 minutes, and those who could mobilize independently (Table 2). Intra-rater and inter-rater concordance were found to be perfect with Kappa values of 0.91 (p:<0.001) and 0.83 (p:<0.001), respectively (Table 3). There was a substantial or nearly perfect agreement between the assessments of intra and inter-rater in all five items (Table 4).

Discussion: The Five-Item Social Frailty Index is a reliable and valid method for assessing social frailty in Turkish society.

Keywords: frailty; validation; social; Turkish.

Table 1. Turkish version of the five-item social frailty index

Sorulara 'EVET' ya da "HAYIR' olarak cevap veriniz. (Answer the questions in the form of YES or NO.)		*Skor*
1. Yalnız mı yaşıyorsunuz? (Do you live alone?)	EVET (YES)	1
2. Geçen yıla kıyasla evden dışarı daha mı az çıkıyorsunuz? (Do you go out less frequently compared with last year?)	HAYIR (NO)	1
3. Arkadaşlarınızı/tanıdıklarınızı ara sıra ziyaret eder misiniz? (Do you sometimes visit your friends?)	HAYIR (NO)	1
4. Aileniz ve arkadaşlarınız için kendinizi faydalı hissediyor musunuz? (Do you feel you are helpful to friends or family?)	HAYIR (NO)	1
5. Her gün birisiyle sohbet ediyor musunuz? (Do you talk with someone every day?)	HAYIR (NO)	1
	Toplam Skor	/5
0: normal, 1:prefrail, ≥2:frail		

Table 2. General charecterisctics of the participants according to the social frailty status

	Total N=308	*Robust N=143*	*Prefrail N=149*	*Frail N=16*	*p*
Age (std.)	74.8 (6.2)	73.9 (5.6)	75.2 (6.6)	78.8 (6.9)	0.005
Gender,female, n(%)	151 (%49)	55 (%36.4)	86 (%57)	10 (%6.6)	0.002
Hypertension, n(%)	209 (%67.9)	95 (%45.5)	105 (%50.2)	9 (%4.3)	0.452
Diabetes mellitus,n(%)	113 (%36.7)	49 (%43.4)	59 (%52.2)	5 (%4.4)	0.575
CAD, n(%)	75 (%24.4)	34 (%45.3)	37 (%49.3)	4 (%5.3)	0.976
COPD, n(%)	17 (%5.5)	3 (%17.6)	14 (%82.4)	0 (%0)	0.015
Frail CFS, n(%)	18 (%5.8)	2 (%11.1)	12 (%66.7)	4 (%22.2)	<0.001
ADL, median (min-max)	5.4 (0-6)	6 (3-6)	6 (0-6)	5 (2-6)	0.002
IADL, median (min-max)	7.3 (0-8)	8 (4-8)	8 (0-8)	7.5 (1-8)	<0.001
MNA, median (min-max)	12.6 (5-14)	13 (8-14)	13 (7-14)	12 (5-14)	0.309
MMSE, median (min-max)	27.8 (23-30)	29 (23-30)	28 (23-30)	26.5 (23-30)	0.003
GDS, median (min-max)	2.7 (0-15)	1 (0-14)	3 (0-13)	6.5 (0-15)	<0.001
CFS, median (min-max)	3.1 (1-7)	3 (1-5)	3 (1-7)	3 (3-7)	<0.001
Marital status married, n(%)	207 (%67.2)	123 (%59.4)	77 (%37.2)	7 (%3.4)	<0.001
Exercise, n(%)	222 (%72.1)	123 (%55.4)	95 (%42.8)	4 (%1.8)	<0.001
Mobilization independently, n(%)	269 (%87.3)	130 (%48.3)	127 (%47.2)	12 (%4.5)	0.002

CAD: Coronary Artery Disease, COPD: Chronic Obstructive Pulmonary Disease, ADL: Activities of Daily Living, IADL: Instrumental Activitiesof Daily Living, MNA: The Mini Nutritional Assessment, MMSE: Mini-Mental State Examination, GDS: Geriatric Depression Scale, CFS: Chalder Fatigue Scale.

Table 3. Consistency on diagnosis of social frailty status among clinicians (robust/prefrail/frail)

	Kappa	*p*
Intra-rater concordance	0.91	<0.001
Inter-rater concordance	0.83	<0.001

Table 4. Consistency on questions of the five item social frailty index among clinicians

	Kappa	*p*
Intra-rater concordance Question 1	1.00	<0.001
Intra-rater concordance Question 2	0.90	<0.001
Intra-rater concordance Question 3	0.90	<0.001
Intra-rater concordance Question 4	1.00	<0.001
Intra-rater concordance Question 5	1.00	<0.001
Inter-rater concordance Question 1	1.00	<0.001
Inter-rater concordance Question 2	0.89	<0.001
Inter-rater concordance Question 3	0.79	<0.001
Inter-rater concordance Question 4	0.64	<0.001
Inter-rater concordance Question 5	0.65	<0.001

Frailty

OP-80

THE ASSOCIATION BETWEEN ANTICHOLINERGIC BURDEN AND FRAILTY STATUS: A CROSS-SECTIONAL STUDY

Neslihan Kayahan Satış, Mehmet İlkin Naharcı

Gülhane Faculty Of Medicine & Gülhane Training And Research Hospital, Division Of Geriatrics, University Of Health Sciences

Aim: Frailty is a geriatric syndrome in which the ability to cope with stressors resulting from decreased physiological reserve and function is impaired and defines an increased risk for poor health outcomes. This study aimed to evaluate the relationship between pre-frail and frail individuals with anticholinergic burden.

Methods: The study included individuals who were over 65 and came to a tertiary referral center's outpatient clinic. The assessment of frailty was performed in accordance with Fried's frailty phenotype criteria. Anticholinergic exposure was evaluated using the Anticholinergic Cognitive Burden Scale (ACB), and two subgroups were formed, ACB ≤ 1 and ACB ≥ 2. The relationship between these two factors was analyzed through multivariate regression analysis, considering the confounding factors.

Results: In the study, which included 1184 patients, the number of pre-frail patients was 672 (56.8%), while the number of frail patients was 386 (32.6%). Cognitive impairment, female gender, education time, polypharmacy, multimorbidity and malnutrition were more common in the frail group. Multivariate analysis revealed that having an ACB of 2 or higher was associated with frailty compared to ACB ≤ 1 [OR=1.67, 95% CI: 1.14 – 2.44, p=0.009].

Conclusion: It is important to examine drugs from this perspective, especially in pre-frail individuals, given the possible relationship between high anticholinergic burden and frailty.

Keywords: Elderly, frailty, anticholinergic agents

Chronic Diseases

OP-81

INVESTIGATION OF GERIATRIC ASSESSMENT PARAMETERS IN THE ELDERLY WITH ADVANCED CHRONIC KIDNEY DISEASE

Münir Okumuş[1], Ertugrul Erken[2], İlyas Öztürk[2], Neziha Erken[3], Orçun Altunören[2]

[1]Kahramanmaras Sutcu İmam University
[2]Kahramanmaras Sutcu İmam University, Nephrology Department
[3]Kahramanmaras Necip Fazil City Hospital, Clinic Of Geriatrics

Purpose: The proportion of those with a diagnosis of advanced chronic kidney disease (CKD) (stage 3b-5) is increasing in the elderly population. CKD is recognized as an aging condition characterized by atherosclerosis, inflammation, cognitive impairment, physical limitations, and metabolic abnormalities. It is possible to detect these disorders in the early period with comprehensive geriatric assessment. The aim of this study is to evaluate geriatric parameters like cognitive function, nutrition, daily living activities and frailty and to investigate their possible relations with adverse health conditions in an aged population with advanced CKD.

Patients and Methods: CKD patients aged 60 and over who were followed up by the nephrology outpatient clinic and the dialysis unit were included to the study; 150 patients with advanced CKD, and healthy 158 controls with similar demographics were included. Geriatric parameters that were used for the evaluation of the groups were, CFI (Clinical Frailty Index); MoCA (Montreal Cognitive Assesment); CCI (Charlson Comorbidity Index;) MNA-sf (Mini Nutritional Assesment-short form), and IADL (Lawton-Brody Instrumental Activities of Daily Living scale). In addition, some laboratory parameters and polypharmacy status were recorded.

Results: CKD patients had higher comorbidity and frailty scores, and lower cognitive scores copmared to healthy controls (Table 1). Patients and controls had similar results when they were evaluated for nutritional status, polypharmacy, and daily living activities. Patient age was an important predictor for all geriatric parameters. Subgroup analysis revealed that female gender and diagnosis of diabetes were associated with frailty and dependence in daily living activities. Patients with CVD or polypharmacy were more susceptible to cognitive impairment, frailty and malnutrition. Frailty and malnutrition were more prevalent in patients with low estimated glomerular filtration rate (eGFR); (Table 2).

Conclusion: Geriatric syndromes are more prevelant than expected in elderly patients with advanced CKD. Physical frailty emerges along with CKD progression. Frailty, cognitive impairment, malnutrition and polypharmacy may form causal links with one and other and lead to increased mortality rates.

Keywords: Chronic kidney disease, geriatric syndromes, cognitive impairment, frailty, malnutrition

Table 1. Distribution of geriatric syndromes among patient and control groups

Variable	*CKD (n = 150)*	*Control (n=158)*	*p value*
Cognitive impairment, n (%)	79 (52.7)	60 (38.7)	0.030
Frailty 5-7 points, n (%)	47 (31.3)	1 (0.6)	<0.001
Malnutrition, n (%)	21 (14)	37 (23.4)	0.340
Polypharmacy, n (%)	124 (82.7)	123 (77.8)	0.289
Dependence, n (%)	78 (52)	85 (53.8)	0.753

Table 2. Distribution of geriatric syndromes among older CKD patients regarding to median eGFR value

Variable	*eGFR < 26 (n = 74)*	*eGFR ≥ 26 (n = 76)*	*p value*
Cognitive impairment, n (%)	37 (50)	41 (53.9)	0.631
Frailty 5-7 points, n (%)	37 (50)	22 (28.9)	0.009
Malnutrition, n (%)	16 (21.6)	5 (6.6)	0.008
Polypharmacy, n (%)	63 (85.1)	61 (80.3)	0.432
Dependence, n (%)	39 (52.7)	39 (51.3)	0.865

Incontinence

OP-82

THE ASSOCIATION SARCOPENIA AND SARCOPENIC OBESITY WITH URINARY İNCONTINENCE

Neziha Özlem Deveci[1], Sibel Akın[1], Yavuz Sultan Selim Akgül[1], Burcu Eren Cengiz[1], Derya Koçaslan[1], Kamil Deveci[2]

[1]Erciyes University, Geriatrics, Kayseri, Turkey
[2]Kayseri City Hospital, Intensive Care Unit, Kayseri, Turkey

Aim: In this study, we aimed to show whether there is a relationship between urinary incontinence and sarcopenia.

Methods: Our study is a cross-sectional study. Female patients admitted to our geriatrics outpatient clinic were included in our study. A comprehensive geriatric evaluation was performed on the patients. Demographic information was recorded. Incontinence, history of falling and nutritional status were questioned. Activities of daily living, instrumental activities of daily living, SARC-F questionnaire were applied. Anthropometric measurements were made. Hand grip strength and BIA muscle mass were evaluated with a hand dynamometer. Muscle function was evaluated with a walking speed of 4 m.

Results: 49% of 535 female patients had urinary incontinence. Patients with urinary incontinence had a higher BMI, had a history of falling, had lower hand grip strength, were at higher risk for sarcopenia compared to the SARC-F test, were more sarcopenic and sarcopenic obese. When logistic regression was performed, as a result of univariate analysis, the factors that increased the risk of urinary incontinence were the history of falling, low hand grip strength, high risk compared to the SARC-F screening test, sarcopenia detected when muscle mass was adjusted according to BMI and weight, sarcopenic obesity and increased calf circumference. When multivariate analysis is performed, the factors that most affect urinary incontinence are; History of falling within 1 year, increased calf circumference and risk group according to SARC-F

Discussion: Urinary incontinence is a geriatric syndrome that reduces the quality of life in the elderly. Sarcopenia and sarcopenic obesity are also conditions that affect morbidity and mortality in the elderly. According to the results of our study, when muscle mass is adjusted according to weight and BMI, we can say that UI is associated with sarcopenia and sarcopenic obesity. However, since our study was a cross-sectional study, a cause-effect relationship could not be determined between sarcopenia and sarcopenic obesity and urinary incontinence. Further studies are needed for this.

Keywords: sarcopenia,sarcopenic obesity,urinary incontinence,elderly

Table 1. Demographic and medical data for participants with and without urinary incontinence

Variables	*Urinary incontinence (+) (n=267)*	*Urinary incontinence (-) (n=268)*	*p value*
Age(min-max)	69 (66-75)	70 (65-76)	0,8
BMI	32 (29-37)	30 (26-34)	0,01
Falling History n(%)	141 (52,8)	79 (29,5)	0,01
ADL,dependent n(%)	129 (48,3)	151 (56,3)	0,1
IADL,dependent n(%)	154 (57,7)	167 (62,3)	0,3
MNA-SF(+), n(%)	158(59,2)	145(54,1)	0,47
Calf Circumference, n(%) ≥33 cm	222(83,1)	192 (71,6)	0,01
Waist-Hip Ratio, n(%) ≥0,8	261 (97,8)	263 (98,1)	0,9
Hand Grip, Kg	18 (12-21)	18,7 (14-23,7)	0,01
Hand Grip, Kg probable sarcopenia	204 (76,4)	175 (65,3)	0.01
walking speed ,m/sn	0,68 (0,5-0,93)	0,7 (0,54-0,89)	0,32
SARC-F(+), n(%)	137 (51,3)	88(32,8)	0,01
Sarcopenia(SMM/boy^2), n(%)	78 (29,2)	97 (36,2)	0,17
Sarcopenia (SMM/BKİ), n(%)	190 (71,2)	162 (60,4)	0.02
Sarcopenia (SMM/kg), n(%)	185 (69,3)	158 (59)	0.03
Sarcopenic obesity, n(%)	159 (59,6)	125 (46,6)	0.01
obesity,fatt mass, n(%)	211 (79)	195 (72,8)	0.2

Polypharmacy and Inappropriate Drug Use

OP-83

POLYPHARMACY-RELATED ORTHOSTATIC INTOLERANCE SYNDROME IN COMMUNITY-DWELLING OLDER ADULTS

Arzu Okyar Baş, Yelda Öztürk, Merve Güner, Serdar Ceylan, Süheyla Çöteli, Meltem Koca, Zeynep Kahyaoğlu, Mert Eşme, Cafer Balcı, Burcu Balam Duğu, Mustafa Cankurtaran, Meltem Gülhan Halil

Hacettepe University

Background and aim: Polypharmacy (PP) has been associated with various adverse outcomes in older adults. Although few studies showed the association of polypharmacy with orthostatic blood pressure changes(OBPCs), its relationship with Orthostatic intolerance syndrome (OIS), which refers to a cluster of symptoms that occur with orthostatic position changes with or without OBPCs, is unknown. This study aimed to evaluate the relationship between polypharmacy and OIS in community-dwelling older adults.

Material and Methods: Ninety-nine geriatric outpatients enrolled in the study. Besides comprehensive geriatric assessment (CGA), frailty evaluation (Modified Fried Frailty Index), OBPC evaluations (active-standing test (AST)), and OIS questioning both experienced in the last three months (self-reported OIS) and symptoms emerged during the AST were performed. PP was defined as using >4 drugs.

Results: The median (IQR) age of participants was 74 (69.5-79.0) years, and 66.7% (n=66) were female. According to self-reported OIS, patients were divided into; non-OIS and OIS groups, and 51 (51.5%) and 48 (48.5%) patients were in each group, respectively (Table 1). The frequency of PP was significantly higher in the OIS group. In the regression analysis, OIS was significantly related to PP regardless of age, sex, malnutrition, and frailty (OR:0.353, 95%CI: 0.13 - 0.92, p=0.033) (Table

2). In addition, the number of drugs used was correlated to the total number of OIS symptoms (r=0.204, p=0.042) (Table 3).

Conclusion: This is the first study showing the relationship between PP and OIS. Larger sampled studies are warranted to confirm our findings.

Keywords: Polypharmacy, Orthostatic intolerance, older adults

Table 1. Demographical characteristics and comprehensive geriatric assessment according to the presence of orthostatic intolerance.

	Non-OIS Group N= 51 (51.5%)	OIS Group N=48 (48.5%)	P value
Age,median(IQR)	72 (68-79)	74 (70-79)	0.219
Female sex, n (%)	30 (58.8)	36 (75.0)	0.088
BMI, median (IQR)	30.1 (27.1-32.9)	30.5 (26.6-35.6)	0.701
Hypertension n (%)	31 (60.8)	33 (68.8)	0.694
Diabetes Mellitus, n (%)	21 (41.2)	17 (35.4)	0.556
Cancer, n (%)	2 (3.9)	7 (14.6)	0.065
Depression, n (%)	5 (9.8)	9 (18.8)	0.202
CardioVascular Diseases, n (%)	7 (13.7)	11 (22.9)	0.236
Cerebrovascular Disease, n (%)	5 (10.0)	4 (8.3)	0.775
Renal diseases, n (%)	2 (3.9)	2 (4.2)	0.951
Falling in the previous year, n (%)	10 (20.0)	19 (36.9)	0.034
Basic ADLs ,median(IQR)	6 (5.0-6.0)	6(5.0-6.0)	0.063
Instrumental ADLs, median(IQR)	8 (7.0-8.0)	7 (5.0-8.0)	0.094
MMSE , median(IQR)	26 (23.0-29.0)	25 (21.0-28.0)	0.339
Yesevage Scores, median (IQR)	2 (0.0-3.0)	3 (1.0-9.0)	0.059
MNA-Sf Scores, median (IQR)	13 (10.0-14.0)	10 (8.0-13.0)	0.004
Number of drugs, median (IQR)	4 (2.0-6.0)	6 (4.0-7.0)	0.005
Polypharmacy, n (%)	24 (47.1)	34 (70.8)	0.016
Frailty via FFI, n (%)	34 (66.7)	47 (96.9)	<0.001
Orthostatic hypotension, n (%)	11 (21.6)	13 (27.1)	0.522
Orthostatic hypertension, n (%)	10 (19.6)	8 (16.7)	0.705
Symptoms occurred during the test, n (%)	3 (5.9)	13 (27.1)	0.004

Table 2. Logistic regression analysis of independent factors associated with orthostatic intolerance.

	Presence of orthostatic intolerance*	
	OR (95%CI)	P value
Polypharmacy	0.353 (0.13 - 0.92)	0.033
Frailty	1.590 (1.09 – 2.31)	0.015

Table 3. Correlation analysis of the total number of orthostatic intolerance symptoms and other parameters

	Total Number Of Orthostatic Intolerance Symptoms	
	r	p
Age	0.083	0.414
Basic ADLs	-0.189	0.066
Instrumental ADLs	-0.154	0.126
MMSE	-0.124	0.245
Yesevage score	0.130	0.220
MNA-sf score	-0.345	**0.001**
Fried Frailty Index Score	0.462	**<0.001**
Number of drugs	0.204	**0.042**

Polypharmacy and Inappropriate Drug Use

OP-84

THE ASSOCIATION OF ANTICHOLINERGIC LOAD AND OXIDATIVE STRESS: THIOL-DISULFIDE HOMEOSTASIS AND ISCHEMIA MODIFIED ALBUMIN

Didem Karaduman[1], Cansu Atbaş[1], Merve Hafızoğlu[1], Zeynep Şahiner[1], İbrahim İleri[2], Ayşe Dikmeer[3], Burcu Balam Doğu[1], Mustafa Cankurtaran[1], Cafer Balcı[1], Meltem Gülhan Halil[1]

[1]*Hacettepe Unıversıty Faculty Of Medıcıne*
[2]*Ordu State Hospıtal*
[3]*Konya Cıty Hospıtal*

Background & Aims: Anticholinergic load is the cumulative risk associated with at least one anticholinergic drug use with cognitive, physically side efects. The risk of age-related macular degeneration, in which inflammation, hypoxia and oxidative stress play a role, was found to be associated with anticholinergic load.[1] The aim of the study is to draw attention to the prescriptions that will increase the anticholinergic load and therefore oxidative stress .

Methods: Patients aged ≥65 years from the geriatrics outpatient clinic were accepted into the study. All patients underwent comprehensive geriactric assesment. All drugs they used, demographic data, comorbidities were recorded; the modified Charlson Comorbidity Index were calculated. The ACB score was updated in 2012 with the addition of 16 more drugs; the Updated Anticholinergic Cognitive Burden (ACB) scale which is accepted noninvasive method, was used to calculate anticholinergic load. ACB=0, ACB=1, ACB≥2 respectively means none, possible and definite anticholinergic load. ACB≥1 was considered as the anticholinergic loaded group and ACB=0 was considered as the control group in this study. The anticholinergic loaded group and the control group were compared according to serum total thiol, native thiol, disulfide, IMA (Ischemia Modified Albumin) levels.

Results: One hundred and sixty-nine older adults were analyzed. The overall mean age was 73.3±6.3. The rate of the anticholinergic loaded group was 39.1%(n=66). Baseline characteristics of the groups were listed in Table-1. The serum total thiol, native thiol, disulfide, IMA levels of the groups were listed in Table-2. The levels of native thiol and total thiol as anti-oxidant parameters were significantly lower in the anticholinergic loaded group when compared with the control group (p=0.021, p=0.022 respectively) (Figure-1). Disulfide level and disulfide-native thiol, native thiol-total thiol and disulfide-total thiol ratios as oxidative stress parameters were similar in two groups. A weak negative correlation was found between ACB score and total thiol (r=-0.162 p=0.040), and native thiol (r=-0.158 p=0.036). There was no significant correlation between ACB score and; disulfide (r=-0.06, p=0.445), and IMA (r=0.03, p=0.721).

Conclusions: This is the first study in the literature that evaluates the thiol-disulfide homeostasis and ischemia-modified albumin levels in anticholinergic loaded older patients. The presence of anticholinergic load may be associated with lower total and native thiol levels and therefore higher oxidative stress in older adults. Older patients are more susceptible to anticholinergic load and drug side effects, caution is required when prescribing drugs for them. Long-term prospective studies should be designed in the future.

Keywords: Keywords: anticholinergic load; oxidative stress; thiol; older adult

References

1. Aldebert G, Faillie JL, Hillaire-Buys D, Mura T, Carrière I, Delcourt C, et al. Association of Anticholinergic Drug Use With Risk for Late Age-Related Macular Degeneration. JAMA Ophthalmol. 2018 Jul 1;136(7):770-778.

Figure 1: The Comparison of Serum Total Thiol and Native Thiol Levels

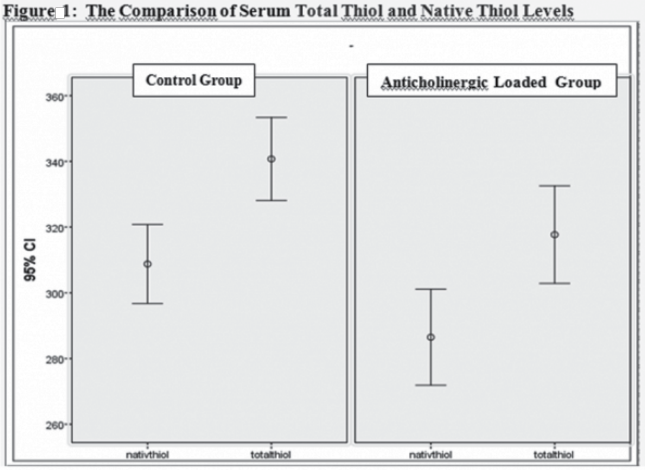


Table-1: Baseline characteristics of the patients

Parameters	Anticholinergic loaded group (n:66)	Control group (n:103)	P value
Age	74.6±7.1	72.4±6.0	0.064
Sex, female	41(%62.1)	68(%66.0)	0.605
Comorbidities			
Diabetes mellitus	28 (42%)	45 (47.4%)	0.519
Hypertension	43 (65%)	64 (62%)	0.152
Coronary artery disease	22 (33%)	12 (12%)	<0.001
Dementia	8(12%)	6 (6%)	0.105
ACB Score	1(1-6)	0(0-0)	<0.001
Charlson Comorbidity Index	3 (2-12)	3 (1-8)	<0.001
Fall (last 12 months)	10 (15%)	9 (9%)	0.142
Polypharmacy	38 (57%)	32 (31%)	<0.001
Number of drugs	7 (0-13)	4 (0-11)	<0.001
BMI (kg/m²)	29.3 (18.8-47.9)	28.8 (19.9-50.6)	0.886
Katz ADL	6 (3-6)	6 (0-6)	0.223
Lawton IADL	8 (0-8)	8 (0-8)	0.021
MMSE	27 (13-30)	27 (0-30)	0.260
Yesavage	3 (0-15)	2 (0-12)	0.105
MNA-SF	13 (6-14)	14 (6-14)	0.113
Handgrip strength	18.5 (8.2-43.8)	19.6 (6.6-43.3)	0.072
4 meter gait speed test	0.72 ±0.28	0.87±0.24	0.010
Timed up and go test	10.4 (4.7-35.0)	8.8 (3.0-27.4)	<0.001
5 times sit to stand test	17.1 (9.7-52.2)	13.0 (6.1-29.8)	0.001
SARC-F	3 (0-8)	1 (0-9)	0.001
CFS	4 (1-7)	3 (1-7)	<0.001
Modified Fried	3 (0-5)	1 (0-5)	<0.001

Data were expressed as n (%) or mean (±STD) or median [min-max], unless otherwise indicated
ADL, activities of daily living; COPD, chronic obstructive lung disease; IADL, instrumental activities of daily living; MNA-SF, Mini Nutritional Assessment- Short Form; MMSE-Mini-Mental State Examination

Table 2: Evaluation of Physical Activity and Frailty in anticholinergic/non-anticholinergic groups

Parameters	Anticholinergic loaded group (n:66)	Control group (n:103)	P value
Total Thiol	286.5±59.5	308.8±61.6	**0.021**
Native Thiol	317.7±60.4	340.7±64.7	**0.022**
Disulfide	15.3 (10.6-30.7)	15.5 (10.9-24.8)	0.357
Disulfide/Total Thiol %	5.2 (3,1-17,4)	5.2 (3.5-8.9)	0.205
Disulfide/Native Thiol %	4.7 (3-13)	4.7 (3.3-7.5)	0.209
Native Thiol/Total Thiol %	90.5 (74.1-94.1)	90.7 (84.9-93.4)	0.207
IMA	0.84 (0.1-1.2)	0.8(0.1-1.2)	0.852
Albumin	4.15 (2.9-4.7)	4.2 (2.88-4.9)	**0.049**
C Reactive Protein	0.46 (0.1-9.44)	0.4 (0.1-13.7)	0.460

Data were expressed as n (%) or mean (±STD) or median [min-max], unless otherwise indicated

Others

OP-85

PROGNOSTIC NUTRITIONAL INDEX AS A PREDICTOR OF SHORT- AND LONG-TERM OUTCOMES IN END-STAGE SOLID CANCER PATIENTS IN PALLIATIVE CARE

Irem Kirac Utku , Deniz Sevindik Gunay

Sancaktepe Sehit Prf. Dr. Ilhan Varank Training And Research And Training Hospital / Istanbul

Background-Aim: The Prognostic Nutritional Index (PNI) is an essential indicator used to assess nutritional status and systemic immune competence, garnering attention as a prognostic marker, particularly in solid tumors. In our palliative care center, a significant number of end-stage cancer patients are admitted. This retrospective study aimed to investigate the impact of the PNI on short-term and long-term outcomes in patients with end-stage solid cancers.

Method: The data of 476 patients hospitalized in our palliative service between 2021 and 2022 were analyzed, with 182 end-stage solid cancer patients included. The PNI score was calculated using the formula: PNI = 10 × serum albumin value (g/dL) + 0.005 × total lymphocyte count in the peripheral blood (mm3).

Results: The mean age of the 182 patients was 73.3 ± 14.7 years, ranging from 19 to 99. Among them, 98 were men (54%), and 84 were women (46%). The most common type of malignancy was lung cancer, followed by colon, gastric, brain, breast cancers…(Table 1). The mean PNI was 9.55 ± 3.55, ranging from 2.78 to 20.7. Within the follow-up period, 92 patients (51.6%) died within one month, and 139 patients (76.3%) died within one year. To understand the relationship between PNI and short-term mortality, the patients' PNI levels were compared with their one-month mortality rates, revealing a significant correlation (Table 2; $p < 0.001$). Similarly, to investigate the association between PNI and long-term mortality, the patients' PNI levels were compared with their one-year mortality rates, showing a significant correlation as well (Table 3; $p < 0.05$).

Discussion: A significant majority of patients hospitalized in palliative care services have end-stage malignancies. In the existing literature, the Prognostic Nutritional Index has emerged as a valuable prognostic marker for various solid tumors, including colon, pancreas, oral cavity, esophagus, gastric, lung, and breast cancers (1,-5). The ongoing search for inexpensive, practical, and safe markers to predict mortality in these cases persists. Our study findings reveal a strong relationship between short-term mortality and PNI value, although this association diminishes with time. Due to the limited number of patients in this study, further research involving larger patient groups is necessary. We suggest that PNI could serve as a promising marker to predict the mortality of solid tumors in palliative care services in the future.

References

1.Uludag SS, Sanli AN, Zengin AK, Ozcelik MF. Systemic Inflammatory Biomarkers as Surrogate MarkersforStage in Colon Cancer. Am Surg. 2022 Jun;88(6):1256-1262.

2.Jiang P, Li X, Wang S, Liu Y. Prognostic Significance of PNI in Patients With Pancreatic Head Cancer Undergoing Laparoscopic Pancreaticoduodenectomy. Front Surg. 2022 Jun 1;9:897033

3.Momokita M, Abe A, Shibata K, Hayashi H, Furuta H, Taniguchi S, Nakayama A. Prognostic Nutritional Index in Patients With End-Stage Oral Cancer. Am J Hosp Palliat Care. 2023 Apr;40(4):396-400.

4.Okadome K, Baba Y, Yagi T, Kiyozumi Y, Ishimoto T, Iwatsuki M, Miyamoto Y, Yoshida N, Watanabe M, Baba H. Prognostic Nutritional Index, Tumor-infiltrating Lymphocytes, and Prognosis in Patientswith Esophageal Cancer. Ann Surg. 2020 Apr;271(4):693-700.

5.Nogueiro J, Santos-Sousa H, Pereira A, Devezas V, Fernandes C, Sousa F, Fonseca T, Barbosa E, Barbosa JA. Theimpact of theprognosticnutritionalindex (PNI) in gastriccancer. LangenbecksArchSurg. 2022 Nov;407(7):2703-2714.

Keywords: Mortality , Palliative Care, Prognostic Nutritional Index,

Table 1. Types of solid tumors

Type	*n:182*	*%*
Lung	38	20,8
Colon	27	14,8
Gastric	22	12
Brain	15	8,2
Breast	13	7,1
Prostate	12	6,5
HCC	12	6,5
Pankreas	10	5,4
Renal	10	5,4
Bladder	8	43,9
Oral cavity	5	2,7
Over	5	2,7
Others	5	2,7

Table 2. One month mortality rates- PNI correlation

	PNI	*Std.*	
Alive n:90 %(49,4)	10,1	3,4	p<0,001
Exitus n:92 (%51,6)	8,2	3,3	p<0,001

Table 3. One year mortality rates- PNI correlation

	PNI	*Std.*	
Alive n:43 %(24,7)	10,2	3,3	p<0,05
Exitus n:139 (%76,3)	8,9	3,5	p<0,05

Frailty

OP-86

HANDGRIP ASYMMETRY IS AN INDEPENDENT INDICATOR OF FRAILTY IN COMMUNITY-DWELLING OLDER ADULTS

Merve Güner, Serdar Ceylan, Arzu Okyar Baş, Meltem Koca, Yelda Öztürk, Burcu Balam Doğu, Meltem Gülhan Halil, Mustafa Cankurtaran, Cafer Balcı

Hacettepe University Faculty Of Medicine

Introduction: Disparities in handgrip strength (HGS) are to be expected, but large differences may indicate a more serious impairment of muscle function. With the dominant hand, HGS is typically 10% higher than with the non-dominant hand. Any difference greater than 10% was defined as HGS asymmetry. In our study we aimed to investigate the relationship between HGS asymmetry and frailty in community-dwelling older adults.

Material and Methods: Patients aged 65 years and older who were admitted to the outpatient clinic of a university hospital geriatric medicine division were enrolled. The frailty scores of the patients were calculated via the Clinical Frailty Score (CFS) (1-9 points, 1 for fit 9 for terminally ill) (14-16). According to CFS, patients who were level 4 and more were accepted as living with frailty. The highest recorded HGS values from the non-dominant and dominant hand were used to calculate the HGS ratio: non-dominant HGS (kg)/dominant HGS (kg). Those with an HGS ratio <0.90 or >1.10 were defined as HGS asymmetry.

Results: Of the whole study group, 61.1% was female and the mean age was 73.2±6.1 years. The number of patients with HGS asymmetry was 264 (51.6%). Frailty, incontinence, and polypharmacy were more frequently seen in the asymmetric group than in the symmetric HGS group. According to binary logistic regression model, the presence of asymmetric HGS increased the risk of frailty defined by CFS independent from age and sex.

Conclusion: Presence of handgrip asymmetry increases the risk of frailty 1.6 times independent from age and sex in community- dwelling older adults.

Keywords: handgrip strength, frailty, handgrip asymmetry

Table 1. Geriatric syndromes of study population according to HGS asymmetry

	Asymmetric n=264	Symmetric n=248	p
Probable Sarcopenia	133(50.4)	86 (34.7)	<0.001
Malnutrition	90 (34.1)	61 (24.6)	0.019
Living with frailty	150 (56.8)	116 (46.8)	0.023
Dysphagia	17 (6.5)	16 (6.5)	0.99
Incontinence	174 (66.9)	132(53.2)	0.002
Polypharmacy	186 (70.5)	153(61.7)	0.036
Fall History	81 (30.7)	74 (29.8)	0.84
Depression	73(52.9)	65(47.1)	0.71
Dementia	15(5.7)	15(6.1)	0.87

Table 2. Multivariable logistic regression analysis for factors associated with frailty

	OR	95% Confidence Interval		p
Age	1.14	1.105	1.185	<0.001
Sex, female	0.51	0.347	0.753	0.001
Asymmetry	1.62	1.11	2.369	0.012

Others

OP-87

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF CARBON MONOXIDE INTOXICATION IN THE ELDERLY

Mursel Karadavut[1], Busra Akpınar[1], Mustafa Utlu[1], E. Fusun Karasahin[2], Aslı Leyla Tahiroglu[3], Hatice Karabulut[4], Sultan Tuna Akgol Gur[3], Pinar Tosun Tasar[1]

[1]Department Of Internal Medicine, Division Of Geriatrics, Ataturk University Faculty Of Medicine, Erzurum, Turkey
[2]Erzurum Provincial Health Directorate, Public Health Services Presidency, Erzurum, Turkey
[3]Department Of Emergency Medicine, Ataturk University Faculty Of Medicine, Erzurum, Turkey
[4]Kastamonu Training And Research Hospital, Kastamonu, Turkey

Background / Objective: Carbon monoxide (CO) intoxication ranks first among the causes of intoxication and is one of the most common causes of toxicological death. Although there are studies on CO intoxication in the literature, the number of studies examining CO intoxication in the elderly is limited. The aim of this study was to evaluate the epidemiology, clinic, treatment, morbidity, mortality and related factors of CO intoxication in the elderly.

Materials and Methods: The data of geriatric patients who applied to the emergency department of our university due to CO intoxication between January 1, 2020 and January 1, 2023 were retrospectively analyzed. In addition to demographic, clini-

cal, imaging and laboratory data, the source of CO, the place of exposure to CO, the reason-duration of exposure, the way of admission to the emergency department, treatment, hospitalization and mortality information were recorded.

Results: 66 patients included in the study and 54.5% were women. The mean age was 72.79±0.9 years and 65.2% were young-old. It was determined that 66.2% of the patients lived in the urban area and the most frequent application was in the winter season with statistical significance ($p<0.05$). It was determined that 95.4% of intoxications occurred at home, 68.8% of them were caused by stove-coal and 96.9% were accidental. The most common symptoms were headache (54.5%), nausea (30.3%), syncope (21.2%) and dizziness (16.7%). It was determined that severe toxicity developed in 48.5% of the cases, high-flow oxygen therapy was given to 77.8% of the cases, intensive care was required in 73.8% and mortality occurred in two (3.1%) patients. COHb levels were statistically significantly higher in patients with severe toxicity and in need of intensive care admission ($p<0.05$). A blood COHb concentration of ≥21% was associated with 58.33% sensitivity and 82.35% specificity to predict the need for ICU admission. The sensitivity of COHb>23.9% in predicting severe toxicity was found to be 59.4% and specificity as 85.3%.

Conclusion: The main cause of CO intoxication in the geriatric population in our country is the heating systems used in the winter months. Raising awareness of the public about CO intoxication and taking necessary precautions will reduce the number of cases. In geriatric CO intoxication, the COHb level measured at the time of admission can be used to predict severe toxicity and the need for intensive care admission.

Introduction: Carbon monoxide (CO) is an odourless, tasteless, colourless, nonirritant gas resulting from incomplete combustion of hydrocarbon. Compared to oxygen, the ability of CO to bind to haemoglobin is 240 times higher and the ability to bind to myoglobin is 20-30 times higher. Intoxication occurs when blood CO level increases and causes cellular hypoxia. CO intoxication ranks first among the causes of intoxication and is one of the most common causes of toxicological death (1). Although there are studies on CO intoxication in the literature, the number of studies examining CO intoxication in the elderly is limited. The aim of this study was to evaluate the epidemiology, clinic, treatment, morbidity, mortality and related factors of CO intoxication in the elderly.

Materials and Methods: The data of geriatric patients who applied to the emergency department of our university due to CO intoxication between January 1, 2020 and January 1, 2023 were retrospectively analyzed. In addition to demographic, clinical, imaging and laboratory data, CO source, place of CO exposure, cause and duration of exposure, the way of admission to the emergency department, complaints at admission, patient clinic at the time of admission, treatment applied, hospitalization and mortality information were recorded. The data were entered into the SPSS-23.0 package programme and analyses were performed using the same programme. Categorical descriptive data were presented as frequency distribution and percentage, and continuous variables were presented as mean (±) standard deviation and median (maximum, minimum values). Pearson chi-square test was used to compare categorical data between groups. Receptor operating characteristic (ROC) analysis was used to determine the diagnostic value and cut-off value of COHb in predicting severe toxicity and the need for intensive care admission in poisoned patients. In the obtained ROC curve, the Area under the curve (AUC) value is close to 1, indicating that the value of the test is high. The results were accepted as statistical significance $p<0.05$ with 95% confidence interval.

Results: 66 patients included in the study and 54.5% were women. The mean age of the patients , whose ages ranged from 65 to 94, was 72.79±0.9 years. When the age groups were analysed, 65.2% of the patients were young-old. It was found that 66.2% of the patients lived in the urban area and the most frequent application was in the winter season with statistical significance ($p<0.05$). It was determined that 95.4% of intoxications occurred at home, 68.8% of them were caused by stove-coal and 96.9% were accidental. The most common symptoms were headache (54.5%), nausea (30.3%), syncope (21.2%), dizziness (16.7%), vomiting (13.6%) and weakness (13.6%). The most common clinical and radiological findings were hypertension (51.5%), cranial lesion on MRI (10.0%), pulmonary oedema on chest radiography (9.3%) and tachycardia (9.2%). It was determined that severe toxicity developed in 48.5% of the cases, high-flow oxygen therapy was given to 77.8% of the cases, intensive care hospitalisation was required in 73.8% and mortality occurred in two (3.1%) patients. COHb levels were statistically significantly higher in patients with severe toxicity and in need of intensive care admission ($p<0.05$). A blood COHb concentration of ≥21% was associated with 58.33% sensitivity and 82.35% specificity to predict the need for ICU admission. COHb>23.9% had a sensitivity of 59.4% and a specificity of 85.3% for predicting severe toxicity.

Discussion: As there are lots of various systems that are used in daily life and emit CO, the population of intoxication is extremely large. In our study, in accordance with the literature, it was determined that CO intoxication was more common in winter, at home, as a result of accidents and due to stove-coal sources (2). Being in an inadequately ventilated closed environment while consuming fuel for heating purposes is the most common cause of intoxication. In our study, it was determined that the most common symptoms of CO intoxication were headache, nausea and syncope, and the most common findings were hypertension, cranial lesion on MRI and tachycardia. Similar rates were found in studies conducted in Turkey and abroad (3, 4). This may be due to the fact that hypoxia due to CO intoxication affects the brain and heart most, where oxygen demand is the highest. In our study, patients with higher COHb levels had higher rates of severe toxicity and ICU admission. A blood COHb level of ≥21% was found to be specific and sensitive in predicting ICU admission, and a blood COHb level of >23.9% was found to be specific and sensitive in predicting severe toxicity. The relationship between blood COHb level and clinical findings and prognosis is controversial. While there are studies indicating that COHb levels at the time of admission show poor correlation with the clinical findings, many studies have also shown that COHb levels are correlated with symptoms and findings (5). The reason for this difference may be due to the fact that patients are admitted to hospital at varying times after exposure and the half-life of CO elimination varies from person to person according to baseline health status and cardiorespiratory capacity.

Conclusion: The main cause of CO intoxication in the geriatric population in our country is the heating systems used in the winter months. Raising awareness of the public about CO intoxication and taking necessary precautions will reduce the number of cases. In geriatric CO intoxication, the COHb level measured at the time of admission can be used to predict severe toxicity and the need for intensive care admission.

References

1. Weaver LK. Carbon monoxide poisoning. Critical care clinics. 1999;15(2):297-317.
2. Dueñas-Laita A, Ruiz-Mambrilla M, Gandía F, Cerdá R, Martín-Escudero JC, Pérez-Castrillón JL, et al. Epidemiology of acute carbon monoxide poisoning in a Spanish region. Journal of Toxicology: Clinical Toxicology. 2001;39(1):53-7.

3. DOĞRUYOL S, AKBAŞ İ, ÇAKIR Z. Demographic and clinical characteristics of carbon monoxide poisoning: Data between 2014 and 2018 in Erzurum. Eurasian Journal of Toxicology. 2018;1(1):15-20.
4. Chiew AL, Buckley NA. Carbon monoxide poisoning in the 21st century. Critical Care. 2014;18:1-8.
5. Hampson NB, Hauff NM. Carboxyhemoglobin levels in carbon monoxide poisoning: do they correlate with the clinical picture? The American journal of emergency medicine. 2008;26(6):665-9.

Keywords: Elderly; carbon monoxide; intoxication; carboxyhemoglobin

Others

OP-88

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF SUICIDE IN THE ELDERLY

Mustafa Talip Sener[1], Mursel Karadavut[2], E. Fusun Karasahin[3], Busra Baydemir Kilinc[4], Pinar Tosun Tasar[2]

[1]Department Of Forensic Medicine, Ataturk University Faculty Of Medicine, Erzurum, Turkey
[2]Department Of Internal Medicine, Division Of Geriatrics, Ataturk University Faculty Of Medicine, Erzurum, Turkey
[3]Erzurum Provincial Health Directorate, Public Health Services Presidency, Erzurum, Turkey
[4]Erzurum City Hospital, Erzurum, Turkey

Background / Objective: Suicide rates in the world are highest in people aged 70 and over. The first reason for suicide attempt is the presence of major depression and other psychiatric diseases. In elderly depressed people, suicidal ideation is less expressed; however, completed suicide rates are higher in the elderly. In this study; The aim of this study was to evaluate the epidemiology, clinical and related factors of completed suicide in the elderly.

Materials and Methods: The data of geriatric cases whose autopsies were performed due to completed suicide in the Forensic Medicine Department of our university between January 1, 2017 and January 1, 2023 were retrospectively analyzed. In addition to demographic and clinical data, the cause and method of suicide, the place where the suicide took place, the lesion areas in the body, the cause of death, the histopathological, toxicological and biological examinations, the physician who performed the forensic examination of the dead and the person who made the identification were recorded.

Results: 43 suicide cases completed in Erzurum between 2017 and 2023 were examined. 88.4% of the cases were male, 76.7% were in the 60-74 age group, 48.8% were married, 32.6% were shepherds-farmers, 53.5% lived with their families and 62.8% lived in rural areas. The mean age of the cases was 69.53±8.04 and the median was 67. 30.2% of the cases were diagnosed with depression, 27.9% with hypertension, 16.3% with hyperlipidemia, 14% with coronary artery disease - atherosclerotic heart disease, 11.6% with chronic obstructive pulmonary disease. The mean of Charlson comorbidity index is 3.43±2.75 and the median is 3 (1-12). 69.8% of the cases committed suicide by hanging method, 44.2% committed suicide in their own home, and 37.2% committed suicide due to psychiatric illness. 34.9% of them were diagnosed by their children, 69.8% of them had a lesion in the neck region and the cause of death was determined as asphyxia. Histopathology was obtained from 37.2% of the cases. According to the toxicology analysis, 17 (39.5%) of the samples were found to be natural, 1 (2.3%) ethanol and 25 (58.2%) various drugs were detected. While suicide cases were most common in 2017 and autumn, there was no statistically significant difference between seasons ($p>0.05$). When the gender distribution of suicide cases according to the suicide method was examined, it was found that firearm and stab wounds were not preferred in women, while falling from a height was not observed in men. The most commonly used method of suicide in all age groups is hanging.

Conclusion: In our country, there is a limited number of studies with a limited number of patients investigating completed suicide in the elderly population. The presented study is considered to be an important study to reveal the frequency and characteristics of completed suicide cases aged 60 and over and to plan the measures that can be taken.

Introduction: Suicide is the voluntary ending of one's life as a result of an act of aggression and destruction directed at one's own self. The older population is rapidly growing both in number and proportion in Turkey and globally. In 2022, there were an estimated 783 million older adults worldwide, and this is expected to reach 1.3 billion by 2040. In Turkey, the older population was 6.9 million in 2017, increased by 22.6% in the last 5 years to reach 8.45 million in 2022, and is expected to increase to approximately 16 million by 2040 (1). In parallel with the increase in the elderly population, the probability of suicide, which is an important public health problem, also increases. The prevalence of suicide in the elderly varies between countries and even regionally. Suicide rates for both men and women are highest in people aged 70 years and older, especially in men aged 85 years and older. The primary reason for suicide attempt is the presence of underlying major depression and other psychiatric illnesses. Other risk factors include chronic comorbid diseases, chronic pain, acute illnesses, social isolation-widowhood, financial stressors, history of suicide, older age and male gender (2). Suicides are more difficult to prevent in the elderly. Elderly people express suicidal thoughts less than young people and use more aggressive methods for suicide. For these reasons, completed suicide rates are higher in the elderly. In our country, there are a limited number of studies investigating the frequency of suicide in the elderly population with a limited number of cases. In this study, we aimed to determine the epidemiology of completed suicide and clinical and related factors in elderly people living in Erzurum.

Materials and Methods: The data of geriatric cases whose autopsies were performed due to completed suicide in the Forensic Medicine Department of our university between January 1, 2017 and January 1, 2023 were retrospectively analyzed. In addition to demographic and clinical data, the cause of suicide, method of suicide, place of suicide, lesion sites on the body, cause of death, histopathological, toxicological and biological examinations, the physician who performed the forensic necropsy and the person who made the identification were recorded. The data were entered into the SPSS-23.0 package programme and analyses were performed using the same programme. Categorical descriptive data were presented as frequency distribution and percentage, and continuous variables were presented as mean (±) standard deviation and median (maximum, minimum values). Pearson chi-square test was used to compare categorical data between groups. The results were accepted as statistical significance $p<0.05$ with 95% confidence interval.

Results: 43 suicide cases completed in Erzurum between 2017 and 2023 were analysed. 88.4% of the cases were male, 76.7% were in the 60-74 age group, 48.8% were married, 32.6% were shepherds-farmers, 53.5% lived with their families and 62.8% lived in rural areas. The mean age of the cases was 69.53±8.04 and the median was 67. 30.2% of the cases were diagnosed with depression, 27.9% with hypertension, 16.3% with hyperlipidemia, 14% with coronary artery disease - atherosclerotic heart disease,

11.6% with chronic obstructive pulmonary disease. The mean of Charlson comorbidity index was 3.43±2.75 and the median was 3 (1-12). 69.8% of the cases committed suicide by hanging method, 44.2% committed suicide in their own home and 37.2% committed suicide due to psychiatric illness. 34.9% of them were diagnosed by their children, 69.8% of them had lesion in the neck region and the cause of death was determined as asphyxia. Histopathological samples were taken from 37.2% of the cases. According to the toxicology analysis, 17 (39.5%) of the samples were found to be normal, ethanol was detected in 1 (2.3%) and various drugs were detected in 25 (58.2%). While suicide cases were most frequently encountered in 2017 and in the autumn season, there was no statistically significant difference between the seasons (p>0.05). When the gender distribution of suicide cases according to the method of suicide was analysed, firearm and piercing-cutting instrument injuries were never preferred in women, while falling from a height was not observed in men. The most commonly used suicide method in both genders and in all age groups is hanging. The most common method of suicide in both rural and urban areas is hanging. When the causes of death were analysed according to sex and age groups, asphyxia was the most common cause of death in both sexes and in all age groups.

Discussion: With the increase in the elderly population, the likelihood of suicide, which is a critical public health problem for older people, increases. In our study, 88.4% of the cases were male. According to Turkish Statistical Institute (TUIK) data, 77.5% of the elderly suicides in Turkey in 2022 were men (3). Similar rates were found in studies conducted in our country and abroad on elderly suicides. In studies including all completed and uncompleted suicide attempts, it was found that the rate of women was higher than the rate of men. The reason why completed suicide rates are higher in men may be due to men acting more determinedly and using more aggressive methods for suicide. In our study, it was observed that 76.7% of the cases were in early old age in accordance with the literature. According to the suicide research conducted by TÜİK between 2002 and 2022, the ratio of elderly suicides between the ages of 60-74 to all elderly suicides was found to be 66.83% (3). This may be due to the high proportion of young elderly in the elderly population (64.5%). In our study, depression was present in 30.2% of the patients and the most common reason for suicide was related to psychiatric diseases with 37.2%. Studies have shown that the most important and common risk factor for elderly suicide is depression (4). Elderly depressed patients should be particularly questioned in terms of suicide. In our study, it was found that the most preferred method of suicide in both sexes, in all age groups, in both rural and urban areas was hanging and the most common cause of death was asphyxia. In studies conducted in Turkey, the most common method of suicide was hanging, in studies conducted in the USA, the most common method of suicide was firearms, and in studies conducted in India and Egypt, the most common method of suicide was poisoning (5). Differences between regions may be due to the ease of access to the substance used for suicide and cultural differences of societies. The reason for the preference of hanging method in the elderly may be its easy accessibility by the elderly and their fragile-frail structures.

Conclusion: Suicide cases in the elderly are most common in men and in the young elderly group. The most common cause of suicide is due to underlying psychiatric disorders and the most commonly used method is hanging. Suicidal ideation should be especially questioned in elderly depressed patients. There is a need for studies conducted with a larger population on elderly suicide, which is an important public health problem. To reduce suicide rates in the elderly, policies should be developed to solve the problems of the elderly.

References

1. Turkish Statistical Institute Data, https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Yaslilar-2022-49667, Date of access: 29.09.2023.
2. Organization WH. Preventing suicide: a global imperative: World Health Organization. Geneva; 2014.
3. Turkish Statistical Institute Data, https://data.tuik.gov.tr/Bulten/Index?p=Olum-ve-Olum-Nedeni-Istatistikleri-2022-49679, Date of access: 29.09.2023.
4. Cattell H. Suicide in the elderly. Advances in Psychiatric Treatment. 2000;6(2):102-8.
5. Cantürk N, Cantürk G. Ankara'da 2004-2006 Yılları Arasında Otops‹ S‹ Yapılan Yafılı Ölümler‹. Turkish Journal of Geriatrics. 2009;12(4):165-70.

Keywords: Elderly, suicide, autopsy

Polypharmacy and Inappropriate Drug Use

OP-89

FACTORS AFFECTING FALL HISTORY AND FALL RISK IN GERIATRIC PATIENTS

Nadir Yalçın[1], Meltem Halil[2]

[1]Department Of Clinical Pharmacy, Faculty Of Pharmacy, Hacettepe University, Ankara, Türkiye
[2]Division Of Geriatrics, Department Of Internal Medicine, Faculty Of Medicine, Hacettepe University, Ankara, Türkiye

Background-Aim: Falls are the leading cause of potentially fatal injuries in the older adults. In addition to physical injury, falls are associated with loss of self-confidence, lack of independent behavior and depression. Some medications are also known to increase the risk of falls; recent studies have shown that the use of anticholinergic drugs in particular is a risk factor for falls in elderly patients.[1] The aim of this study was to prospectively evaluate the risk of falls and the factors affecting the risk of falls with the Aachen Falls Prevention Scale (AFPS).[2]

The Aachen Falls Prevention Scale (AFPS) was administered to patients with ACB in the prospective process of the study to assess the risk of falls. The AFPS is a 3-step multifactorial and functional assessment. In the first step, it consists of 10 standard "yes/no" questions including typical risk factors such as cognitive or visual impairment, presence of incontinence, history of falls, inappropriate footwear or any items at home that may cause falls, health problems that may increase the risk of falls (osteoporosis, parkinsonism, arthritis, rheumatic diseases) and medications used at home. Patients are considered to be at high risk for falls if they score 5 points or more in this step. The second step is a standing test without any corrective movement for 20 seconds to determine balance problems. Finally, the third step consists of a 10-point Likert scale in which patients subjectively evaluate their own fall risk.

A total of 300 patients (199 women) with a mean age of 74.57±7.01 years were included in the study. It was found that 30% of the patients had fallen at least once in 1 year and 51% had a fear of falling. According to the scale, 84.7% of the patients (254 patients) were taking medication that could affect falls, and 19% had an additional disease (Parkinson's, arthritis or rheumatism) that could affect falls or cause falls. The total median (range) score was 4 (1-9) and the score they gave themselves for the subjective fall risk assessment question was 5 (1-10) (for high-risk cut-off >5). According to the AFPS, 54.7% of the high-risk group had fallen at least once in the last year and a significant relationship was found between the presence of a history of falls and the high-risk group (p<0.0001). While 93.6% of the

patients in the low-risk group were able to complete the standing test, only 53.1% of the patients in the high-risk group successfully completed this test (p<0.0001). A significant correlation was also found between risk status and forgetfulness and progression in forgetfulness according to the subjective fall assessment score of the AFPS (p<0.0001).

When the current literature[3,4,5] were examined, it was found that falls were determined only by asking the patients "Have you fallen in the last 12 months?". In our study, in addition to this question, in order to determine non-drug-related problems that may affect falls and to obtain a quantitative score for falls in response to the possibility of patients forgetting their falls within the last year, the AFPS was used.

To conclude, it is possible to predict risky patients and take necessary precautions by evaluating the objective and subjective fall risk and the factors affecting it in geriatric patients.

References

1. Gray SL, Anderson ML, Dublin S, Hanlon JT, Hubbard R, Walker R, et al. Cumulative use of strong anticholinergics and incident dementia: a prospective cohort study. *JAMA Intern Med*. 2015;175(3):401-7.
2. Pape HC, Schemmann U, Foerster J. et al. The 'Aachen Falls Prevention Scale' - development of a tool for self-assessment of elderly patients at risk for ground level falls. *Patient Saf Surg*. 2015; 9(7).
3. Naharci MI, Tasci I. Frailty status and increased risk for falls: The role of anticholinergic burden. Arch Gerontol Geriatr. 2020;90:104136.
4. Neal SR, Wood AD, Ablett AD, Gregory JS, Guillot J, Macdonald HM, et al. Anticholinergic burden in middle-aged women and recurrent falls in later life: findings from the Aberdeen prospective osteoporosis screening study (APOSS). Ther Adv Drug Saf. 2020;11:2042098620929852.
5. Berdot S, Bertrand M, Dartigues JF, Fourrier A, Tavernier B, Ritchie K, et al. Inappropriate medication use and risk of falls--a prospective study in a large community-dwelling elderly cohort. BMC Geriatr. 2009;9:30.

Keywords: fall risk, geriatrics, older adults, medication, poly pharmacy, Aachen Fall Prevention Scale

Others

OP-90

CLINICAL, BIOCHEMICAL, AND ULTRASONOGRAPHIC MUSCLE MASS PARAMETERS ASSOCIATED WITH MORTALITY IN PALLIATIVE CARE PATIENTS AGED 80 YEARS AND OLDER

Nezahat Muge Catikkas

University Of Health Sciences, Istanbul Hamidiye Faculty Of Medicine, Sancaktepe Prof. Dr. Ilhan Varank Training And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics

Background & Aims: Despite the increasing number of palliative care centers, there are only limited studies in the literature examining the factors associated with mortality and the relationship between ultrasonographic muscle mass parameters and mortality in the oldest-old palliative care patients. In this study, we aimed to investigate the clinical, biochemical, and ultrasonographic muscle mass parameters associated with mortality in hospitalized palliative care patients aged 80 years and older.

Materials and Methods: In this retrospective, cross-sectional study, we included patients aged 80 years and older who were hospitalized for ≥24 hours in the palliative care center of Prof. Dr. Feriha Oz Emergency Hospital between April and May 2023. We excluded patients who had missing data and medical conditions that could affect ultrasonographic measurements (hemiplegic/paraplegic/quadriplegic, contractures, amputations, fractures, or edema). We recorded the age, sex, chronic diseases, Charlson Comorbidity Index, Palliative Prognostic Scale (PPS), and Nutritional Risk Screening-2002 scores, types of nutritional support, biochemical parameters at admission, and ultrasonographically measured subcutaneous fat thickness, muscle thickness and muscle cross-sectional area of the rectus femoris and biceps brachii from the hospital recording system. Patients were divided into two groups: those who died within one month of hospitalization (non-survivors) and those who survived (survivors). We performed a multivariate Cox regression analysis for the independently associated factors with mortality. p<0.05 was considered significant.

Results: We included 40 patients (mean age: 87.4±4.5 years, 82.5%: female). 42.5% of the patients died within one month of admission. Hypertension was the most common diagnosis in both groups. The presence of diabetes mellitus, PPS score, lymphocyte count, C-reactive protein, albumin, and biceps brachii muscle cross-sectional area were significantly different between the groups (p=0.017, 0.048, <0.001, 0.005, 0.002, and 0.027, respectively). In the multivariate Cox regression analysis, lymphocyte count was independently associated with mortality (p=0.047, hazard ratio=0.999, 95% confidence interval=0.998-1.000).

Conclusion: In our study, lymphocyte count was significantly lower in the non-survivor group. The evaluation of the immunologic biomarkers such as lymphocytes, obtained from inexpensive and readily available routine blood tests may be useful to predict the mortality risk. Multicenter and more comprehensive studies are needed.

Keywords: lymphocyte, mortality, muscle, older, palliative, ultrasonography

Swallowing Disorders

OP-91

SCREENING OROPHARYNGEAL DYSPHAGIA IN OLDER ADULTS: A RISK FACTOR FOR IN-HOSPITAL MORTALITY WITH COVID-19 INFECTION?

Nurdan Şentürk Durmuş[1], Büşra Can[1], Çiğdem Alkaç[1], Birkan İlhan[2], Aslı Tufan[1]

[1]Division Of Geriatrics, Department Of Internal Medicine, Marmara University Medical School
[2]Division Of Geriatrics, Department Of Internal Medicine, Liv Hospital Vadi İstanbul

Background-Aim: Dysphagia is very common problem in older adults. Eating Assessment Tool 10 (EAT-10) is very useful and easy tool for investigating the oropharyngeal dysphagia risk. In this study, we aimed to investigate the use of the EAT-10: A Swallowing Screening Tool in predicting clinical outcomes in older adults hospitalized with COVID-19 infections.

Patients aged ≥65 years who were hospitalized with COVID-19 were included in the study. COVID-19 infection was demonstrated by a positive real-time reverse transcriptase-polymerase chain reaction on a nasopharyngeal swabs or positive radiological findings. Disease severity was determined as defined by the National Institutes of Health. Patient demographics, laboratory values on admission, comorbidities, and medications were recorded. The EAT-10, the Nutritional Risk Screening 2002 (NRS-2002), and

the Geriatric 8 (G8) screening tools were performed for all patients by the same geriatrician. The primary outcome was in-hospital mortality.

A total of 153 patients were included. The mean age was 76.7 ± 7.9 years and 54.2% were female. Thirty-one percent of the patients had oropharyngeal dysphagia risk according to EAT-10. Eighty-nine percent of the patients had a G8 score of ≤14 and 74.5% of the patients had nutrition risk according to the NRS-2002 (Table 1). Table 2 presents the characteristics and laboratory parameters of survivors and nonsurvivors. The risk of oropharyngeal dysphagia was related to the severity of COVID-19 and older age (odds ratio (OR): 3.04, CI: [1.21-7.63]; p=0.018 and OR: 1.09, 95% CI: [1.03-1.15]; p=0.001). In-hospital mortality was 23.5% (n=38). Older age (hazard ratio (HR):1.08; 95% CI: [1.03-1.13]; p=0.003), congestive heart failure (HR: 0.42, 95% CI: [0.19-0.93]; p=0.031), and higher EAT-10 score (HR:1.02; 95% CI: [1.01-1.04]; p=0.043) were associated with in-hospital mortality (Table 3).

In studies with patients with COVID-19, the rate of oropharyngeal dysphagia has been reported as 20-80% (1). The reasons for the difference were the age range distribution of the individuals, the methods of diagnosing oropharyngeal dysphagia [EAT-10, GUSS, Swallowing Disturbance Questionnaire (SDQ), and the Volume-Viscosity Swallow Test (VVST), VFSS, FEES], the status of the participants (inpatient-nursing home-ICU-rehabilitation centers), and the presence of a history of intubation (1). As in our study, COVID-19 severity was associated with oropharyngeal dysphagia in some other research (1). In our study, we found a direct relationship between oropharyngeal dysphagia and the severity of COVID-19. The reason for this is the severity and exacerbation of complications seen in COVID-19 infections, as in all other serious infections. As expected and proved by research (2), older age is a risk factor for dysphagia. Murat et al. (3) reported that patients with CAD and COVID-19 were more likely to suffered from longer ICU stay, shock, renal failure, and in-hospital mortality. In their study, seven in 10 patients with mortality had a diagnosis of CHF. In the current study, we found a significant relationship between the presence of CHF and mortality after adjusting by age, sex, and EAT scores.

Older age and having oropharyngeal dysphagia risk as determined using EAT-10 were independently associated with a higher risk of in-hospital mortality in older patients with COVID-19.

References

1. Shadi MS, Farahat M. Self-perceived dysphagia in non-invasively ventilated COVID-19 patients. European Archives of Oto-Rhino-Laryngology. 2022/12/01 2022;279(12):5929-5937. doi:10.1007/s00405-022-07557-7.
2. Umay E, Eyigor S, Bahat G, et al. Best Practice Recommendations for Geriatric Dysphagia Management with 5 Ws and 1H. Journal of the Korean Geriatrics Society. 2022;
3. Murat B, Murat S, Mert KU, Bilgin M, Cavusoglu Y. Clinical characteristics and in-hospital outcomes of COVID-19 patients with history of heart failure: a propensity score-matched study. Acta cardiologica. 2022;77(1):37-44.

Keywords: COVID-19, Dysphagia, EAT-10, in-hospital mortality, older adults

Table 1. Demographic and laboratory characteristics

VARIABLE	n (%) n=153
Gender, n (%)	
Female	83 (54.2)
Male	70 (45.8)
Age*	76.7 ± 7.9 (65-96)
COVID diagnosis, n (%)	
Positive PCR test only	7 (4.6)
Positive radiological findings only	8 (5.2)
Both	138 (90.2)
BMI*	27.1 ± 4.4 (16.3-40.0)
Number of chronic diseases*	3.0 (1-7)
HT, n (%)	106 (69.3)
DM, n (%)	63 (41.2)
CHF, n (%)	17 (11.1)
COVID severity, n (%)	
Mild + Moderate	45 (29.4)
Severe + Critical	108 (70.6)
Number of drugs*	4.0 (1-10)
Polypharmacy, n (%)	61 (39.9)
Hospital stay (days)*	14.0 (4-68)
ICU admission, n (%)	38 (24.8)
ICU stay (days)*	5.0 (1-28)
In-hospital mortality, n (%)	36 (23.5)
G8 score, n(%)	
G8> 14	16 (10.5)
G8<14	137 (89.5)
The score of NRS-2002*	4.0 (0-7)
NRS-2002, n (%)	
Non- malnutrition	39 (25.5)
Malnutrition	114 (74.5)
EAT-10 score*	0.0 (0-40)
EAT-10, n (%)	
None Oropharyngeal dysphagia	105 (68.6)
Oropharyngeal Dysphagia	48 (31.4)

*Numeric variables were presented as median (min-max), mean ± SD.

Notes: , CHF: Congestive Heart Failure, DM: Diabetes Mellitus, Eat-10: Eating Assessment Tool 10, G8: Geriatric 8, HT: Hypertension, ICU: Intensive Care Unit, NRS-2002: Nutritional Risk Screening 2002.

Table 2. Univariate analysis of survivors and non-survivors

	Survivors n (%) n=117	Non-survivors n (%) n=36	p-value
Sex, n (%)			
Female	67 (57.3)	16 (44.4)	0.177
Male	50 (42.7)	20 (55.6)	
Age*	**74.0 (65.0-95.0)**	**81.5 (66.0-96.0)**	**<0.001**
BMI*	27.1 (18.3-39.6)	26.9 (18.4-40)	0.279
Smoking, n (%)	29 (24.8)	9 (25.0)	0.979
Number of chronic diseases*	3.0 (1-7)	3.0 (1-7)	0.143
HT, n (%)	82 (70.1)	24 (66.7)	0.697
DM, n (%)	49 (41.9)	14 (38.9)	0.750
CVD, n (%)	10 (8.5)	5 (13.9)	0.363
CAD, n (%)	30 (25.6)	10 (27.8)	0.799
COPD, n (%)	16 (13.7)	8 (22.2)	0.233
CKD, n (%)	14 (12.0)	7 (19.4)	0.270
CHF, n (%)	**6 (5.1)**	**11 (30.6)**	**<0.001**
Dementia, n (%)	13 (11.1)	8 (22.2)	0.106
Malignancy, n (%)	18 (15.4)	2 (5.6)	0.098
COVID severity, n (%)			
Mild + Moderate	36 (30.8)	9 (25.0)	0.506
Severe + Critical	81 (69.2)	27 (75.0)	
Number of drugs*	4.0 (1.0-10.0)	4.0 (1.0-10.0)	0.858
Polypharmacy, n (%)	46 (39.3)	15 (41.7)	0.801
Hospital stay (days)*	**12.0 (4.0-68.0)**	**23.0 (4.0-67.0)**	**0.050**
ICU admission, n (%)	**12 (10.3)**	**26 (72.2)**	**<0.001**
ICU stay (days)*	4.5 (2.0-20.0)	6.0 (1.0-28.0)	0.925
NRS-2002, n (%)			
Non- malnutrition	**37 (31.6)**	**2 (5.6)**	**<0.001**
Malnutrition	**80 (68.4)**	**34 (94.4)**	
EAT-10 score*	**0.0 (0.0-40.0)**	**4.5 (0.0-40.0)**	**0.005**
EAT-10, n (%)			
Normal	**87 (74.4)**	**18 (50.0)**	**0.006**
Oropharyngeal dysphagia risk	**30 (25.6)**	**18 (50.0)**	
Route of nutrition, n (%)			
Oral + Enteral	**105 (89.7)**	**25 (69.4)**	
Parenteral	**3 (2.6)**	**5 (13.9)**	**0.012**
Mixed	**9 (7.7)**	**6 (16.7)**	
Classification of G8, n (%)			
G8 score >14	15 (12.8)	1 (2.8)	0.052
G8 score ≤14	102 (87.2)	35 (97.2)	
White blood cell ($x10^3$/µL)*	6.9 (2.7- 16.0)	7.3 (1.6-14.3)	0.658
Lymphocyte ($x10^3$/µL)*	1.0 (0.1-3.9)	1.0 (0.2-2.7)	0.492

Table 3. Multivariate logistic regression analysis of risk factors associated with mortality and oropharyngeal dysphagia risk

Mortality	p-value	HR (95% CI)
Age	**0.003**	1.08 (1.03-1.13)
Sex: male	0.317	1.41 (0.72-2.77)
EAT-10 score	**0.043**	1.02 (1.01-1.04)
CHF	**0.017**	0.40 (0.19 -0.85)
NRS-2002	0.224	1.14 (0.92-1.44)
Oropharyngeal dysphagia risk	**p-value**	**OR (95% CI)**
Age	**0.001**	1.09 (1.03-1.15)
Sex: male	0.986	0.99 (0.46-2.12)
In-hospital mortality	0.167	1.83 (0.77-4.32)
Severity of COVID-19	**0.018**	3.04 (1.21-7.63)

Sarcopenia

OP-92

COMPARISON OF DIAGNOSTIC ACCURACY OF SARC-F, SARC-CALF AND ISHII'S TEST FOR DIAGNOSIS OF SARCOPENIA IN HOSPITALIZED OLDER PATIENTS.

Ahmet Yalcin[1], Busra Gokce[2], Gorkem Turhan[2], Oguzcan Gumuscubuk[1], Volkan Atmis[1], Murat Varli[1]

[1]Ankara University School Of Medicine, Geriatric Medicine Department
[2]Ankara University School Of Medicine, Internal Medicine Department

Background: Several screening tools have been developed to identify sarcopenia. However, data on the use of this screening tools in hospital settings is limited.

Aims: This study aims to assess the diagnostic efficacy of three screening methods, SARC-F, SARC-F combined with calf circumference (SARC-CalF), and Ishii's test, for detecting sarcopenia in older individuals who are hospitalized.

Methods: This is a diagnostic accuracy study including 204 hospitalized older people. Sarcopenia was assessed based on the diagnostic criteria established by the European Working Group on Sarcopenia in Older People 2. Muscle mass, muscle strength, and physical performance were evaluated using bioimpedance analysis, handgrip strength, and usual gait speed, respectively. Sensitivity and specificity analyses were conducted for the SARC-F, SARC-CalF, and Ishii's test to determine their effectiveness. Receiver operating characteristics curves were generated, and the area under the curve was calculated to compare the overall diagnostic accuracy of the SARC-F, SARC-CalF, and Ishii's test.

Results: The SARC-F, SARC-CalF, and Ishii's tests demostrated sensitivities of 72%, 88.6%, and 93.5%, respectively, and specificities of 41%, 78.5%, and 30.3%.

Discussion: SARC-CalF demonstrates the highest performance in terms of sensitivity and specificity compared to the other two tests, making it a valuable tool for detecting sarcopenia in hospital settings. On the other hand, Ishii's test exhibits high sensitivity but low specificity within this particular population.

Conclusion: SARC-CalF increased both the sensitivity and specificity of SARC-F in hospitalized older patients. It can be used as a simple, effective test for diagnosing sarcopenia in the hospital setting.

Keywords: Hospital, older individuals, SARC-CalF, sarcopenia

Sarcopenia

OP-93

THE FREQUENCY AND THE PROGNOSTIC IMPORTANCE OF SARCOPENIA IN PATIENTS WITH LOCAL ADVANCED OR METASTATIC GASTRIC CANCER

Oguzcan Gumuscubuk[1], Mutlu Hizal[2], Burak Bilgin[2], Bulent Akinci[2], Didem Sener Dede[2], Bulent Yalcin[2], Mehmet Ali Nahit Sendur[2]

[1]Ankara University School Of Medicine, Geriatric Medicine Department
[2]Ankara Bilkent City Hospital, Medical Oncology Department

Background: Stomach cancer is the fifth most common malignancy in the world and also the third leading cause of cancer-related death (1). Sarcopenia is defined as the loss of skeletal muscle mass characterized by skeletal muscle atrophy and deterioration in muscle tissue quality, which is led to decrease in muscle strength, easy fatigue, and various metabolic problems (2). Recent studies show that the presence of sarcopenia in patients with gastric cancer is an important risk factor for chemotherapy toxicity, and also overall survival time is shortened in sarcopenic patients (3).

Aim: In this study, it was aimed to determine the frequency of sarcopenia in patients with advanced stage or metastatic gastric cancer and to investigate its effect on the prognosis of the disease.

Materials and Methods: Patients with advanced stage or metastatic gastric cancer who applied to Ankara Yıldırım Beyazıt University Atatürk Training and Research Hospital and Ankara City Hospital Medical Oncology Department between January 2012 and June 2020 were included in our study. Early stage or operable patients were excluded from the study. After detection of the patients, the files of the patients are reviewed retrospectively and their demographic information (age, body mass index, height, weight, gender, etc.), prognostic information, pathological characteristics, treatments they received, metastasis status, and additional comorbidities were recorded. The mass of the muscles at the level of the 3rd lumbar vertebra was measured in cm^2 by examining the CT and PET / CT images of the patients at the time of diagnosis and after treatment. Then, SI was calculated by dividing the total muscle mass by the square of the patients' height. According to the literature data, patients with SI below 52.4 cm^2 / m^2 for men and 38.5 cm^2 / m^2 for women were considered sarcopenic. The obtained data were analyzed by uploading to the SPSS database.

Results: 59 patients diagnosed with gastric adenocarcinoma who met the inclusion criteria were included in our study. 43 (72.9%) of the patients were male, 16 (27.1%) were female. While the mean age at diagnosis of all patients was calculated as 59.75 ± 12.61 years; 33 patients (55.9%) were 60 years or older at the time of diagnosis. While the chemotherapy protocols received by the patients were included in the statistical calculations, those who received triple treatment regimes were classified as group 1, and those who received platin based double regimes or FOLFOX were classified as group 2. While 18 patients (34%) were receiving group-1 protocol, 35 patients (66.0%) were receiving group-2 protocol. When analyzed according to chemoterapy groups, there was no statistically significant difference between SI or muscle mass at the time of diagnosis and SI or muscle mass at intermediate measurement ($p > 0.05$). It was determined that 13 patients (22.0%) died during oncology follow-up. 35 patients (59.3%) were sarcopenic at the time of

diagnosis. For all patients, muscle mass and SI values at the time of diagnosis were significantly higher than the values measured in the interim evaluation of the patients (p <0.05). Male patients had higher muscle mass and SI valuesmeasured at the time of diagnosis and in the interim evaluation. It was statistically significant. (p <0.05). The muscle mass and SI values of the male patients at the time of diagnosis were statistically significantly higher than the values measured in the post-treatment evaluation (t = 4,293; p = 0,000). When the average survival times of the patients were examined; the median duration for OS was 8,2 (months) and the median for PFS was 4,8 (months). There was no statistically significant relationship between sarcopenia status and age at diagnosis, OS (months) or PFS (months) values (p> 0.05). In the logistic regression analysis applied on the risk of sarcopenia, it was found that the risk of sarcopenia decreased by 34.1% as a result of one unit increase in BMI (kg / m2) (OR = 0.659; 95% CI = 0.524-0.829; p <0.05).

Discussion: According to the data presented in our study, more than half of the advanced stage or metastatic gastric cancer patients we diagnosed were sarcopenic. Although not statistically significant, in our study OS values of sarcopenic patients were lower than non-sarcopenic patients. It is obvious that sarcopenia has a negative effect on many issues such as drug side effects, surgical complications, and compliance with treatment, according to the studies in the literature. In the logistic regression analysis applied on sarcopenia risk status; in the Backward:LR model using BMI (kg/m2), muscle mass (at the time of diagnosis) and SI (at the time of diagnosis) parameters; It was determined that as a result of one unit increase in the BMI (kg/m2) parameter, the risk of sarcopenia decreased by 34.1% (OR=0.659; 95% CI=0.524-0.829; p<0.05). Routine sarcopenia measurement is not performed in oncology outpatient clinic follow-ups. However, considering the data we have obtained, we can at least obtain information about patients who are at risk for the development of sarcopenia with a simple method such as weight and BMI monitoring in outpatient clinic applications.

Conclusion: In our opinion; large-scale prospective studies are needed to fully determine the effects of sarcopenia on prognosis, treatment efficacy, side effects and quality of life in patients diagnosed with advanced or metastatic gastric cancer.

References

1. Torre, L. A., Bray, F., Siegel, R. L., Ferlay, J., Lortet-Tieulent, J. &, Jemal A. Global cancer statistics,2012. CA: A. Cancer J Clin. 2015;65(2):87–108.
2. Rosenberg IH. Sarcopenia:Origins and clinical relevance. Clin Geriatr Med.2011;27(3):337–9.
3. Kuwada K, Kuroda S, Kikuchi S, Yoshida R, Nishizaki M, Kagawa S, et al. Clinical impact of sarcopenia on gastric cancer. Anticancer Res. 2019;39(5):2241–9.

Keywords: Sarcopenia, Gastric Cancer, Metastasis, Body Mass Index, Prognosis

Nutrition

OP-94

RELATIONSHIP BETWEEN CONUT SCORE AND OUTCOMES IN PATIENTS WITH HEART FAILURE WITH REDUCED EJECTION FRACTION

Yusuf Ziya Sener[1], Pelin Unsal[2], Goksel Guven[3]

[1]Beypazarı State Hospital, Department Of Cardiology
[2]Ankara Etlik City Hospital, Department Of Internal Medicine, Division Of Geriatric Medicine
[3]Hacettepe University Faculty Of Medicine, Department Of Internal Medicine, Division Of Intensive Care Unit

Background: Malnutrition risk is increased in patients with heart failure and it is associated with worse outcomes. There are several scores for assessment of nutritional status. CONUT score includes albumin level, total cholesterol level and lymphocyte count and was used in patients with cardiac diseases for establishing undernutrition in previous studies. In this study i aimed to estimate the prevalence and severity of undernutrition in patients with heart failure with reduced ejection fraction (HFrEF) and assess the association between CONUT score and cardiovascular outcomes.

All of the patients with HFrEF diagnosis were screened and patients with available datas were enrolled. Patients' demographic datas were obtained from hospital electronic database. Hospitalization due to heart failure in the previous 6 months of admission was determined as the cardiovascular outcome.

Results: A total of 42 patients were included. Mean age of the population was 63.2 ±11.1 years and 69% of the cases (n=29) were male. Hypertension was present in 16 (38.1%) patients and diabetes mellitus was present in 17 (40.5%) cases. Ischemic cardiomyopathy was the most common cause (73.8%) and mean left ventricular ejection fraction was 33.3 ± 6.7%. Median NYHA class was 2 (1-3). ICD was present in 16 (38.1%) cases and CRT-D was present in 4 (9.5%) patients. Baseline characteristics are presented in Table-1. Median CONUT score was 1 (1-9) and undernutrition was present in 16 (38.1%). CONUT score was strongly correlated with NT-proBNP levels (r=0.585; p<0.001). Although median CONUT score was higher in patients with hospitalization episode due to heart failure in last 6 months than counterparts; it did not reach statistical significance (2.5 vs. 1; p=0.144). CONUT score was detected as a predictor of hospitalization by univariate logistic regression (OR:1.4, CI:1.02-2.09; p=0.035). Parameters with p values <0.200 were proceeded into multivariate analysis and CONUT score was still associated with hospitalization after multivariate regression analysis (OR:1.5, CI:1.05-2.21; p=0.024).

Conclusion: Prevalence of undernutrition determined by CONUT score in patients with HFrEF is 38% and CONUT score is a predictor of hospitalization due to heart failure. Patients with HFrEF should be assessed for nutritional status in order to improve prognosis.

Keywords: Heart Failure With Reduced Ejection Fraction, Malnutrition, Nutritional screening

Table-1. Baseline characteristics of the population

Age, years	63.2 ±11.1
Gender, male	29 (69%)
Comorbidities:	
-Hypertension	16 (38.1%)
-Diabetes mellitus	17 (40.5%)
-Coronary artery disease	31 (73.8 %)
-Atrial fibrillation	14 (33.3%)
Medications:	
-Beta blockers	42 (100%)
-Renin-angiotensin-aldosteron inhibitors	37 (88.0%)
-SGLT2 inhibitors	27 (64.3 %)
-Mineralocorticoid receptor antagonists	38 (90.5%)
-Ivabradine	7 (16.7%)
-Diuretic	35 (83.3%)
Laboratory parameters:	
-Glomerular filtration rate, mL/min/m^2	73.5 (24-104)
-Lymphocyte count, n/mm^3	1500 (500-3600)
-Total cholesterol, mg/dL	195.5 (93-280)
-Albumin, g/dL	3.79 ± 0.40
Echocardiographic measurements:	
-Left ventricular end-diastolic diameter, mm	29.6 ± 4.9
-Left ventricular ejection fraction	33.3 ± 6.7
-Mitral regurgitation (Severe), n	4 (9.5 %)
NYHA	2 (1-3)
NT-proBNP, pg/mL	820 (280-6330)
CONUT Score	1 (1-9)
-Severe undernutrition, n (%)	1 (2.3 %)
-Moderate undernutrition, n (%)	4 (9.5 %)
-Mild undernutrition, n (%)	11 (26.1%)

Falls

OP-95

DETERMINING THE RELATIONSHIP BETWEEN NUTRITIONAL STATUS AND BALANCE STATE IN PATIENTS ADMITTING TO THE GERIATRIC POLICY CLINIC

Sedat Özdemir, İbrahim Halil Türkbeyler

Gaziante İslamic Science And Technology University

Introduction: According to the Health Organization (D.S.Ö.), old age is accepted as 65 years and over. According to population projections, in 2034, 26% of the European population will be elderly population. In our study, we aimed to examine the relationship between mini-nutritional assessment (MNA) and Tinetti balance test in patients admitted to the geriatric outpatient clinic.

Material-Method: In our study, mini-nutritional assessment and tinetti hearing and balance test were applied to 430 patients who applied to the geriatrics outpatient clinic of Ersin Arslan Training and Research Hospital, along with demographic data. Statistical analyzes were performed with the help of SPSS version 25.0 program. The conformity of the variables to the normal distribution was examined by histogram graphics and the Kolmogorov-Smirnov test.

Results: A total of 430 people, 212 men and 218 women, aged between 60-91, were included in the study. Tinettilow-risk patientsare younger than high- and intermediate-risk patients. The risk of tinetti increases with increasing age and has a higher risk in women. The p value was found to be 0.023 in the relationship between malnutrition and the fall and balance test, and it was found to be statistically significant. In patients with malnutrition, the rate of tinetti fall and balance test was found to be higher than the risk of malnutrition and normal patients.

Conclusion: The relationship between the malnutrition status of the geriatric patient and the balance and walking test was statistically significant. The nutritional status of the individual has a major impact on the musculoskeletal system and cognitive functions, and it is thought that the more balanced the patient is fed, the more positive effect it has on balance and walking.

Keywords: Elderly, nutrition, balance

Recently, due to developments in medicine and technology, life expectancy has increased and living standards have increased, resulting in an increase in the elderly population (1). According to the World Health Organization (WHO), old age is considered to be 65 years and above. According to population projections, 26% of the European population will be elderly in 2034. In the 2000s; It is estimated that the total population increase in developing countries will be 88% and the elderly population increase will be 123% (2, 3, 4).

It occurs with aging and changes in body components, organ functions, nutritional needs and energy requirements. Problems such as limitation of movement, musculoskeletal problems, hypertension, insulin resistance, glucose-lipid metabolism disorder and atherosclerosis occur more frequently in older ages as a result of decrease in muscle mass and increase in abdominal fat tissue. Along with these, there is an increase in the incidence of chronic diseases and malignancies in the elderly. Skipping meals and/or malnutrition is more common due to care problems and psychological problems. All these reasons can cause malnutrition in the individual (5). Our study aimed to examine the relationship between mini nutritional assessment (MNA) and Tinetti balance test in patients admitted to the geriatric outpatient clinic.

In our study, mini nutritional evaluation and Tinetti hearing and balance test were applied to 430 patients who applied to the geriatric outpatient clinic of Ersin Arslan Training and Research Hospital, along with demographic data. Statistical analyzes were carried out with the help of SPSS version 25.0 program. The suitability of the variables to normal distribution was examined using histogram graphics and the Kolmogorov-Smirnov test. Mean, standard deviation, median and min-max values were used when presenting descriptive analyses. Spearman Correlation Test was used to analyze the measurement data with each other. Cases where the P-value was below 0.05 were considered statistically significant results.

A total of 430 people, 212 men and 218 women, aged between 60 and 91, were included in the study. Those with low risk Tinetti are younger than those with high and medium risk. The risk of tinetti increases with age, and women have a higher risk. The proportion of women is higher in the Tinetti high and medium risk groups. The rate of malnutrition in the Tinetti high risk group is higher than in the medium and low risk groups. Among those whose marital status is widowed, the rate is higher in the high-risk group compared to the total. The p value for the relationship between malnutrition and the fall and balance test was found to be 0.023 and was found to be statistically significant. Tinetti fall and balance test rates were found to be higher in patients with malnutrition than in patients with malnutrition risk and normal patients.

The correlation between Tinetti balance and walking test and MNA was examined. Accordingly, there is a weak correlation in the same direction between MNA and Tinetti balance and walking test.

The relationship between the malnutrition status of the geriatric patient and the balance and walking test was found to be statistically significant. The individual's nutritional status has a major impact on the musculoskeletal system and cognitive functions, and it is thought that the more balanced the patient's diet, the more positive it will have an effect on balance and walking. In this respect, the nutritional status of the patient must be evaluated in detail in the geriatric evaluation.

References

1. Mert G. Keskin D. Yaşlılarda Düşme Kırıkları, VII. Ulusal Hemşirelik Kongresi Kitabı. 22-24 Haziran, 1999;172.

2. Durgun B.Tümerdem Y. Kentleşme Ve Yaşlılara Sunulan Hizmet, Türk Geriatri Dergisi.1999; 2(3):115-120.
3. Duyar İ. Özener B. Nüfus Sayımı Sonuçlarına Göre Türkiye'deYaşlı Nüfus Değişimi, I. Ulusal Yaşlılık Kongresi Kitabı, 10-11 Ekim 2001;365.
4. Türkiye Sağlık Ve Nüfus Araştırması 1998,Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü, Ankara, Türkiye,1999;14.
5. James WP, Francois PJ. Thechoice of cut-offpointfordistinguishing normal body weightsfromunderweightor 'chronicenergydeficiency' in adults. Eur J ClinNutr 1994; 48: 179-184

Keywords: Elderly, nutrition, balance

Tablo 1. Relationship between tinetti test and MNA

		HIGH RISK	MIDDLE RISK	LOW RISK	TOTAL	P
AGE		73 (60-91)	72 (65-89)	69 (60-90)	70 (55-91)	<0,001[1]
GENDER	MAN	(30,12)	(38,32)	(53,38)	(46,09)	<0,001[1]
	WOMAN	(69,88)	(61,68)	(46,62)	(53,91)	<0,001[1]
MARITAL STATUS	MARRIED	(66,27)	(72,90)	(76,01)	(73,66)	0,322[2]
	SINGLE	(,00)	(,00)	(,68)	(,41)	0,322[2]
	WIDOW	(33,73)	(26,17)	(21,96)	(24,90)	0,322[2]
	DIVORCED	(,00)	(,93)	(1,35)	(1,03)	0,322[2]
MNA	MALNUTRITION	(10,84)	(4,67)	(6,08)	(6,58)	0,023[2]
	MALNUTRITION RISK	(31,33)	(42,06)	(27,03)	(31,07)	0,023[2]
	NORMAL	(57,83)	(53,27)	(66,89)	(62,35)	0,023[2]

Others

OP-96

CAN SARCOPENIA BE A CONTRIBUTING FACTOR TO THE DEPENDENCE ON ACTIVITIES OF DAILY LIVING IN OLDER ADULTS WITH DEPRESSION?

Sencer Ganidağlı

Gaziantep University, Faculty Of Medicine, Department Of Internal Medicine, Division Of Geriatric Medicine

Background: The presence of depressive symptoms often leads to reduced motivation to perform activities of daily living, accompanied by reduced energy levels and impaired concentration. We aimed to investigate the relationship between depression and activities of daily living (ADL) and instrumental activities of daily living (IADL).

Methods: This cross-sectional study was conducted with a total of 515 older adults admitted to a geriatric outpatient clinic. Patients were diagnosed with depression using the Geriatric Depression Scale and categorized into three groups: no depression (0-10), probable depression (11-13), and depression (≥14) using the Geriatric Depression Scale (GDS). All patients underwent a comprehensive geriatric assessment. The Katz Index of Independence in Activities of Daily Living (ADL) and the Lawton and Brody Instrumental Activities of Daily Living Scale (IADL) were used to assess patients' dependence on activities of daily living. Muscle mass was measured by a bioimpedance analyzer, muscle strength by hand dynamometer, and gait speed by measuring the time to walk 4 meters. Timed up-and-go test and Tinetti gait and balance assessment (TGBA) were performed in all patients.

Results: The study involved participants with a mean age of 72.2±6.3 years, 58.6% female. Among the participants, 25.8% had depression, and 11.2% were diagnosed with probable depression. Patients with depression had a greater level of dependence on bathing (p<0.001), dressing (p=0.001), toileting (p=0.007), transferring (p=0.017), and continence (p=0.002) compared to those without depression (Table 1). Patients with depression scored lower in the IADL domains for tasks such as laundry, shopping, and food preparation, as well as responsibility for medications and ability to handle finances (p<0.001, p<0.001, p<0.001, p<0.001, and p<0.001). Additionally, patients with probable depression and depression groups had lower scores in the domains of transportation, housekeeping, and total scores compared to non-depressive patients. [(p=0.024, p=0.011 and p=0.016 analysis of probable depression compared to non-depressive groups), (p<0.001, p<0.001, and p <0.001 analysis for depressive compared to non-depressive groups)]. Individuals in the probable depression and depression group showed lower gait speed and hand grip strength (HGS), as well as higher scores on the Timed Up and Go (TUTG) test compared to those in the non-depressive group [(p=0.001, p=0.003 and p=0.001 analysis for probable depression group compared to non-depressive group), (p<0.001, p=0.005, and p <0.001 analysis for depressive group compared to non-depressive group)]. It was found that there were no significant differences in SMMI (p=0.225 for females and p= 0.407 for males) and number of falls (p=0.147) between the three groups. However, the TBGA total, gait, and balance scores were lower in the depressive group compared to the non-depressive group (p<0.001, p<0.001, and p=0.014 respectively)

Conclusions: In our study, depression was associated with several domains of ADL and IADL. Our research has also shown that individuals with depression are more likely to have reduced physical performance, reduced muscle strength and an increased risk of falls. This can lead to reduced mobility, making older adults more dependent on activities of daily living. All older patients with depression should be evaluated for sarcopenia and fall risk, which may lead to dependence on ADL and IADL.

Keywords: Depression, activities of daily living, sarcopenia, muscle strength.

Table 1. Sociodemographic features and ADL/IADL analysis of patients based on the diagnosis of depression

Variables	Patients without depression (n=324)	Patients with probable depression (n=58)	Patients with depression (n=133)	p
Age[1]	71.98±5.82	72.12±6.40	72.81±7.44	0.443
Female gender				
Number of comorbidities[1]	2.26±1.32[a,b]	3.08±1.60[a]	3.09±1.49[b]	p_a<0.001 p_b<0.001
GDS[#]	4.5 (0-10)[a]	12(11-13)[a]	17(14-30)[a]	<0.001*
ADL[#]				
Bathing[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Dressing[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	0.001*
Toileting[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	0.007*
Transferring[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	0.017*
Continence[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	0.002*
Feeding[#]	1(0-1)	1(0-1)	1(0-1)	0.091
Total score	4.2(0-6)	4.2 (0-6)	4 (0-6)	0.331
IADL[#]				
Ability to use telephone[#]	1(0-1)	1(0-1)	1(0-1)	0.199
Laundry[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Shopping[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Food preparation[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Mode of transportation[#]	1(0-1)[a,b]	1(0-1)[a]	1(0-1)[b]	p_a=0.024* p_b<0.001*
Responsibility for own medications[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Housekeeping[#]	1(0-1)[a,b]	1(0-1)[a]	1(0-1)[b]	p_a=0.011* p_b<0.001*
Ability of handle finances[#]	1(0-1)[a]	1(0-1)	1(0-1)[a]	<0.001*
Total score	7(0-8)[a,b]	5.5(0-8)[a]	5(0-8)[b]	p_a=0.016* p_b<0.001*

*: p< 0.005, †: Data are presented as mean, #: Data are presented as median(min-max) a,b: p<0.05 according to Kruskall Wallis test between groups. GDS, Geriatric depression scale; ADL, Activities of daily living; IADL Instrumental activities of daily living

Table 2. Analysis of patient's physical performance, muscle mass, muscle strength and falls based on the diagnosis of depression.

Variables		Patients without depression (n=324)	Patients with probable depression (n=58)	Patients with depression (n=133)	p
Gait speed[a]		0.81±0.31[a,b]	0.68±0.29[a]	0.72±0.30[b]	p_a=0.001* p_b<0.001*
TUGT[a]		13.6±4.63[a,b]	16.07±6.01[a]	16.81±8.43[b]	p_a=0.003* p_b=0.005*
Handgrip strength[a]		24.94±7.89[a,b]	21.26±7.37[a]	19.7±7.57[b]	p_a=0.001* p_b<0.001*
SMMI[a]	Female	0.823±0.176	0.822±0.175	0.787±0.117	0.225
	Male	1.188±0.174	1.145±0.190	1.21±0.195	0.407
Number of falls[#]		0(0-5)[a]	0(0-8)	0(0-10)[a]	0.147
Tinetti Total[#]		25(9-35)[a]	24(6-35)	22(0-35)[a]	<0.001*
Tinetti gait[#]		9(2-9)[a]	7.5(4-9)	4.5(0-9)[a]	<0.001*
Tinetti balance[#]		24(9-26)[a]	22.5(12-26)	16(0-26)[a]	0.014*

a: p< 0.005, +: Data are presented as mean, #: Data are presented as median(min-max) a,b: p<0.05 according to Kruskall Wallis test between groups TUG, Time-up-go test, SMMI, Skeletal muscle mass index.

Sarcopenia

OP-97

ASSOCIATION OF THE PHASE ANGLE, MUSCLE STRENGTH, AND MUSCLE MASS BY DIFFERENT CALCULATIONS IN DIABETIC AND NON-DIABETIC OLDER PATIENTS

Sibel Çavdar[1], Fatma Özge Kayhan Koçak[2], Sumru Savaş[1]

[1]Ege University, Department Of Internal Medicine, Division Of Geriatrics, İzmir, Türkiye.
[2]İzmir Çiğli Education And Research Hospital, Department Of Internal Medicine, Division Of Geriatrics, İzmir, Türkiye.

Aim: Phase angle (PhA), measured by bioelectrical impedance analysis (BIA) seems to be a good marker of muscle mass (MM) and muscle strength. The importance of PhA is not fully clarified in older diabetic patients in terms of MM and muscle strength. The aim of this study is to examine the the assosiations between PhA and MM and muscle strength by different formulas and corrections in diabetic older patients in comparison with non-diabetic older patients.

Method: All the patients from the geriatric outpatient clinic of our university hospital recruited between July 2018 and March 2021 were screened. Diabetic patients and controls without acute conditions were included. Data were collected retrospectively from the hospital records. All participants underwent BIA, and PA was recorded for each participant. Hand grip strength (HGS) was evaluated by Takei dynamometer. MM was evaluated as absolute MM and appendicular MM corrected by BMI - height^2 . Spearman and Pearson Correlation analyses were calculated where appropriate.

Results: A total of 132 diabetic patients (n:82, 62.1% female) with age of 74.2±6.5 and a total number of 226 non-diabetic patients (n:143, 63.2% female) with age 73.7±6.5 years were enrolled. In diabetic women PhA was not correlated with HGS, Skeletal MM index (SMMI) (absolute by BMI), and SMMI (absolute by height2) (all p>0.05), although it was correlated with SMMI (appendicular by height2) (r:0.479, p:0.000). In DM men, PhA was not correlated with HGS, SMMI (absolute by BMI), and SMMI (absolute by height2), although it was correlated with SMMI (appendicular by height2) (r:0.386, p:0.003). In women controls, PhA was not correlated with HGS, SMMI (absolu by BMI), and SMMI (absolute by height2) (p values>0.05), although it was correlated with SMMI (appendicular by height2) (r:0.458, p:0.000). In male controls, PhA was correlated with HGS, SMMI (absolute by height2) and SMMI (appendicular by height2), but not with SMMI (absolute by BMI).

Conclusion: PhA, measured by BIA is correlated with appendicular SMM/h2 in diabetic and non-diabetic older adults. PhA is correlated with muscle strength in only non-diabetic older men.

Keywords: muscle mass, muscle strength, phase angle, diabetes mellitus, older

Others

OP-98

SUBCLINICAL THYROID DYSFUNCTION AND FUNCTIONAL CAPACITY IN OLDER ADULTS

Tuba Soysal[1], Sibel Akın[1], Firuzan Fırat Özer[1], Nurdan Şentürk Durmuş[1], Bilge Müge Gökçekuyu[1], Serdar Şahin[2]

[1]Erciyes University Faculty Of Medicine
[2]Cerrahpasa University Faculty Of Medicine

Background: Subclinical thyroid dysfunction is common in older adults and there are limited data about its association with decreased functional capacity. We aimed to determine whether subclinical thyroid dysfunction was associated with decreased functional capacity.

Methods: 796 patients aged 60 years and above from the outpatient clinic who are not taking thyroid preparations were included in this cross-sectional study. Patients categorized as subclinical hyperthyroidism and subclinical hypothyroidism and euthyroid participants. The Katz and the Lawton Index were used in evaluation of activities of daily living (ADL) and instrumental ADL (IADL), respectively. Also falls in last year and frailty were compared between three groups.

Results: The study population's mean age was 72.2 (66.0-77.0) years and the prevalence rate of euthyroid, subclinical hypothyroid and subclinical hyperthyroid patients were %89.5, %5.1, %4.5, respectively. Subclinical hyperthyroid patients have shown lower performance in ADL when compared with euthyroid patients significantly. Otherwise there were no significant difference between patients with subclinical thyroid dysfunction and euthyroid patients in terms of functional capacity.

Conclusion: The relation between subclinical thyroid dysfunction and functional capacity is multifactorial. Older adults with subclinical thyroid dysfunction should be evaluated carefully for dependency despite the conflicting results in our study and in the literature.

Keywords: Subclinical Thyroid Dysfunction, Older Adults, Functional Capacity, Activities of Daily Living

Anti-Aging and Healthy Aging

OP-99

HEALTHY AGEING: HERPES ZOSTER INFECTION AND THE ROLE OF THE ADJUVANTED RECOMBINANT ZOSTER VACCINE

Desmond Curran[1], Timothy Mark Doherty[1], Nicolas Lecrenier[1], Thomas Breuer[1], Cihan Yesiloglu[2]

[1]GSK, Wavre, Belgium
[2]GSK, İstanbul, Turkey

Background: Increases in life expectancy over the last 50 years have been matched by an increase in the burden of diseases (e.g. herpes zoster [HZ]) in adults ≥50 years of age (YOA). Without intervention, around 30% of individuals can expect to develop HZ in their lifetime, which would impact their daily activities and healthy ageing.

Methods: We conducted a narrative review on published literature on the impact of developing HZ on healthy ageing and the ability of vaccination to prevent the burden of disease due to HZ. Specifically, we describe HZ impact on quality of life (QoL), and impact of the adjuvanted recombinant zoster vaccine (RZV) on reducing the burden of HZ in adults ≥50 YOA.

Results: In adults ≥50 YOA with HZ, 65.1% and 15.8% reported severe pain and worst imaginable pain, respectively. Pain persisted for up to 90 days (defined as post-herpetic neuralgia) in 10–20% of HZ patients, and occasionally for years after initial symptoms. Pain due to HZ impacted all domains of QoL (psychological, physical and social). Evidence suggested that RZV reduced HZ burden of illness and burden of interference on daily activities by >90%. Reports also suggested that RZV retained vaccine efficacy of >90% in all frailty subgroups, who typically respond poorly to other vaccinations. Long-term follow-up data reported vaccine efficacy against HZ of 84.1% (95% confidence interval, 64.4–94.0%), 8 years post-vaccination. Modelling studies demonstrated that vaccination resulted in reduced hospitalisation and other healthcare visits related to HZ.

Conclusions: Vaccination with RZV can protect older adults from HZ, thus maintaining QoL and promoting active and healthy ageing.

Key messages:

- There is significant burden of disease due to HZ among adults ≥50 YOA due to ageing and immunosenescence.
- Vaccination can reduce burden of disease among the elderly and frail individuals and maintain QoL.
- In the European Union (EU), life expectancy has increased from 74 years (y) in 1990 to 81y in 2018 (1).
- While life expectancy is rising, the number of years lived in ill health is increasing (2).
- Incidence and severity of herpes zoster (HZ) increases with age associated with an age-related decline in immunity (3).

What is Healthy Ageing?

- World Health Organization (WHO) defines healthy ageing as "the process of developing and maintaining the functional ability that enables wellbeing in older age" (4).
- Vaccination in adults can help to support healthy ageing (Figure 1).
- The aims of this review were to describe the impact of HZ in older adults, and to summarise the available data providing evidence of how the Recombinant Zoster Vaccine (RZV) contributes to healthy ageing.

Herpes Zoster

- 15 million cases of HZ occur annually worldwide in people aged 50y and older (5).
- HZ is characterised by localised rash and pain, with itchiness and fatigue also commonly reported (6).
- HZ impact on functioning and quality of life is shown in Figure 2 (6).

Impact of Zoster Vaccination on Healthy Ageing

- Distribution of maximal zoster brief pain inventory (SBPI) "worst-pain" scores is shown in Figure 3 (7).
- Insights into vaccine efficacy are shown in Figure 4 (7,8).
- In addition to preventing HZ episodes (and the pain associated with those episodes), RZV attenuated the severity of pain in individuals with breakthrough disease, resulting in significantly reduced impact of HZ on quality of life (7).
- Number needed to vaccinate to prevent one HZ case is summarised in Figure 5.
- Vaccinating individuals who are younger may provide the best public impact for RZV, given the long duration of protection of the vaccine (9).
- Older adults comprise an increasing proportion of the population worldwide. Health interventions need to focus on improving the quality of longer lifespans, promoting healthy ageing, maintaining good health and function into older age.
- Vaccination with RZV can protect older adults from HZ, thus maintaining quality of life and promoting active and healthy ageing (10).
- Adult vaccination programmes, including against HZ, have the potential to reduce morbidity in older adults, improving quality of life and providing important social and public health benefits.

References

1. Mortality and life expectancy statistics – Statistics Explained (europa.eu). Available from: www.ec.europa.eu/eurostat/statistics-explained/index.php?title=Mortality_and_life_expectancy_statistics#:~:text=Life%20expectancy%20at%20birth%20in%20the%20EU%20was,men%20%28also%200.3%20year%20higher%20than%20in%202018%29.
2. Ho V, et al. Healthcare utilisation in the last year of life in internal medicine, young-old versus old-old. BMC Geriatr. 2020;20(1):495.
3. Weinberger B. Vaccination of older adults: Influenza, pneumococcal disease, herpes zoster, COVID-19 and beyond. Immun Ageing. 2021;18(1):38.
4. Healthy ageing and functional ability. Available from: https://www.who.int/philippines/news/q-a-detail/healthy-ageing-and-functional-ability.
5. Curran D, et al. Meta-regression of herpes zoster incidence worldwide. Infect Dis Ther. 2022;11(1):389–403.
6. Van Oorschot D, et al. A cross-sectional concept elicitation study to understand the impact of herpes zoster on patients' health-related quality of life. Infect Dis Ther. 2022;11(1):501–516.
7. Curran D, et al. Quality of life impact of an adjuvanted recombinant zoster vaccine in adults aged 50 years and older. J Gerontol A Biol Sci Med Sci. 2019;74(8):1231–1238.
8. Boutry C, et al. The adjuvanted recombinant zoster vaccine confers long-term protection against herpes zoster: Interim results of an extension study of the pivotal phase 3 clinical trials ZOE-50 and ZOE-70. Clin Infect Dis. 2022;74(8):1459–1467.
9. Curran D, et al. Long-term efficacy data for the recombinant zoster vaccine: Impact on public health and cost effectiveness in Germany. Hum Vaccin Immunother. 2021;17(12):5296–5303.
10. de Gomensoro E, et al. Challenges in adult vaccination. Ann Med. 2018;50(3):181–192.

Disclosures

Conflicts of Interest

DC, TMD, NL and TB are employees and shareholders of the GSK group of companies. NL received grants and declared patents from the GSK group of companies. All authors declare no

other financial and non-financial relationships and activities. CY is an employee of the GSK group of companies.

Acknowledgements

The authors thank Costello Medical for editorial assistance and publication coordination, on behalf of GSK, and Carole Nadin (Fleetwith Ltd, on behalf of GSK) for providing medical writing support.

Funding

This study was funded by GlaxoSmithKline Biologicals SA (study ID 214093).

Previous Presentation

This study was previously presented at the European Public Health Association (EUPHA) 2022, Berlin, Germany, 9th–12th November 2022.

Keywords: Herpes Zoster, Vaccination, Aging

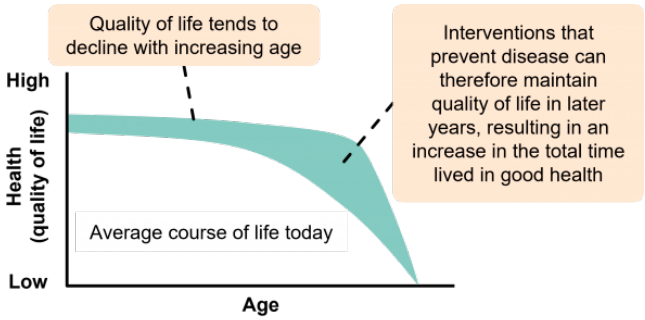


Figure 1. Average course of life today

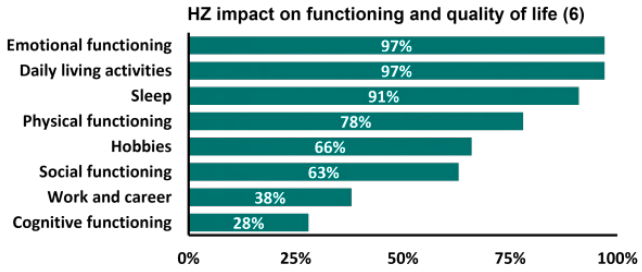


Figure 2. HZ impact on functioning and quality of life

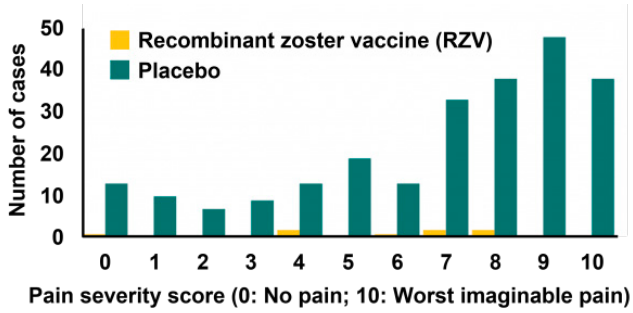


Figure 3. Distribution of maximal zoster brief pain inventory (ZBPI) "worst-pain" scores (7)

Figure 4. Vaccine efficacy

Figure 5. Number needed to vaccinate to prevent one HZ case

POSTER BİLDİRİLER

Innovative Approaches

PP-02

PITFALLS IN HYPERNATREMIA MANAGEMENT: A CASE REPORT

Zeynep Dilek Erzengin, Mehmet Aybars Aydın

Suleyman Demirel University: School Of Medicine Department Of Geriatrics

Background-Aim: An 83 year old female patient was admitted to the geriatrics clinic of SDU hospital for worsening hypernatremia and deteriorating status after 9 days of hospitalization in the pulmonology department. The patient had a well controlled diabetes and a history of stroke after which she had been ambulating on her knees most of the time. The patient was doing well until 8 days before her admission when she developed an ulcer on the dorsum or her right foot which rapidly progressed to severe cellulitis. Upon her presentation to the emergency departmant her clinical picture was complicated by increased creatininie, hypoxemia and altered mental status. She was admitted to the pulmonology departmant for probable pulmonary embllism and pneumonia. During her stay in pulmonology department she received heparin, antibiotics as well as parenteral nutrition support and was administered diuretics for volume overload. The patient was consulted for development of hypernatremia and was also noted to have hypocalcemia and was put on vitamin d drops.

Her hypernatremia did not respond to withdrawal of diuretics and switching to %0.45 saline and then to 5% dextrose infusion with insulin. Despite additional basal and frequent rapid acting insulin doses during 5% dextrose infusion, It was realised that her suboptimal blood glucose control leading to osmotic diuresis was contributing to an inability to replace her fluid deficit.

Given also the presence of hypocalcemia and altered mental status, a nasogastric tube was placed and she was given a dilute solution of yoğurt and water intermittently while her parenteral fluids were tapered. She was brought to semi-recumbent positon for prevention of aspiration during nasogastric feeding. With this regime, her insulin requirements were reduced significantly and her blood glucose excursions were controlled. In a matter of several days her serum calcium increased from 6.1 to 8.3 mg/dL and her serum sodium normalized.

Hypernatremia is a problem of elderly patients particularly those with impaired mental status who are unable to sense thirst or respond to thirst normally. In our case hypernatremia was precipitated by iatrogenic factors since it was not present upon initial admission to the hospital. Regardless of cause, guidelines recommend a daily sodium reduction of about 10 mEq/L in order to prevent cerebral edema and brain herniation (1). However, failure to achieve a reasonable rate of correction of hypernatremia is also associated with increased mortality (2). Excess administration of diuretics and failure to account for other causes of fluid loss are among the most common reasons for suboptimal rates of correction. Since dextrose infusion was assiciated with a poorly controlled blood glucose profile and osmotic diuresis, swiching to hydration from nasogastric tube (for the sake of administering dietary sources of calcium) had the dual of advantage of providing calcium and hydration while avoiding extra glycemic load; and hence had a dramatic favorable effect on her calcium and water and electrolyte balance. This case illustrates that switching to enteral hydration may be a therapeutic choice in the treatment of hypernatremic patients who also have diabetes and respond poorly to dextrose and insulin infusions.

An 83 year old female patient was admitted to the geriatrics clinic of SDU hospital for worsening hypernatremia and deteriorating status after 9 days of hospitalization in the pulmonology department. The patient had a well controlled diabetes and a history of stroke after which she had been ambulating on her knees most of the time. The patient was doing well until 8 days before her admission when she developed an ulcer on the dorsum or her right foot which rapidly progressed to severe cellulitis. Upon her presentation to the emergency departmant her clinical picture was complicated by increased creatininie, hypoxemia and altered mental status. She was admitted to the pulmonology departmant for probable pulmonary embllism and pneumonia. During her stay in pulmonology department she received heparin, antibiotics as well as parenteral nutrition support and was administered diuretics for volume overload. The patient was consulted for development of hypernatremia and was also noted to have hypocalcemia and was put on vitamin d drops.

Her hypernatremia did not respond to withdrawal of diuretics and switching to %0.45 saline and then to 5% dextrose infusion with insulin. Despite additional basal and frequent rapid acting insulin doses during 5% dextrose infusion, It was realised that her suboptimal blood glucose control leading to osmotic diuresis was contributing to an inability to replace her fluid deficit.

Given also the presence of hypocalcemia and altered mental status, a nasogastric tube was placed and she was given a dilute solution of yoğurt and water intermittently while her parenteral fluids were tapered. She was brought to semi-recumbent positon for prevention of aspiration during nasogastric feeding. With this regime, her insulin requirements were reduced significantly and her blood glucose excursions were controlled. In a matter of several days her serum calcium increased from 6.1 to 8.3 mg/dL and her serum sodium normalized.

Hypernatremia is a problem of elderly patients particularly those with impaired mental status who are unable to sense thirst or respond to thirst normally. In our case hypernatremia was precipitated by iatrogenic factors since it was not present upon initial admission to the hospital. Regardless of cause, guidelines recommend a daily sodium reduction of about 10 mEq/L in order to prevent cerebral edema and brain herniation (1). However, failure to achieve a reasonable rate of correction of hypernatremia is also associated with increased mortality (2). Excess administration of diuretics and failure to account for other causes of fluid loss are among the most common reasons for suboptimal rates of correction. Since dextrose infusion was assiciated with a poorly controlled blood glucose profile and osmotic diuresis, swiching to hydration from nasogastric tube (for the sake of administering dietary sources of calcium) had the dual of advantage of providing calcium and hydration while avoiding extra glycemic load; and hence had a dramatic favorable effect on her calcium and water and electrolyte balance. This case illustrates that switching to enteral hydration may be a therapeutic choice in the treatment of hypernatremic patients who also have diabetes and respond poorly to dextrose and insulin infusions.

This case illustrates that switching to enteral hydration may be a therapeutic choice in the treatment of hypernatremic patients who also have diabetes and respond poorly to dextrose and insulin infusions.

Keywords: hypernatremia, hypocalcemia, treatment, elderly,

Pressure Sores

PP-04

VACUUM-ASSISTED CLOSURE TREATMENT FOR AN OLDER PATIENT

Elif Gürel çayır , Pınar Sırmatel Bücük, Deniz Can Aydoğan, Sumru Savaş, Sevnaz Şahin, Zeliha Fulden Saraç

Ege University Faculty Of Medicine

Introduction: Pressure sore is a common problem for long-term bedridden patients, and can be life-threatening, especially for frail older patients. Delayed wound healing particularly in difficult wounds in older patients with comorbidities is a major concern which leads to pain, morbidity, prolonged treatment, and require major reconstructive surgery that imposes enormous social and financial burden. Relatively novel techniques like negative pressure wound therapy (NPWT) using the vacuum assisted closure (VAC) are promising and useful in the management of difficult to heal wounds (1). VAC is an alternative method of wound management, which uses the negative pressure to prepare the wound for spontaneous healing or by lesser reconstructive options(2).

Case report: 85 years old female with patient Alzheimer's disease for 8 years, present with complex pressure ulcers on sacrococcygeal region. Our patient presented to our emergency department with complaints of oral intake difficulties, pressure ulcer, and overall deterioration in her health status. She had experienced a decline in daily living activities over the past 2 months. Her oral intake was reduced, she had become bedridden and immobile, resulting in the development of pressure ulcers in the sacral and left trochanteric regions. Her general condition was poor, vital signs; blood pressure 111/74 mmHg, body temperature 36,5°C and heart rate 80/min. Initial haematological investigations demonstrated a white cell count of 39×10^6/ml, c-reactive protein of 105 mg/L, procalcitonine of 1,84 microgram/L, creatinine of 2.7 mg/dL, uric acid 107 mg/dL. The patient was admitted to our geriatrics clinic for further evaluation and treatment due to the diagnosis of prerenal acute kidney injury, oral intake impairment, and pressure ulcers. Intravenous hydration, forced diuresis, and nutritional intervention were initiated. Surgical debridement of necrotic tissue was performed twice, and VAC therapy was applied to both the sacral and left trochanteric regions. Suitable intervention according to tissue cultures were applied. In the follow-up enteral nutrition was started, and PEG was placed. The patient complicated with pnemonia and urinary infection and transferred to the intensive care unit (ICU), and re-tansferred to our clinic afterwards. Though the pressure ulcers healed and the stages regressed, the patient had respiratory distress and transferred to ICU again. The condition of the wound in the first week, after debridement and in the first week of vac treatment are shown in figures 1,2 and 3, respectively.

VAC treatment improved tissue perfusion, accelerated granulation tissue formation -angiogenesis, and the stages regressed. VAC therapy is an effective treatment for challenging-to-heal pressure ulcers. We presented our case to raise awareness about VAC as a less invasive and effective method in the treatment of pressure sores, particularly in geriatric patients.

References

1. Yadav, S., Rawal, G., & Baxi, M. (2017). Vacuum assisted closure technique: a short review. The Pan African medical journal, 28, 246. https://doi.org/10.11604/pamj.2017.28.246.9606
2. Agarwal, P., Kukrele, R., & Sharma, D. (2019). Vacuum assisted closure (VAC)/negative pressure wound therapy (NPWT) for difficult wounds: A review. Journal of clinical orthopaedics and trauma, 10(5), 845–848. https://doi.org/10.1016/j.jcot.2019.06.015

Keywords: VAC therapy, pressure sores, aged

Figure :

Before debridement

Before vac treatment

One week after vac treatment

Chronic Diseases

PP-06

A PREDICTABLE SIDE EFFECT OF TRIMETHOPRIM SULFOMETHOXAZOL; ACUTE KIDNEY INJURY

Atacan Aras, Erhan Ozenc, Mercan Tastemur, Hilal Heybeli, Hande Selvi Oztorun, Rana Tuna Dogrul, Gunes Arik, Kamile Silay

Ankara City Hospital

Background-Aim: Prescribing drugs in older adults can show a number of safety issues. Increasing complexity of chronic diseases may lead to inappropriate drug use and polypharmacy, which can contribute to drug-related illness, adverse drug reactions, drug interactions, cognitive impairment, falls, hospitalizations, and death in older adults. Trimethoprim-sulfamethoxazole (TMP-SMX) is widely prescribed to treat a variety of infections in older adults with multiple chronic diseases. It is estimated that adverse drug reactions are approximately 7 times more common in people older than 70 years of age than in people younger than 70 years old (1).

An 82-year-old female patient, who was brought to the emergency room from the nursing home due to oral intake disorder, was hospitalized to geriatric ward due to urinary system infection and acute kidney injury with a chronic basis. The patient, who had a history of operated breast cancer in remission and stage 3A chronic kidney disease was bedridden whole day due to dementia. In the geriatric evaluation of the patient, Katz index was 1/6, Lawton's index was 0/8, mini nutrition evaluation was 11/14, geriatric depression scale was 3/15, mini mental status evaluation was 9/30. Empirical ceftriaxone was given due to urinary system infection, after that antibiotic therapy was changed to trimethoprim/sulfomethoxazole due to ESBL + E.Coli growth in urine culture. While the creatinine value was 2.29 mg/dl at her hospitalization, it progressed to 2.42 mg/dl as of the 3rd day of TMP / SMX treatment and then increased to 2.84 mg/dl. Potassium value was observed simultaneously with the increase in creatinine and polystyrene sulfonate calcium was given with the recommendation of nephrology. The creatinine level decreased 2 days after TMP/SMX was discontinued. After completion of infection treatment the creatinine level decreased to baseline and the patient was discharged.

TMP/SMX increases serum creatinine levels by decreasing urinary creatinine elimination due to inhibition of organic cation transporter-2. The incidence of TMP/SMX related acute kidney injury (AKI) varies according to the patient's renal disease history. Past studies have shown that the hypertension, diabetes, low baseline eGFR, cardiac disorders, high-dose TMP/SMX, use of renin-angiotensin system blockers, potassium-sparing diuretics and potassium supplements are risk factors for SMX/TMP-related AKI (2).

We present this case to emphasize the importance of close monitoring of renal function in the use of TMP/SMX in elderly individuals.

References

1. Koronkowski, M., Eisenhower, C., & Marcum, Z. (2016). An update on geriatric medication safety and challenges specific to the care of older adults. The annals of long-term care: the official journal of the American Medical Directors Association, 24(3), 37.
2. Shimizu, Y., Hirai, T., Ogawa, Y., Yamada, C., & Kobayashi, E. (2022). Characteristics of risk factors for acute kidney injury among inpatients administered sulfamethoxazole/trimethoprim: a retrospective observational study. Journal of Pharmaceutical Health Care and Sciences, 8(1), 1-8.

Keywords: Trimethoprim, Sulfamethoxazole, Urinary tract infection, Acute kidney injury

Others

PP-07

POTENTIAL STAKEHOLDERS TO PROMOTE GERIATRIC MEDICINE FOR NON-GERIATRICIAN HEALTHCARE PROFESSIONALS FOR COST ACTION CA21122-PROGRAMMING

Sumru Savas[1], Nilüfer Demiral Yılmaz[2], Özge Kayhan Koçak[1], Elif Güngör[1], Karolina Piotrowicz [3], Sofia Duque[4], Marina Kotsani[5]

[1]Geriatrics Section, Internal Medicine Department, Medical Faculty, Ege University, Izmir, Turkey
[2]Medical Education Department, Medical Faculty, Ege University, Izmir, Turkey
[3]Department Of Internal Medicine And Geriatrics, University Hospital İn Krakow
[4]Faculdade De Medicina Universidade De Lisboa
[5]Hellenic Society For The Study And Research Of Aging

Introduction: Geriatric Medicine (GM) is concerned with the well-being and health of older adults. Thus, GM should play a crucial role in the coordination and improvement of healthcare systems according to the requirements of aged individuals and patients. Herein, most countries have different GM education, training, and resources. The goal for PROGRAMMING-CA-21122 is to propose the content of education and training activities in GM for healthcare professionals across various clinical settings, adapted to local context, needs, and assets. One of the aims of PROGRAMMING Action is to define potential stakeholders and to address them internationally and country-specific (https://cost-programming.eu/).

Methods: Relevant stakeholders were planned to be defined with practical examples by online focus group meetings. In order to ensure diversity, the participants were divided into groups based on country, profession, and gender. A preparatory template and questions for the Task were also planned to be created. Feedback was also requested from the Management Committee members, and a comprehensive summary of the meetings was also provided.

Results: There were 37 members from 17 countries (26 women, 11 men) of multidisciplinary professions involved in this task. Comprehensive templates that will help to retrieve stakeholders representing the complex needs of GM were created and delivered to the COST Action members. The feedback will be comprehensively discussed.

Conclusion: The main objective of PROGRAMMING is to develop specialized geriatric care delivered to older persons. This particular task will contribute to the dissemination and maximization of the impact of the Action by defining and mapping multidisciplinary stakeholders involved in older people's care who might benefit from cooperation with our Action.

As the world is aging health systems need to be ready for the needs of the aged population. Geriatric Medicine (GM) dealing with the specific multidimensional needs, social and health care and well-being of older individuals is strategic to meet the targets. Different countries might have variable GM education, and systems. In countries where GM is not entirely developed, there is an excessive need for all healthcare professionals (HCPs) trained in GM principles. To meet this substantial need, tailored education and training of the existing workforce might be efficient according to the characteristics of the country, and to reach such targets interdisciplinary network collaboration across countries and resources is critical.

The European Cooperation in Science and Technology (COST) is a funding organization for research and innovation networking that helps the development of research and innovation initiatives. The aims of the COST Action CA21122 - PROmoting GeRiAtric Medicine in countries where it is still eMergING" (PROGRAMMING) are relevant to COST targets as to define the content of targeted education and training activities in GM for HCPs across various clinical settings mainly for the countries where GM is still emerging (https://www.cost.eu/actions/CA21122/) (https://cost-programming.eu/) (Figure 1). One of the five working groups to reach PROGRAMMING goals is the dissemination of results on identified needs and proposed solutions to stakeholders, policymakers, and the public. The other working groups are; i) the description of the state-of-the-art GM education in involved countries,ii) the identification of global and more specific local needs regarding the development of GM-related clinical skills and competencies of medical doctors and other HCPs involved in the care of older people, iii) the definition of the content of GM training courses designed for non-geriatricians in ambulatory, home care, acute/subacute and long-term care settings, iiii) the adjustment of international standards to the local context. Geriatric Medicine is a specialized branch of medicine that focuses on the healthcare needs of older adults comprehensively using the Comprehensive Geriatric Assessment through multidisciplinary or interdisciplinary teams evaluating the physical, mental, and social well-being of older individuals. The team includes HCPs from various disciplines such as physicians, nurses, psychologists, physiotherapists, dietitians, and social workers (Figure 2). So, to reach the Action's aims, and to communicate and disseminate PROGRAMMING messages, a wide range of stakeholders are needed to be contacted.

Relevant stakeholders were planned to be defined with practical examples by a series of online focus group meeting discussions in this task. The discussion was constructed on the research questions such as; "who are the potential stakeholders we should reach in order to promote GM in PROGRAMMING affiliated countries?". The questions are meant to inspire thoughts and discussion and help in identifying stakeholders, who will contribute to the dissemination of the questionnaire on educational needs, and other outputs. First, a literature search was performed. Second, a series of discussions with participants in focus groups were performed in order to discuss the stakeholders and a suitable methodology with this approach. Relevant questions were prepared to help discussions and inspire. Multidisciplinary professionals were invited for this task, and, the participants were divided into groups based on their country, profession, and gender in line with COST mission. Based on the consensus reached during the focus groups, potential stakeholders were decided to be defined both horizontally and vertically, including the generic name of the group of stakeholders and specific examples with contact details in a structured format, finalized with a comprehensive template, questions, and instructions that would help to recruit stakeholders meeting the complex needs for GM training.

Amongst 37 members from 17 countries, 26 of them were women, and 11 were men from different multidisciplinary professions involved in this task. After literature research and comprehensive discussions at the focus group meetings, a template to discuss and to inspire for stakeholders was created. In the following meetings stakeholders specific to the countries were discussed. The template has been sent to all involved countries for an entire review and finalization. The final reports for the stakeholders are awaited. Amongst first arrivals, it is shown that the needs for the education and training of GM in countries where GM is still developing are diverse.

Defining the stakeholders for diverse countries with varying systems and resources to foster the PROGRAMMING mission is a challenging task. The methodology we carried out took into consideration previous literature, focus group meetings, and written feedbacks from participant countries to the template prepared. By this methodology, a comprehensive list of stakeholders will be possible to reach. Those extensive but structured and harmonized lists will enable the right identification of the targets for the contacts to help the survey to be implemented.

This particular task will contribute to the dissemination and maximization of the impact of the Action by defining and mapping multidisciplinary stakeholders involved in older people's care who might benefit from cooperation with our Action.

References

(https://cost-programming.eu/)

Keywords: Geriatric medicine, education,

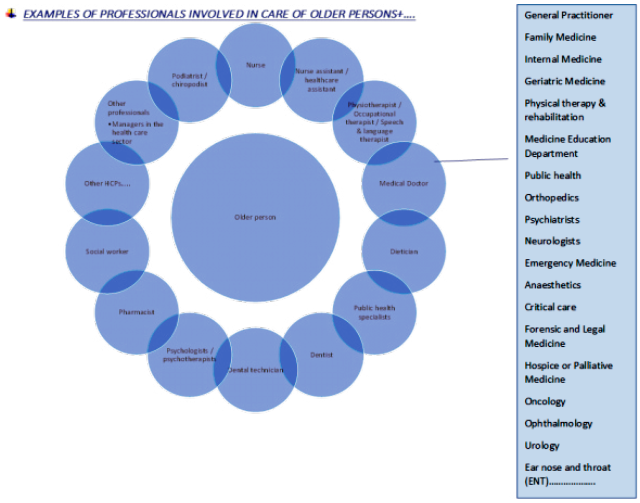


Figure 2. Multidisciplinary Professionals Involved in Care of Older Persons

Figure 1. QR code of the COST Action CA21122 - PROGRAMMING

Polypharmacy and Inappropriate Drug Use

PP-08

RECURRENT DIABETIC KETOACIDOSIS DUE TO QUETIAPINE USE IN A GERIATRIC PATIENT

Ela Güven Avcı

Kepez Devlet Hastanesi

Summary: Quetiapine is one of the atypical antipsychotic drugs with a prominent side effect profile in the elderly. In this article, we report a case who received basal bolus insulin treatment for diabetes but developed recurrent diabetic ketoacidosis clinic after starting quetiapine and did not develop diabetic ketoacidosis again after quetiapine was discontinued. Key words: Quetiapine, diabetic ketoacidosis, elderly patient, polypharmacy, rational drug use.

Case: A 74-year-old woman was brought to the emergency room with complaints of deterioration in general condition. She was hospitalized in the intensive care unit with the diagnosis of diabetic ketoacidosis with fasting blood glucose >800, ketone +++ in complete urine test, pH in blood gas: 7,02 pCO2: 21,4 HCO3: 7,6 diabetic ketoacidosis was diagnosed and she was hospitalized in intensive care unit. Basal bolus insulin treatment was prescribed. Despite regular treatment, the patient was hospitalized in intensive care unit with recurrent diabetic ketoacidosis every 4-6 months. It was observed that the patient used quetiapine in his medications. As a result of psychiatry consultation, it was recommended to stop quetiapine and start trazadone. The patient was then followed up and has not yet developed diabetic ketoacidosis.

Discussion: In recent years, there have been many case reports about new-onset type 2 diabetes, worsening of pre-existing type 2 diabetes or diabetic ketoacidosis caused by new generation antipsychotics (1,2). In the literature review conducted by Melkerson and Dahl (2004), publications reporting mostly clozapine, olanzapine and risperidone side effects in patients receiving new generation antipsychotics were found; fewer publications related to quetiapine, ziprasidone and zotepine were found; the rates of glucose intolerance, diabetes, hyperlipidemia and hyperleptinemia were found to be moderately high in patients receiving quetiapine in the literature review (3). Sneed and Gonzalez (2003) published a 45-year-old patient who had impaired fasting glycemia while receiving risperidone treatment and developed type 2 diabetes after quetiapine treatment was added (4). In the previous report, there was a case of type 2 diabetes that developed after quetiapine was added, while Reinstein et al. (1999) reported a case of diabetes that resolved with quetiapine concomitant use. Diabetes developed in 13 of 65 patients during clozapine monotherapy. Significant weight loss was observed in all 65 patients (100%) with clozapine-quetiapine co-use and hyperglycemia was controlled in those with diabetes, the need for insulin decreased in those using insulin, and a decrease was found in HbA1c levels, which were previously found to be high with co-use in these patients (5). Studies and case reports show that the development of diabetes is much higher in new generation antipsychotics. New generation antipsychotics cause weight gain, hyperlipidemia, new onset type 2 diabetes mellitus and diabetic ketoacidosis more than others (6).

Conclusion: It has been shown that the risk of diabetes is increased during the use of new generation antipsychotics, and serious metabolic conditions such as failure to regulate blood sugar and diabetic ketoacidosis may occur. Therefore, attention should be paid to polypharmacy, especially in geriatric patients. This is a case report to draw attention as it is an important point to be considered in the rational drug regulation of diabetic geriatric patients.

Keywords: dka: diabetic ketoacidosis , pCO2: partial carbon dioxide, Hco3: bikarbonate

Polypharmacy and Inappropriate Drug Use

PP-09

ACUTE RENAL FAILURE DUE TO PALBOCICLIB USE IN A GERIATRIC PATIENT

Ela Güven Avcı

Kepez Devlet Hastanesi

Summary: Palbociclib is a new generation CDK 4/6 inhibitor used in patients with Her 2 - in the treatment of breast cancer. The incidence of acute kidney injury with this popular drug is not known but case reports have been reported. In this article, we report a geriatric patient who developed acute kidney injury after palbobciclib and whose renal function improved after discontinuation of the drug. Key words: Palbociclib, acute kidney injury, elderly patient, polypharmacy, rational drug use.

Case: A 96-year-old woman was treated with palbociclib for breast ca which developed after colon ca. The patient was admitted to the internal medicine service with the diagnosis of acute kidney injury with bun:57, kr:2.3, Na:139 K:3.9, normal urinalysis, renal usg: left renal parenchyma grade 1 increased in the outpatient clinic with weakness, fatigue and nausea after palbociclib use. The patient was discharged after the drug was discontinued and IV hydration was started.

Discussion: CDK4/6 inhibitors include a new class of drugs that inhibit cancer growth by blocking the transition from G1 to S phase of the cell cycle (1). There are 3 CDK4/6 inhibitors (palbosiklib, ribociclib and abemaciclib) approved for HER2-metastatic breast cancer, usually in combination with hormone therapy. The most common side effects associated with CDK4/6 inhibitors are neutropenia, leukopenia and fatigue (2,3,4). Available data on acute kidney injury from CDK4/6 inhibitors are insufficient. Several early trials with palbosiciclib and ribociclib did not describe the incidence of acute kidney injury, while clinical trials with abemaciclib reported an increase in serum Kr in up to 25% of patients (4,5). Given the relative novelty of CDK4/6 inhibitors, much remains unknown about the mechanism between acute kidney injury associated with these drugs. Larger, prospective studies are needed to understand and characterize the incidence and risk factors for acute kidney injury in patients receiving CDK4/6 inhibitors.

Conclusion: Palbociclib is a new and highly preferred CDK 4/6 inhibitor. It should be used with caution especially in geriatric patients in terms of side effects. In this article, we report a geriatric patient who developed acute kidney injury after palbociclib and recovered after drug discontinuation. It was written to draw attention to rational drug use and polypharmacy in the geriatric population.

Keywords: ca: cancer, cdk 4/6: cyclin-dependent kinase 4 and 6 inhibitors, bun: blood urea nitrogen, kr: kreatinin, iv: intravenous

Multidisciplinary Approaches

PP-10

ATYPIC PSYCHOSIS OR CHRONIC DELIRIUM?

Hatice Turgut Şahin [1], Barış Örs[2], Helin Yesin[1], Volkan Atmış[1], Ahmet Yalçın[1], Murat Varlı[1]

[1]Ankara University, Medical Faculty, Departmant Of Geriatrics
[2]Ankara University, Medical Faculty

Background-Aim: The incidence of PHPT is 1 in 1000 people. It affects both sexes but is 2:1 more common in women. Although anorexia, nausea, constipation, weakness, polyuria, polydipsia, confusion, nephrolithiasis, and fractures are common complications; impaired cognitive function, sleep problems, anosmia, depression, lethargy, coma, psychosis can be observed and should be kept in mind in the differential diagnosis of depression and dementia in geriatric age group. [1]

In this case, we discussed a 71-year-old female patient admitted with fatigue and low back pain who had epigastric pain and sleep disturbance in the system query. She was using mirtazapine, quetiapine, and paliperidone with a diagnosis of atypical psychosis diagnosed with complaints of visual and auditory hallucinations started 20 years ago. Her hemoglobin level was 9.6 g/dl and calcium level was 12.9 mg/dl in first examination. In further examination, parathormone level was 310 pg/ml 25-hydroxy vitamin d level was 12 μg/dl, anemia was consistent with iron deficiency anemia. Bone Mineral Density lumbar total t score was -2.9, and a solid lesion compatible with a 26x18 mm parathyroid adenoma was observed in the inferioposterior neighborhood of the right thyroid gland. Endoscopic examination revealed multiple superficial ulcers in the gastric antrum. Right lower parathyroid adenoma was excised by general surgery, and its pathology was seen as enlarged cellular parathyroid tissue.

The psychiatric symptoms incidence has been reported approximately 4.2% among PHPT patients.[2] Some investigators have noted improvement or even remission of neuropsychiatric symptoms after parathyroidectomy for PHPT. In a recent prospective study, found that 1 year after parathyroidectomy, rates of suicidal ideation decreased from 22.0% to 10.7%, anxiety from 49.0% to 22.4%, and depression from 16.7% to 6.6% [3] According to DSM5, for a diagnosis of psychosis, symptoms must continue for most of a month, delusions and hallucinations must be accompanied by loss of function or negative symptoms, catatonia, and a depressive episode. Our patient was followed up by psychiatry with atypical psychosis, since the symptoms started after the age of 50, did not have a family history, and did not fully meet the criteria for any psychiatric diagnosis. Although our patient had long-standing hallucinations, the diagnosis of psychosis was ruled out because of the short duration of the active periods of the disease and absence of loss of function, speech, affective or behavioral disorders, and catatonia and depressive episodes.The patient, whose cranial imaging was normal and chronic moderate hypercalcemia continued for 20 years, was actually considered as chronic delirium. After the operation, paliperidone discontinued and the patient not hallucinated in the psychiatrist evaluation 6 weeks later. Diagnostic distinguishing between psychosis and delirium in patients with chronic medical conditions is difficult, may resolve after antipsychotic treatment; the underlying cause needs to be identified and addressed.

Keywords: hypercalcemia, parathyroid adenoma, psychosis, chronic delirium

Atypical Presentations

PP-11

MYELOFIBROSIS-ASSOCIATED OSTEOSCLEROSIS IN AN OLDER PATIENT: A CASE REPORT

Merve Yılmaz Kars[1], Mustafa Hakan Doğan[1], Taha Ulutan Kars[2], Ayşe Dikmeer[1], Muhammet Cemal Kızılarslanoğlu[1]

[1]University Of Health Science, Konya City Hospital, Department Of Internal Medicine, Division Of Geriatrics
[2]University Of Health Science, Konya City Hospital, Department Of Internal Medicine, Division Of Hematology

Introduction: *Osteosclerosis (OS)* is a rare bone disease characterized by increasing diffuse bone density due to rising bone formation or suppressed bone resorption. It can be due to congenital or secondary metabolic and neoplastic diseases. Myelofibrosis (MF) is characterized by progressive accumulation of extracellular matrix, primarily collagens, produced by reactive bone marrow stromal cells under abnormal production of growth factors and cytokines. Consequently, uncontrolled stromal cell activation leads to bone marrow fibrosis, which inhibits hematopoiesis and gradually worsens the disease outcome. Rarely, as a result of uncontrolled stromal cell activation in primary or secondary MF, a process in favor of increasing bone density in bone tissues may occur, and OS may develop.

Case Report: An 82-year-old male patient was admitted to Geriatrics outpatient clinic complaining of loss of appetite, fatigue, weight loss and widespread body pains. Anemia accompanying leukopenia, CRP and sedimentation elevation, vitamin-B12 elevation, ferritin elevation were seen. High ALP (1422U/L) and high LDH were also detected. BMD was performed to screen for osteoporosis. L1-L4-T score was +7.3, femoral neck-T score was +6, and total hip-T score was +3.8 (Figure-1). Diffuse OS was observed in bones (Figure-2). Haptoglobulin, direct Coombs, and indirect Coombs tests were in normal ranges. Peripheral smear was reported that, "There was anisocytosis, poikilocytosis in erythrocytes. Erythrocytes were normochromic and normocytic. 75% neutrophils, 20% lymphocytes, and 5% monocytes were observed. No atypical cells and blasts were observed. Fragmentation was <1%". Thyroid function tests, kidney and liver functions, and parathormone level were normal, while ANA and hepatitis markers were negative. Abdominal and pelvic imaging was performed with CT, showing that "Bone structures were of heterogeneous density and hyper-dense appearance (hematological diseases with bone marrow involvement?)". Bone marrow aspiration and biopsy were planned; however, an aspiration sample could not be taken, and it was evaluated as "dry tap". In bone marrow biopsy, "MF is observed in trabeculae. Reticulin +3" was reported. MF was considered in patient. During follow-up, patient was transferred to ICU due to development of ACS. Since patient died, it was not possible to distinguish between primary and secondary MF.

Discussion: *OS* is characterized by an increase in bone mass as a result of diffuse bone density increase. Knipe et al. abbreviated the most common causes of OS as "3 M's PROOF" and suggested that these causes should be investigated in patients with OS (1). Malignancies, MF, mastocytosis, sickle cell anemia, Paget's disease, renal osteodystrophy, osteopetrosis, other causes (hyperthyroidism, hypoparathyroidism) and fluorosis refer to pathologies that make up this abbreviation. Most of these causes could be ruled out as a result of the examinations in patient. Although patient had a MF diagnosis due to bone marrow biopsy, the absence of leukoerythroblastosis in peripheral smear and hepatosplenomegaly did not suggest primary MF. However, due

to development of ACS and patient's subsequent death, JAK-2 gene mutation analysis could not be studied; therefore, primary and secondary MF could not be differentiated. There is no data in the literature regarding the relationship between development of OS and degree of OS with prognosis in patients with MF.

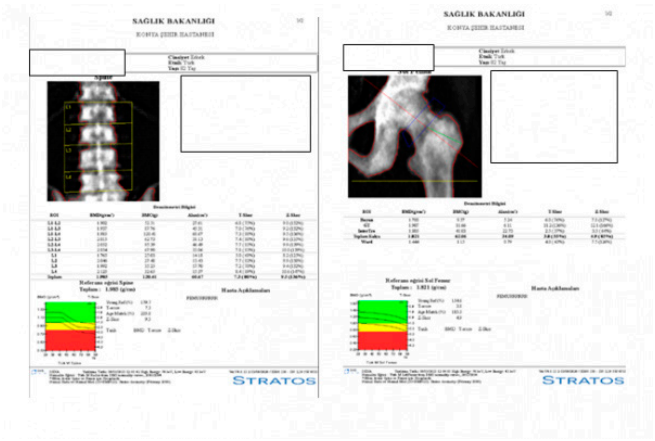
An 82-year-old male patient was admitted to Geriatrics outpatient clinic complaining of loss of appetite, fatigue, weight loss of approximately 30 kg (in last 4 months), low back, shoulder, and widespread body pains. It was learned that patient had received balloon dilatation treatment for lower extremity peripheral artery disease seven months ago. Anemia (hemoglobin: 10.8 g/dL) accompanying leukopenia (WBC: 3.52x10^3/μL), CRP (47mg/L) and sedimentation elevation (106 mm/h), vitamin B12 elevation (1762 ng/L), ferritin elevation (2000 μg/l) (saturation of transfer was 20%) were seen in laboratory tests. In addition, high alkaline phosphatase (1422 U/L) and high LDH (1662 U/L) were detected. BMD was performed to screen for osteoporosis. L1-L4 T score was +7.3, femoral neck T score was +6, and total hip T score was +3.8 (vitaminD: 44 ug/L) (Picture-1). Diffuse osteosclerosis was observed in bones in direct radiographs (Picture-2). The patient was hospitalized to elucidate the etiology. Haptoglobulin, direct Coombs, and indirect Coombs tests were in normal ranges. Peripheral smear was evaluated and reported that, "There was anisocytosis, poikilocytosis in erythrocytes. Erythrocytes were normochromic and normocytic. 75% neutrophils, 20% lymphocytes, and 5% monocytes were observed. No atypical cells and blasts were observed. Fragmentation was <1%". Thyroid function tests, kidney and liver functions, and parathormone levels were normal, while ANA and hepatitis markers were negative. Abdominal and pelvic imaging was performed with CT, showing that "The liver was normal. An appearance compatible with a millimetric hyper-dense stone was observed in the gallbladder lumen. No dilatation was observed in the intrahepatic biliary tract and common bile duct. Spleen was of normal size, and its contours were smooth. Bone structures were of heterogeneous density and hyper-dense appearance (hematological diseases with bone marrow involvement?)". Bone marrow aspiration and biopsy were planned; however, an aspiration sample could not be taken, and it was evaluated as "dry tap". In bone marrow biopsy, "Myelofibrosis is observed in trabeculae, covering all material in bone marrow from one end to other in the sections. No bone marrow cells except for a few granulocytes and 1-2 megakaryocytes were observed. Collagen (+) was reported in material, and reticulin +3" was reported. According to clinical and laboratory findings, myelofibrosis was considered in the foreground in patient. During the follow-up, patient was transferred to intensive care unit due to the development of acute coronary syndrome. Since patient died, it was not possible to distinguish between primary and secondary myelofibrosis.

Osteosclerosis is characterized by an increase in bone mass as a result of diffuse bone density increase. Knipe et al. abbreviated the most common causes of osteosclerosis as "3 M's PROOF" and suggested that these causes should be investigated in patients with osteosclerosis (1). Malignancies, myelofibrosis, mastocytosis, sickle cell anemia, Paget's disease of bone, renal osteodystrophy, osteopetrosis, other causes (sclerotic dysplasia, hyperthyroidism, hypoparathyroidism, athletes) and fluorosis refer to the pathologies that make up this abbreviation. In our case, most of these causes could be ruled out as a result of the examinations. Although patient had a myelofibrosis diagnosis due to bone marrow biopsy, the absence of leukoerythroblastosis in the peripheral smear and hepatosplenomegaly did not suggest primary myelofibrosis in the foreground. However, due to development of acute coronary syndrome and patient's subsequent death, JAK-2 gene mutation analysis could not be studied; therefore, primary and secondary myelofibrosis could not be differentiated. There is no data in the literature regarding the relationship between development of osteosclerosis and degree of osteosclerosis with prognosis in patients with myelofibrosis.

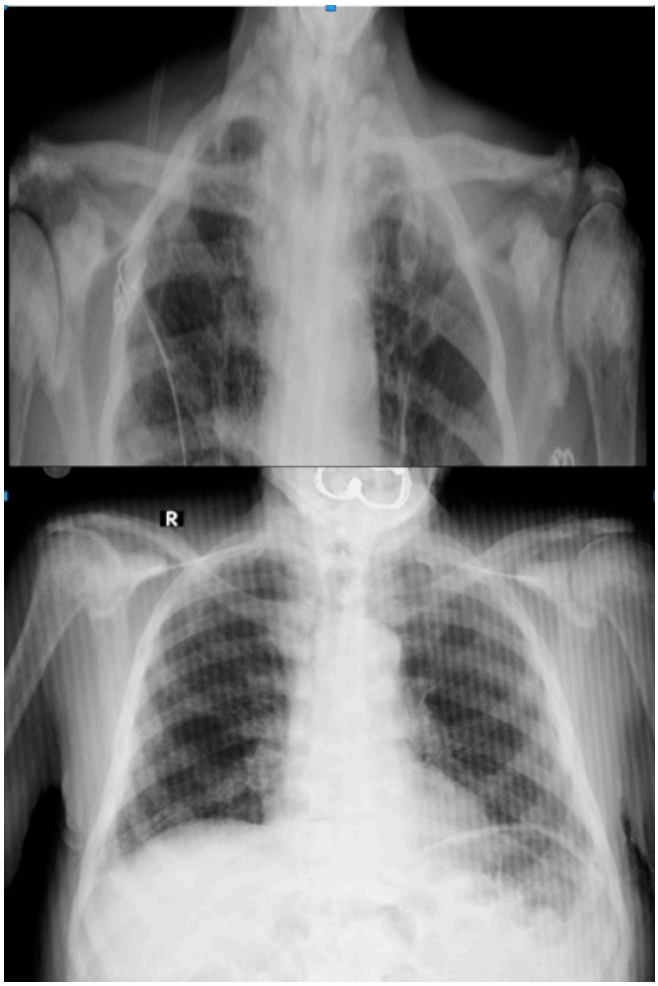
References

1- Knipe H, Yap J, Masters M, et al. Diffuse bony sclerosis (mnemonic). Reference article, Radiopaedia.org (Accessed on 30 Jul 2023) https://doi.org/10.53347/rID-2239

Keywords: osteosclerosis, myelofibrosis



In the BMD performed for osteoporosis screening, T scores were found to have values such as +7.3 and +6



Osteosclerosis in bone structures draws attention

Osteoporosis

PP-12

TO TREAT OR NOT TO TREAT: A CASE STUDY OF BIPHOSPHONATES FOR OSTEOPOROSIS

Mehmet Aybars Aydın[1], Zeynep Dilek Erzengin[1], Celalettin Buğra Atayeter[2]

[1]Süleyman Demirel University Medical School, Department Of Internal Medicine, Division Of Geriatrics
[2]Süleyman Demirel University Medical School, Department Of Internal Medicine

Background-Aim: Osteoporosis is a prevalent condition associated with major morbidity and mortalitly due to hip fractures. A 75 year old female patient was admitted due to urinary tract infection. Given her age and small body built (40 kg), she was investigated for osteoporosis. Her T score at lumber spine was -5 and femur neck was -3,4. She was put on vitamin D and calcium. She was offered bisphosphonate treatment and was examined at the dental clinic for risk factors of jaw osteonecrosis (ONJ). She was recomended to have several tooth extractions, restorative treatment, periodontal care and work-up for dental prosthesis. The patient refused any dental procedures. She and her caregivers were informed that the risk of ONJ would be higher if biphosphonate treatment were to be administered without appropriate dental care.

At this point, relevant information was gathered to inform the patient about the risks and benefits of biphosphonate treatment.

*According to frax tool her 10 year risk of major osteoporotic fracture was calculated to be 13% whereas the 10 year risk of hip fracrure is 8.4%. (1)

* Number needed to treat (NNT) value for hip fracture over 3 years was estimated to be 91 for three of the bisphosphonates (2).

*The incidence of ONJ in patients with cancer, who typically receive high doses of IV bisphosphonates has been estimated to be 0.42 to 16 per 100 patients (3, 4, 5)

*Whereas in patients without cancer risk of ONJ is lower. A US based study reported an incidence of 0.05% in patients without cancer during a 5 year folllow up (5).

*Dental screening and appropriate oral care may lower the risk of ONJ by 50% (4)

Moreover it is important to inform the patient about morbidity and mortality of hip fractures versus ONJ.

*Mortality rates after hip fracture were approximately 10% at 30 days and approximately 30% at 1 year before the optimisation and standardization of hip fracture care (6, 7, 8). These mortality rates improved with the standardisation of hip fracture management in developed countries (9).

* The morbidity and mortality of ONJ is higher in cancer patients (10). However patients may benefit from a combination of conservative and surgical treatments (11).

* According to a viewpoint, unnecessary delays for routine dental review before starting bisphosphonates are likely to worsen outcomes given the low risk of ONJ in non-cancer patients (12). However regular dental review is important to optimise oral health and prevent ONJ (12).

Based on this information, we recommended that the use of bisphosphonates would be to the benefit of the patient and re-emphasized the value of dental care. In patients at high risk of fractures and high risk of ONJ, use of anabolic osteoporosis agents (PTH analogs or sclerostin inhibitor romosozumab) would be reasonable. However anabaolic agents are not currently reimbursed as first line osteoporosis agents; they have their own spectrum of side effects and romosozumab is also associated with a slight risk of ONJ (12, 13).

Osteoporosis is a prevalent condition associated with major morbidity and mortalitly due to hip fractures. A 75 year old female patient was admitted due to urinary tract infection. Given her age and small body built (40 kg), she was investigated for osteoporosis. Her T score at lumber spine was -5 and femur neck was -3,4. She was put on vitamin D and calcium. She was offered bisphosphonate treatment and was examined at the dental clinic for risk factors of jaw osteonecrosis (ONJ). She was recomended to have several tooth extractions, restorative treatment, periodontal care and work-up for dental prosthesis. The patient refused any dental procedures. She and her caregivers were informed that the risk of ONJ would be higher if biphosphonate treatment were to be administered without appropriate dental care.

At this point, relevant information was gathered to inform the patient about the risks and benefits of biphosphonate treatment.

*According to frax tool her 10 year risk of major osteoporotic fracture was calculated to be 13% whereas the 10 year risk of hip fracrure is 8.4%. (1)

*Number needed to treat (NNT) value for hip fracture over 3 years was estimated to be 91 for three of the bisphosphonates (2).

*The incidence of ONJ in patients with cancer, who typically receive high doses of IV bisphosphonates has been estimated to be 0.42 to 16 per 100 patients (3, 4, 5)

*Whereas in patients without cancer risk of ONJ is lower. A US based study reported an incidence of 0.05% in patients without cancer during a 5 year folllow up (5).

*Dental screening and appropriate oral care may lower the risk of ONJ by 50% (4)

Moreover it is important to inform the patient about morbidity and mortality of hip fractures versus ONJ.

*Mortality rates after hip fracture were approximately 10% at 30 days and approximately 30% at 1 year before the optimisation and standardization of hip fracture care (6, 7, 8). These mortality rates improved with the standardisation of hip fracture management in developed countries (9).

*The morbidity and mortality of ONJ is higher in cancer patients (10). However patients may benefit from a combination of conservative and surgical treatments (11).

*According to a viewpoint, unnecessary delays for routine dental review before starting bisphosphonates are likely to worsen outcomes given the low risk of ONJ in non-cancer patients (12). However regular dental review is important to optimise oral health and prevent ONJ (12).

Based on this information, we recommended that the use of bisphosphonates would be to the benefit of the patient and re-emphasized the value of dental care. In patients at high risk of fractures and high risk of ONJ, use of anabolic osteoporosis agents (PTH analogs or sclerostin inhibitor romosozumab) would be reasonable. However anabaolic agents are not currently reimbursed as first line osteoporosis agents; they have their own spectrum of side effects and romosozumab is also associated with a slight risk of ONJ (12, 13).

Keywords: osteoporosis , Osteonecrosis of the jaw ,bisphosphonate

Chronic Diseases

PP-13

LATE METASTASIS OF RENAL CELL CARCINOMA IN AN OLDER PATIENT: A CASE REPORT

Mustafa Hakan Doğan, Merve Yılmaz Kars, Ayşe Dikmeer, Muhammet Cemal Kızılarslanoğlu

University Of Health Science,konya City Hospital,department Of Internal Medicine,division Of Geriatrics

Introduction: Renal cell carcinomas (RCCs) account for 2-3% of all adult cancers(1).The greatest risk of recurrence after resection of RCC is in the first two to three years. However, some patients have local or distant recurrence over ten years after the first treatment of RCC.Cases of relapse ten years after initial nephrectomy have been observed in 4.7-11% of patients with RCC (2). Herein, we present a case report with a very late metastatic (multiple sites) disease of RCC,approximately 16 years later from initial diagnosis, which is rarely reported in the literature to the best of our knowledge.

Case Report: A 75-year-old male patient was admitted to the geriatrics outpatient clinic complaining of left flank pain, weight loss and fatigue (in 2023). It was learned that he had left nephrectomy due to RCC in 2007.Laboratory tests have shown there was anemia(hemoglobin: 10.2 g/dL) accompanying hypercalcemia(12.9 mg/dL), low parathormone(<1.2 pg/ml), and ESR elevation(93 mm/h).The patient was hospitalized to elucidate the etiology.

Abdominal ultrasonography showed that "In the right adrenal region, a hypoechoic solid mass with 46x35 mm size was observed. The left kindey was not observed due to nephrectomy. " Computed tomography(CT) of the thorax showed "Multiple metastatic nodules in both pulmonary parenchymas and a lytic metastasis were observed on the corpus of T9 vertebral spine. "

The upper gastrointestinal endoscopy showed that "A polyp of 10x10 mm in size was seen on the incisura angularis of the stomach. "

The 18F-FDG showed that "A 4x5.5 cm sized solid lesion with increased metabolic activity in the right adrenal lodge, multiple parenchymal nodules in the lungs,a lytic metastatic lesion with a soft tissue component of 7 cm in diameter located near the left iliac bone joint,multiple metastatic lesions compatible with muscle metastasis located in paravertebral and bilateral gluteal muscles with multiple lytic lesions located in C2-T9 vertebrae, and in the neck of left femur were observed.Also,increased metabolic activity in mediastinal lymph nodes, bladder and ascending colon were observed.

The core biopsy taken from the soft tissue of 7 cm in diameter located near to the iliac bone joint was revealed RCC metastasis. Immunohistochemical staining for Vimentin, EMA, CAIX, AMACR, RCC, and CD10 was positive, and CK7 and CD117 were negative. Also the gastric polypectomy material's biopsy result was consistent with RCC metastasis.The patient was referred to an oncology outpatient clinic for treatment and follow-up.

Discussion: The patients with RCC commonly experience delayed distance metastasis in the lungs, bone, and liver ten years after nephrectomy, although recurrences may occur elsewhere. Early diagnosis of metastasis, especially in asymptomatic patients detected by surveillance, may minimize complications and show a better survival rate compared with symptomatic recurrence. In our case report, the patient presented with multiple metastases, including lungs, bones, soft tissue, lymph nodes, adrenal gland, muscles, urinary bladder, and ascending colon after 16 years from the nephrectomy for primary RCC. Although the liver is one of the most sites of metastasis of RCC, in our case, liver metastasis was not detected. Multiple metastatic muscle involvement was present in our case, a rare RCC metastasis site. Most surveillance protocols recommend individualized follow-up of more than five years from initial diagnosis of the patients with RCC.

A 75-year-old male patient was admitted to the geriatrics outpatient clinic complaining of left flank pain, loss of appetite, weight loss and fatigue (in 2023). It was learned that he had left nephrectomy due to RCC in 2007. Laboratory investigations have shown there was anemia (hemoglobin: 10.2 g/dL) accompanying hypercalcemia (12.9 mg/dL), low parathormone (<1.2 pg/ml), elevated CRP (45 mg/L) and ESR elevation (93 mm/h). The patient was hospitalized to elucidate the etiology.

Abdominal ultrasonography showed that "In the right adrenal region, a hypoechoic solid mass with 46x35 mm size was observed. The left kindey was not observed due to nephrectomy. " Computed tomography (CT) of the thorax showed "Multiple metastatic nodules reaching 15 mm in diameter in both pulmonary parenchymas and a lytic metastasis were observed on the corpus of T9 vertebral spine. "

The upper gastrointestinal endoscopy showed that "A polyp of 10x10 mm in size was seen on the incisura angularis near the border of corpus and antrum of the stomach. " In the colonoscopy "Ulcerated lesions on cecum and ascending colon with diffuse diverticula on sigmoid and descending colon were seen. "

The 18F-FDG showed that "A 4x5.5 cm sized solid lesion with increased metabolic activity (SUVmax:21.35) in the right adrenal lodge,multiple parenchymal and subpleural nodules which, the biggest one in 18x16 mm in size, located in the upper lobe of the left lung (SUVmax:7.22) were seen. In the left iliac bone, a lytic metastatic lesion with a soft tissue component of 7 cm in diameter located near the joint (SUVmax:11.12) and multiple metastatic nodular lesions compatible with muscle metastasis located in paravertebral, left deltoid, right pectoral and bilateral gluteal muscles reaching to 17 mm in diameter (SUVmax:14.27) with multiple lytic lesions (SUVmax:9.62) located in medial end of right clavicle, posterior and lateral sides of sixth rib, C2-T9 and L1 vertebrae, pelvic bones and in the neck of left femur were observed.Also, increased metabolic activity in mediastinal lymph nodes, paraaortic lymph node, bladder and ascending colon were observed.

The core biopsy taken from the soft tissue of 7 cm in diameter located near to the iliac bone joint was revealed RCC metastasis. Immunohistochemical staining for Vimentin, EMA, CAIX, AMACR, RCC, and CD10 was positive, and CK7 and CD117 were negative. Also the gastric polypectomy material's biopsy result was consistent with RCC metastasis.The patient was referred to an oncology outpatient clinic for treatment and follow-up.

Patients with RCC commonly experience delayed distance metastasis in the lungs, bone, and liver ten years after nephrectomy, although recurrences may occur elsewhere. Early diagnosis of metastasis, especially in asymptomatic patients detected by surveillance, may minimize complications and show a better survival rate compared with symptomatic recurrence. In our case report, the patient presented with multiple metastases, including lungs, bones, soft tissue, lymph nodes, adrenal gland, muscles, urinary bladder, and ascending colon after 16 years from the nephrectomy for primary RCC. Although the liver is one of the most sites of metastasis of RCC, in our case, liver metastasis was not detected.Multiple metastatic muscle involvement was present in our case, a RCC metastasis site. Most surveillance protocols recommend individualized follow-up of more than five years from initial diagnosis of the patients with RCC.

Keywords: Renal Cell Carcinoma

Polypharmacy and Inappropriate Drug Use

PP-14

AKUT KIDNEY INJURY AND DEATH AFTER GENTAMICIN TREATMENT

Erhan Ozenc[1], Atacan Aras[1], Mercan Tastemur[1], Hilal Heybeli[1], Hande Selvi Oztorun[1], Rana Tuna Dogrul[1], Gunes Arik[1], Kamile Silay[2]

[1]Ankara City Hospital, Geriatrics
[2]Ankara Yildirim Beyazit Universty Faculty Of Medicine, Ankara City Hospital, Geriatrics

Background-Aim: Older adults are considered a 'special' population demographic due to their differences from younger adults in terms of pharmacokinetics, comorbidity, polypharmacy, and increased vulnerability to adverse drug events (1). It's estimated that adverse drug events are approximately 7 times more common in people older than 70 years of age than in people younger than 70 years old (2). Gentamicin, an aminoglycoside antibiotic, is occasionally prescribed to treat a variety of infections.

A 73-year-old female patient who had a history of operated breast cancer in remission, have an intracardiac defibrillator, gout, type2 diabetes mellitus, hypertension, and using warfarin for mitral valve replacement was treated with iv. gentamicin and ceftazidime for pneumonia. After a week, she applied to the emergency due to not healing. She was hospitalized in the geriatrics ward due to INR 4.6 and acute kidney injury. In the geriatric evaluation, Katz's index was 5/6, Lawton's index was 7/8, Mini Nutrition Assessment was 11/14, Geriatric Depression Scale was 4/15, and the Mini-Mental Status Evaluation was 27/30. The patient consulted with the Department of Infectious Diseases due to pneumonia and the antibiotic therapy was changed to piperacillin tazobactam. There was no growth in blood, urine, and sputum cultures. She was examined by the Department of Otolaryngology head and neck surgery due to decreased hearing. Basal creatinine value was found to be 1.04 mg/dl. While the creatinine value was 2,39 mg/dl during her hospitalization, it progressed to 3,66 mg/dl as of the 3rd day and then increased to 5,8 mg/dl. Markers level of rapidly progressive glomerulonephritis (ANA, ANTI DS-DNA, ANTI-GBM, P/C ANCA, and Igs) and renal artery doppler ultrasonography were within normal limits. Hemodialysis indication was given to the patient because of high creatinine, hypervolemic and anuric conditions. A total of six sessions of hemodialysis were performed. A renal biopsy was planned by the nephrology department if there was no improvement in renal functions. However, sudden cardiopulmonary arrest developed in the patient after the last hemodialysis session. The patient was transferred to the intensive care unit. The patient died the day after she was admitted to the intensive care unit.

İn a meta-analysis, The overall absolute risk of acute kidney injury among older adults exposed to aminoglycosides was 15.1%. This was significantly higher than the average risk of acute kidney injury among adults of 18 years and above, following aminoglycoside antimicrobial exposure (10.5%) (1).

We present this case to emphasize the importance of determining the appropriate drug, dose, duration, drug-drug interactions, drug side effects, and close monitoring of kidney functions when prescribing drugs such as gentamicin to elderly.

References

1. Tichawona Chinzowu, Sandipan Roy, Prasad S. Nishtala (2021). Risk of antimicrobial-associated organ injury among the older adults: a systematic review and meta-analysis
2. Koronkowski, M., Eisenhower, C., & Marcum, Z. (2016). An update on geriatric medication safety and challenges specific to the care of older adults. The annals of long-term care: the official journal of the American Medical Directors Association, 24(3), 37.

Keywords: Elderly, Acute Kidney Injury, Gentamicin

Others

PP-15

DOES AGING OF THE THYROID GLAND BEGIN AT MIDLIFE? INSIGHTS FROM THE ISPARTA MENOPAUSE AND HEALTH STUDY

Zeynep Dilek Erzengin Aydın[1], Banu Kale[2]

[1]Suleyman Demirel University Medical School, Department Of Internal Medicine, Division Of Geriatrics, Isparta
[2]Bahçeşehir University Medical School, Medicalpark Pendik Hospital, Department Of Internal Medicine, Division Of Endocrinology And Metabolism, İstanbul

Background-Aim: Aging may influence various thyroid parameters in different ways. TSH is widely used to evaluate euthyroidism whereas features of thyroid assessed by sonographic examination may reflect specific aspects of thyroid physiology. Among these, sonographic thyroid heterogeneity (TH) is particularly interesting in that it is associated with risk of hypothyroidism.

Age related changes in several thyroid parameters including TSH (n=1099), thyroid volume (TV) (n=994), presence of sonographically detected thyroid nodules (TN) (n=994) and presence of TH (n=994) were evaluated cross-sectionally in a population of women (aged 44-61) free of known thyroid disease from the Isparta Menopause and Health Study.

Ordinal logistic resgression was applied to assess predictors of TV and TSH (both transformed to ordered categorial variables with 3 levels). Binary logistic regression was applied to assess the predictors of TH and TN. Univariate and multivariate analyses (UVA and MVA) were performed. Stepwise model selection algorythm was utilized for MVA; the covariates included health related and reproductive factors as well as sonographic parameters and TSH.

Median TSH among n=1099 women was 1.1858 mIU/mL, with minimum and maximum values of 0.0002 and 39.5029 respectively. Median TV in n=994 women was 13 ml, with minimum and maximum values of 3.5 and 114 ml respectively. Of n=994 women n=540 (54.33%) had TN and n=348 (35.01 %) had TH on thyroid ultrasound examination.

In the age range of 44-61, two of the thyroid parameters showed obvious associations with age. First, increasing age was associated with incresaed risk of TN in both UVA and MVA. Second, higher age was associated with reduced likelihood of being in the greater TSH category in both UVA and MVA. On the other hand TV appeared to be positively associated with age in UVA but not in MVA. A different pattern was disclosed for TH such that no association was apparent between TH and age in UVA whereas age was associated with increased likelihood of TH in a multivariate model that included TV and TSH.

It is well accepted that prevalance of both hypo- and hyperthyroidism increases with age. However age related changes in TSH in thyroid disease free populations may not show a particular trend as has been concluded in an extensive 2019 review (Franceschi 2019-rev). Our finding that older age predicts lower TSH may be consistent with the fact that reduced TSH is observed in relatively iodine deficient populations after increased exposure to iodine through iodinated salt (Laurberg et al 2010).

The greater TV of older aged individuals observed in UVA is also consistent with this perspective and may represent the signature of past iodine deficiency. The association between age and TNs is well known (Knudsen et al 2002, Krohn et al 2005). However an age related increase in prevalance of TH has not been widely appreciated and may be consistent with female specific increase in the prevalence of Hashimoto thyroiditis (Okayasu et al 1994, Okayasu et al 1991).

Our findings are remarkable for the fact that several aspects of thyroid physiology are differently influenced by age. Though cross-sectional age and longitidunal aging may differ, the observed cohort effects, i.e. greater TV due to lower iodine exposure of older aged women may also complicate longitudinal design (Glenn 1976). An independent association between TH and age may be consistent with a propensity to hypothyroidism in the elderly.

References

Franceschi C, Ostan R, Mariotti S, Monti D, Vitale G. The Aging Thyroid: A Reappraisal Within the Geroscience Integrated Perspective. Endocr Rev. 2019 Oct 1;40(5):1250-1270. doi: 10.1210/er.2018-00170.

Laurberg P, Cerqueira C, Ovesen L, Rasmussen LB, Perrild H, Andersen S, Pedersen IB, Carlé A. Iodine intake as a determinant of thyroid disorders in populations. Best Pract Res Clin Endocrinol Metab. 2010 Feb;24(1):13-27. doi: 10.1016/j.beem.2009.08.013.

Knudsen N, Laurberg P, Perrild H, Bülow I, Ovesen L, Jørgensen T. Risk factors for goiter and thyroid nodules. Thyroid. 2002 Oct;12(10):879-88. doi: 10.1089/105072502761016502.

Krohn K, Führer D, Bayer Y, Eszlinger M, Brauer V, Neumann S, Paschke R. Molecular pathogenesis of euthyroid and toxic multinodular goiter. Endocr Rev. 2005 Jun;26(4):504-24. doi: 10.1210/er.2004-0005.

Okayasu I, Hara Y, Nakamura K, Rose NR. Racial and age-related differences in incidence and severity of focal autoimmune thyroiditis. Am J Clin Pathol. 1994 Jun;101(6):698-702. doi: 10.1093/ajcp/101.6.698.

Okayasu I, Hatakeyama S, Tanaka Y, Sakurai T, Hoshi K, Lewis PD. Is focal chronic autoimmune thyroiditis an age-related disease? Differences in incidence and severity between Japanese and British. J Pathol. 1991 Mar;163(3):257-64. doi: 10.1002/path.1711630312.

Glenn ND. Cohort Analysts' Futile Quest: Statistical Attempts to Separate Age, Period and Cohort Effects. American Sociological Review, Vol. 41, No. 5 (Oct., 1976), pp. 900-904.

Keywords: thyroid gland, aging, thyrotropin, thyroid volume, thyroid nodule, thyroid heterogeneity

Nutrition

PP-16

LAPOROSCOPIC SLEEVE GASTRECTOMY IN AN ELDERLY PATIENT: A CASE REPORT

Büşra Ceylan[1], İlknur Gökçe Yıldırım[2]

[1]Prof. Dr. Oktay Banlı

[2]Ankara Medipol University, School Of Health Sciences, Department Of Nutrition And Dietetics

Background-Aim: We aimed to report the results of sleeve gastrectomy in our elderly patient.

Case: A 71-year-old female patient who applied to our clinic for bariatric surgery 1 year ago, had a body weight of 117.3 kg, a height of 156 cm, a body mass index of 48.2, and a body fat ratio of 52.5%.She had hypertension and sleep apnea for the last 2 years, and had difficulty walking due to the pain in her feet. She was using anticoagulant and antihypertensive medication. She stated that although she tried to lose weight with the help of a dietitian, acupuncture and weight loss studies, she could only lose 30 kilos.Biochemistry, hormone, hemogram, microbiology tests, upper abdomen ultrasonography, electrocardiogram, chest X-ray and endoscopy tests were performed before the operation for the patient who was scheduled for sleeve gastrectomy operation.While the blood findings were within normal limits in the examination results, erosive gastritis was seen in the endoscopy and grade II hepatosteatosis in the ultrasonography. As a result of the evaluations made by the patient was found suitable for bariatric surgery.The patient underwent laparoscopic gastric sleeve surgery.After the operation, nutrition education was given to the patient by the dietitian. Medications and bariatric multivitamin support were started by the doctor.Follow-up period; Postoperative interviews were scheduled for the 1st week, 15th day, 1st month, 2nd month, 3rd month, 6th month, 9th month, 12th month, 18th month, and 24th month. She was discharged with healing. She came to her check-ups regularly and did regular sports. In the first month control, it was determined that the total body weight loss was 11,1 kg and the body fat ratio decreased to 50%. Blood findings were within normal limits. At the third month control, it was determined that the total body weight loss was 16,3 kg and the body fat ratio decreased to 48%. Blood findings were within normal limits. At the 6th month control, it was determined that the total body weight loss was 26,8 kg and the body fat ratio decreased to 42%. Upper abdomen ultrasound revealed that the degree of hepatosteatosis had regressed to grade 1.By the twelfth month follow-up, the patient's compliance with diet and exercise had decreased.Only vitamin B12 and vitamin D levels were low in blood findings, and vitamin supplementation was started orally to the patient.Body fat ratio was 44.1%, body mass index was 35.5, total body weight loss was 31kg. Blood findings were within normal limits. According to the upper abdomen ultrasound image, hepatosteatosis had disappeared. Nutrition education was given to the patient and the next control appointment was planned.

Conclusion: Bariatric surgery has become a safe and effective therapeutic option for obesity in the older population; however, thorough patient selection and a specific preoperative assessment are key points to lead to satisfactory outcomes (10). Patients undergoing bariatric surgery should be routinely followed up after surgerym(11). Especially in the follow-up of elderly patients, it is necessary to be more meticulous. Because they may not be able to handle possible complications (12). Teamwork is very important to prevent and manage possible complications. A dietitian specializing in bariatric surgery should continue to provide nutrition education to patients after surgery (13).

Keywords: Nutrition, Obesity, Sleeve gastrectomy, Elderly

Atypical Presentations

PP-20

A CASE OF ATYPICAL PRESENTATION CHOLANGITIS IN ADVANCED AGE

Arzu Nevin Dagdemir, Mercan Tastemur, Serap Boz, Hande Selvi Oztorun, Rana Tuna Dogrul, Günes Arık, Kamile Sılay

Ankara Bilkent City Hospital

Background-Aim: Older patients may present with non-specific symptoms (fatigue, anorexia, weight loss, etc.) instead of typical symptoms of a disease (1). In these cases defined as atypical presentation, it takes time for patients to reach the correct diagnosis and treatment. Here, a patient who presented with only chills and shivering for one year and whom we diagnosed as cholangitis without fever and abdominal pain will be presented.

An 83-year-old man with known hypertension, benign prostatic hyperplasia, and cerebrovascular disease (without sequelae) was admitted to the geriatrics outpatient clinic with the complaint of intermittent chills and chills for one year. The chills and shivering came suddenly at different times of the day but were not accompanied by fever. The patient felt weak and tired on the days of chills and shivering. He had no nausea, vomiting, or abdominal pain. He had lost six to eight kilograms in the last two months, but it was learned that he was put on a diet by his relatives. There was no anorexia and night sweats. On physical examination, general condition was good, vitals were stable and sclera were icteric. There was no palpable lymphadenopathy in the neck, axillary, and inguinal regions. On abdominal examination, there was no abdominal tenderness, defense and rebound, and no hepatosplenomegaly. Laboratory tests revealed Aspartate aminotransferase : 150(0-35), Alanine aminotransferase: 163(0-50), Alkaline phosphotase: 806(56-119), Gamaglutamyl transferase: 497(0-73), Total Bilurubin: 3.2(0.2-1.1), Direct bilurubin: 2(<0.3), C-reactive protein (CRP): 65(0-5), Procalcitonin: 0.49(<0.16). Hemogram, renal function tests, amylase, lipase, CEA, CA 19-9, and urine tests were normal. When the patient's previous hospital admission tests were analyzed, it was observed that liver function tests had an upward trend in the last 1 year, and CRP value had a fluctuating course. The patient had chills and shivering multiple times during hospitalization but did not develop fever and his vitals were stable. There was no growth in blood and urine cultures and no infiltration on chest radiography. Abdominal USG imaging report: No gallbladder was observed, the choledochal duct was 10 mm at its widest point and its distal part could not be evaluated due to gas. The patient was consulted with infectious diseases and empirical ceftriaxone treatment was started. CRP value decreased with antibiotherapy. Abdominal CT imaging report: intrahepatic bile ducts were dilated, the cystic duct was dilated with 9 mm, the choledochal duct reached 16 mm at its widest point and was wider than normal, hyperdense nodular lesion compatible with stone with a diameter of approximately 12 mm in the lumen distal to choledochal duct was recommended, MRCP was recommended. MRCP report: Intrahepatic bile ducts were dilated, the choledochal duct measured 13 mm at its widest point and a 10 mm diameter stone was observed distally within the lumen, the course and width of the main pancreatic duct were normal. The patient was consulted to the gastroenterology department and ERCP was recommended. The patient underwent ERCP and the stone in the choledochal duct was removed. In addition, endoscopy and colonoscopy examinations performed to screen for malignancy revealed no pathology. During follow-up, the patient's jaundice, chills, and shivering resolved. His elevated liver function, CRP, and procalcitonin tests were decreased.

New symptoms in older patients may be a harbinger of a new underlying disease even if they are subtle and atypical. In addition, physical examination may be misleadingly normal in the older patients. Atypical presentations are more common in older patients and cause delayed diagnosis of many diseases in geriatric patients.The classic presentation of acute cholangitis is fever, abdominal pain, and jaundice (Charcot's triad), but only 50 to 75 percent of patients with acute cholangitis have all three findings [2]. Fever may not be seen in 1/3 of older adults with infection and leukocytosis may not always accompany bacteremia(3,4). Our patient did not have fever and leukocytosis, which are evidence of systemic inflammation, but chills with shivering and elevated CRP. Increased bilirubin and liver function tests as evidence of cholestasis and imaging showed enlarged choledochal duct and stones.Pain perception also varies in the elderly. The absence of significant pain after silent myocardial infarction and abdominal surgery is also common in the elderly(5). This may be due to decreased neurotransmitters, decreased cerebral and peripheral arterial blood flow, and decreased nociceptive sensations in deep structures. Our patient did not describe abdominal pain and the abdominal examination was comfortable.

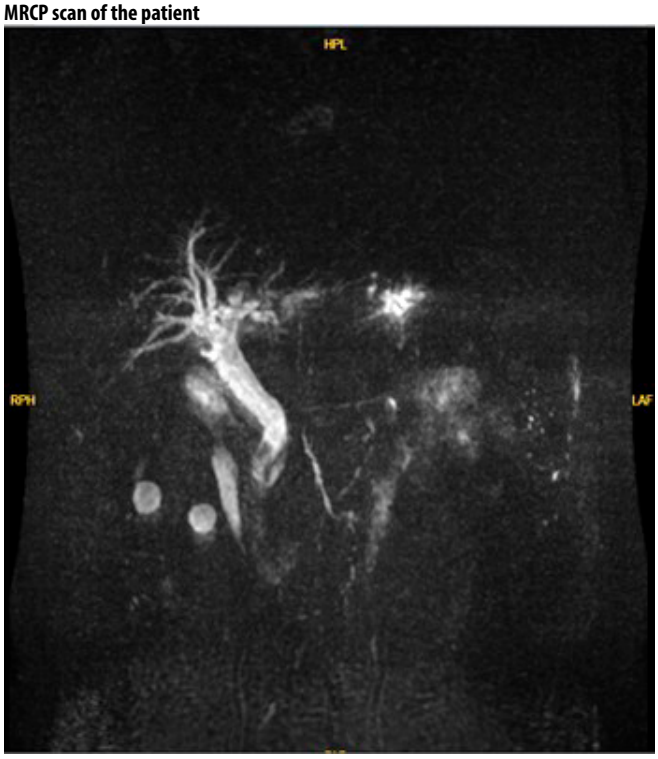
If we focus only on a single disease or only on the presenting complaint of the elderly, other possible conditions may be overlooked, disease diagnoses may be missed, complications may develop and diagnostic times may be prolonged. In order to prevent this, the elderly should be looked at with a holistic perspective, atypical presentations should be considered and a comprehensive geriatric evaluation should be applied to every elderly person.

References

1. Hofman MR, van den Hanenberg F, Sierevelt IN, Tulner CR. Elderly patients with an atypical presentation of illness in the emergency department. Neth J Med. [Observational Study] 2017; 75: 241-6ç
2. Mosler P. Diagnosis and management of acute cholangitis. Curr Gastroenterol Rep 2011; 13:166.
3. Esme M, Topeli A, Yavuz BB, Akova M. Infections in the Elderly Critically-Ill Patients. Front Med (Lausanne) 2019;6:118.
4. Htwe TH, Mushtag A, Robinson SB, Rosher RB, Khardori N. Infection in the elderly. Infect Dis Clin North Am 2007;21:711- 43.
5. Catananti C, Gambassi G. Pain assesment in the elderly. Surg Oncol 2010; 19: 140-8.

Keywords: atypical presentation, aged, cholangitis

MRCP scan of the patient



Atypical Presentations

PP-21

ALL AMYLASE ELEVATIONS ARE NOT ACUTE PANCREATITIS IN AN OLDER ADULT WITH ABDOMINAL PAIN

Murat Pehlivan[1], Elif Gecegelen[1], Meltem Gülhan Halil[1], Burcu Balam Doğu[1], Cafer Balcı[1], Mert Eşme[1], Onur Keskin[2], Mustafa Cankurtaran[1]

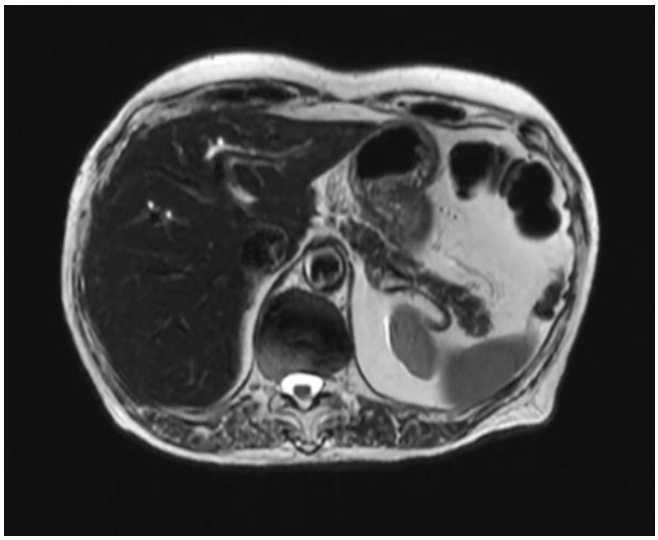
[1]Hacettepe University Medicine Faculty , Department Of Geriatrics
[2]Hacettepe University Medicine Faculty , Department Of Gastroenterology

Background-Aim: Acute pancreatitis is an important inflammatory disease of the pancreas with increasing frequency. The clinical course can range from acute edematous to life-threatening necrotizing pancreatitis. The incidence of AP ranges from 5 to 30 cases per 100,000 and there is evidence that the incidence has increased in recent years. Acute pancreatitis can be diagnosed in the presence of 2 of 3 criteria, which can be considered as typical clinical findings, elevated amylase - lipase and specific imaging findings for acute pancreatitis. Significant elevation of amylase or lipase is sufficient to diagnose acute pancreatitis if the patient has typical abdominal pain findings. In general, the cause of acute pancreatitis is 80% biliary and 20% non-biliary causes. The important feature of biliary pancreatitis is that it is frequently seen over the age of 60. Amylase is a low molecular weight protein and is involved in the digestion of starch. Since amylase is found mostly in the salivary gland and pancreas, its levels increase in diseases of these organs

An 80-year-old woman was admitted to the geriatrics outpatient clinic because of abdominal pain and elevated amylase levels in outpatient tests. She had a known history of dry eye syndrome, glaucoma, hypertension and osteoporosis. The patient had multiple visits to the emergency department and gastroenterology outpatient clinics in the last 1 year due to abdominal pain. She had a history of hypertension and was taking benidipine for hypertension. When the external center examinations of the patient were examined, it was observed that amylase tests were repeated at different times due to elevated amylase but the elevation persisted. No pathology was observed in other biochemical parameters. Blood tests for acute pancreatitis revealedLipase - 32 U/L, Amylase (Blood) - 299 U/L, Triglycerides - 131 mg/dL*. On abdominal MR imaging, there was no evidence of inflammation or diffusion restriction in the pancreas on T1-T2A series and diffusion weighted series. When the patient was evaluated at the next visit, amylase elevation persisted despite the relief of pain. Therefore, total amylase and pancreatic specific amylase were also studied. Pancreatic amylase (Blood) - 37.32 U/L was found to be within normal range. Rheumatologic panel was requested for the patient who was using topical drops due to dry eye and ENA SsA (Ro-60) - Negative, ENA SsB - Negative, ANA (Anti-nuclear antibody) - Negative were observed. Minor salivary gland biopsy performed by the rheumatology department due to persistent amylase elevation was not compatible with Sjogren's disease. Anti endomysium IgA antibody (Anti EMA) - Negative and Tissue Transglutaminase IgA - Negative RU/mL were observed for celiac screening.

As a result, a diagnosis can only be made if that diagnosis is considered. Biliary pancreatitis usually occurs in older adults and amylase elevation is frequently observed in such patients. However, not every amylase elevation in older adults should be considered as acute pancreatitis. Macroamylasemia is one of the causes of hyperamylasemia and should be considered in patients with elevated amylase levels if clinical and physical examination and prior imaging studies do not indicate any pathology. Early detection of macroamylasemia will prevent further investigations and treatments for the diagnosis of pancreatitis.

Keywords: hyperamylasemia , macroamylasemia , abdominal pain, pancreatitis



Patient's healthy pancreas and liver in MR

Atypical Presentations

PP-22

A RARE CASE : BISPHOSPHONATE RELATED OSTEONECROSIS OF THE JAW

Murat Pehlivan, Mustafa Levent, Mustafa Cankurtaran, Meltem Gülhan Halil, Burcu Balam Doğu, Mert Eşme, Cafer Balcı

Hacettepe University Medicine Faculty, Department Of Geriatrics

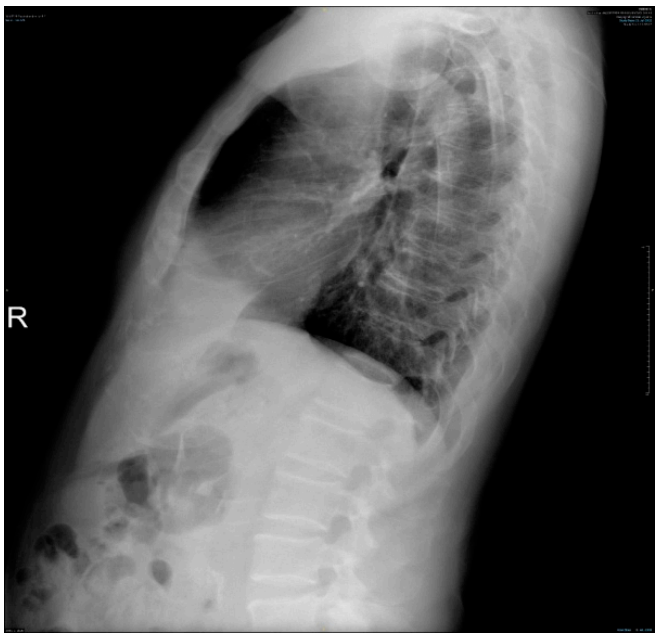
Background-Aim: Osteoporosis (OP) is a systemic disease characterised by low bone mass and deterioration of the microstructure of bone tissue, resulting in increased bone fragility and increased fracture. Bisphosphonates are antiresorptive drugs that are widely used in osteoporosis. Side effects such as influenza-like symptoms, joint or muscle pain, atrial fibrillation, renal and gastrointestinal complications, ocular inflammation, subthoracanteric or diaphyseal fractures and osteonecrosis of the jaw may occur during bisphosphonate use [1].

A 70-year-old man with a known history of hypertension and diabetes mellitus (DM) was admitted to the geriatrics outpatient clinic for routine control. Bone mineral densitometry and two-way thoracolumbar radiography were ordered for osteoporosis along with routine investigations. Bone mineral densitometry showed l1-l4 t score : -0.3 , femur neck : -1.4, femur total: -0.9. In addition, compression fracture of the lumbar vertebrae was observed in the thoracolumbar radiograph. The medications used for osteoporosis were questioned. No risky drug use for osteoporosis was observed in his history. He was investigated for secondary osteoporosis, there was no evidence for secondary osteoporosis.Since the patient had compression fracture in the lumbar vertebrae, bisphosphonate treatment was planned. The dentistry was consulted with the bisphosphonate plan and no pathology was found by the dentistry to prevent extraction. The patient was then started on zoledronic acid 5 mg iv. When the patient applied

for control 3 months later, he stated that his tooth was extracted in an external centre hospital approximately 1 month after the iv zoledronic acid treatment administered by us due to tooth fracture and that severe pain and swelling occurred in the jaw area at that time. Upon this, the patient's data of the external centre were examined. It was observed that the tooth was extracted at an external centre and dental CT was requested when swelling and pain occurred in the jaw area afterwards. On the dental CT scan of the patient, resorption of the buccal cortical bone associated with an irregular lytic lesion containing a radiopacity compatible with a sequestrate in the centre of the mandibular parasymphysis region was detected. The appearance of the lesion is compatible with osteonecrosis. The mandibular bone inferior to the lesion was found to be densely sclerotic. Upon the development of osteonecrosis of the jaw, 2x1000 mg amoxicillin-clavulanic acid and 3x 500 mg metronidazole were administered orally for 14 days. Surgical debridement was not performed.

According to the literature, bisphosphonate-associated osteonecrosis of the jaw is especially seen in patients with malignancy and multiple zoledronic acid infusions. The incidence of osteonecrosis of the jaw in the normal population is less than 1/100,000 per year. This figure ranges between 2-11% in oncological patients using bisphosphonates and 1/10,000 -1/100,000 in osteoporosis patients [2]. Invasive dental treatment, oncological patients receiving high dose iv bisphosphonate therapy, patients receiving chemotherapy and immunosuppression, patients with periodontal diseases and smokers are in the risk group for the development of osteonecrosis of the jaw. The incidence is much lower in patients using bisphosphonates for the treatment of postmenopausal osteoporosis. Necrotic bone is most commonly caused by tooth extraction, existing periodontal disease and spontaneously.

Keywords: osteoporosis, osteonecrosis , zoledronic acid, bisphosphonate



Multidisciplinary Approaches

PP-23

DIAGNOSTIC CHALLENGE OF AN ADVANCED STAGE DEMENTIA CASE

Emin Taşkıran[1], Bilge Taşkıran[2]

[1]Isparta City Hospital
[2]Dinar State Hospital

Background-Aim: A sixty-three year-old male was brought to the geriatric outpatient unit by his wife with the complaint of progressive loss of movement skill and intellectual capacity for the last 3 years. Anamnesis was learned from his wife. She told that after an event which had led a deep sadness for him, he started to have paranoid thoughts like feeling hostile manners towards himself from his wife or relatives as well as loss of concentration at work. He was a farmer and started to have difficulties in multi level tasks. Sleeping problems started to occur. Also, he was agitated most of the time and even applied violence to his wife. At that time, he did not have any co-morbidities. He was examined by a psychiatrist and diagnosed with late life schizophrenia. Anti-psychotic drugs were prescribed. These medications helped him settle down at first. However, in 3 years period, he started to have difficulties in moving progressively resulting with a bed-ridden situation. There was not anything remarkable in his medical and familial history. At presentation to geriatric outpatient clinic, he was on wheel chair and dependent on his wife during all daily life activities. He was bed-ridden and incontinent. He had muscle stiffness. He was on levetiracetam 500mg twice a day.

On physical examination, blood pressure was 120/65 mmHg, body temperature was 36.7 C respiratory rate was 10/min. He had 14 points on Glasgow coma scale. His eyes were open spontaneously but did not obey commands. He was not answering any questions but turning his head towards voice. His eye movements were normal and preserved for all ways. Cranial nerve reflexes were intact. He could swallow liquid and semi- liquid food. He was localizing a painful stimulus on sternum and was trying to grab physician's hand. During passive flexion and extension movement of both arms and legs, cogwheel sign was not seen. Deep tendon reflexes were weak and Babinski's sign was negative. His neurological examination did not reveal any specific findings for a previous stroke or meningitis. He had a grade 1-2 pressure ulcer on his sacrum. Other systems were normal at the examination.

At the laboratory findings, a slight anemia with 11.2 gr/dL of hemoglobine and elevated CRP level of 20 mg/dl were detected. A cranial MRI scan was performed and it revealed atrophic cortex of cerebrum with ischemic gliosis fields in periventricular white matter.

In the light of all findings, major neurocognitive disorder with Lewy body (DLB) diagnosis was made according to DSM-5 diagnostic criteria. Dementia related with Parkinson Disease and Supra-nuclear Palsy were other relevant diseases for differential diagnosis. In this case, movement disorder developed after psychotic symptoms and memory impairment. This is contrary to the dementia related with Parkinson Disease. At the presentation, cranial nerve examination were normal unlike supra-nuclear palsy in our case. Rivastigmine 10cm2 transdermal patch once a day and levadopa-benserazid 50-12.5 mg three times a day prescribed.

Correctly diagnosing a patient at an advanced stage dementia may lead his or her relatives to have true expectations in the future while the disease progress. Even if the treatment options

are very limited and less effective, starting the correct therapy may improve both the patient's and care giver's quality of lives.

A sixty-three year-old male was brought to the geriatric outpatient unit by his wife with the complaint of progressive loss of movement skill and intellectual capacity for the last 3 years. Anamnesis was learned from his wife. She told that after an event which had led a deep sadness for him, he started to have paranoid thoughts like feeling hostile manners towards himself from his wife or relatives as well as loss of concentration at work. He was a farmer and started to have difficulties in multi level tasks. Sleeping problems started to occur. Also, he was agitated most of the time and even applied violence to his wife. At that time, he did not have any co-morbidities. He was examined by a psychiatrist and diagnosed with late life schizophrenia. Antipsychotic drugs were prescribed. These medications helped him settle down at first. However, in 3 years period, he started to have difficulties in moving progressively resulting with a bed-ridden situation. There was not anything remarkable in his medical and familial history. He was on wheel chair and dependent on his wife during all daily life activities. He was bed-ridden and incontinent. He had muscle stiffness. He was on levetiracetam 500mg twice a day.

On physical examination, blood pressure was 120/65 mmHg, body temperature was 36.7^{0}C respiratory rate was 10/min. He had 14 points on Glasgow coma scale. His eyes were open spontaneously but did not obey commands. He was not answering any questions but turning his head towards voice. His eye movements were normal and preserved for all ways. Cranial nerve reflexes were intact. He could swallow liquid and semi- liquid food. During passive flexion and extension movement of both arms and legs, cogwheel sign was not seen. Deep tendon reflexes were weak and Babinski's sign was negative. His neurological examination did not reveal any specific findings for a previous stroke or meningitis. He had a grade 1-2 pressure ulcer on his sacrum. Other systems were normal at the examination.

At the laboratory findings, a slight anemia with 11.2 gr/dL of hemoglobine and elevated CRP level of 20 mg/dl were detected. A cranial MRI scan was performed and it revealed atrophic cortex of cerebrum with ischemic gliosis fields in periventricular white matter(figure-1).

In the light of all findings, major neurocognitive disorder with Lewy body (DLB) diagnosis was made according to DSM-5 diagnostic criteria.[1] Dementia related with Parkinson Disease and Supra-nuclear Palsy were other relevant diseases for differential diagnosis. In this case, movement disorder developed after psychotic symptoms and memory impairment. This is contrary to the dementia related with Parkinson Disease. At the presentation, cranial nerve examination were normal unlike supra-nuclear palsy in our case. Rivastigmine 10cm2 transdermal patch once a day and levadopa-benserazid 50-12.5 mg three times a day prescribed.

At the first month control, the patient was more mobile in the bed. He was still unable to communicate orally but started to express his wishes and seemed to understand some sentences with a meaningful look. His swallowing ability was improved and day time sleeping reduced. He was taking enteral nutritional products orally. He was still dependent on his wife for doing all daily life activities. He became an easier patient to take care for his care giver. Both his and his wife's quality of lives were improved positively with the help of current therapy.

DLB, usually starts after the age of 50 and rarely starts after 70. The disease can progress to the advanced stage dementia in 2 to 8 years. It can be challenging to diagnose DLB in the beginning of the symptoms as these symptoms mimic psychiatric disorders. In many cases, it is diagnosed after the movement disorder begins. The difference between DLB and dementia related to Parkinson's disease are the characteristics and timing of the movement disorder and the progression of disease. Parkinson's disease starts with a resting tremor at unilateral extremity. DLB tremor starts more generally and effects predominantly lower extremities. DLB's movement disorder progress more rapidly than Parkinson's and poorly improve with levodopa treatment. Dementia develops 6-8 years later after the onset of parkinson's symptoms. However, dementia develops simultaneously or even before the onset of DLB symptoms. Psychiatric presentation is related to the mediations in Parkinson's. On the other hand, Paranoia and hallucinations may be the very early symptoms of DLB.[2]

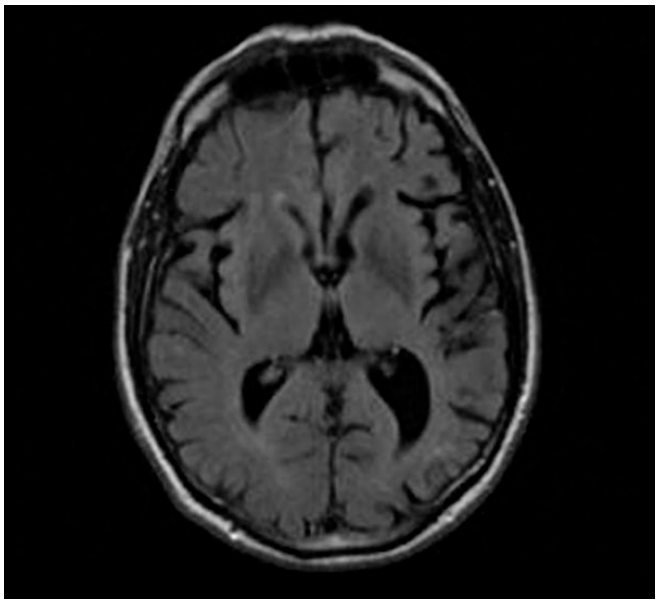
Correctly diagnosing a patient at an advanced stage dementia may lead his or her relatives to have true expectations in the future while the disease progress. Even if the treatment options are very limited and less effective, starting the correct therapy may improve both the patient's and care giver's quality of lives.

References

1.The Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM–5; American Psychiatric Association, 2013)

2. Geriatri Pratiğinde Geriatri Sendromlar. Ahmet Turan Işık ve Pınar Soysal Editörler. Sf: 73-135. İntertıp yayınevi. 2018,İzmir. ISBN: 978-605-9358-57-6

Keywords: Levy body, dementia, neurocognitive disorder



A section from the MRI scan of a patient with DLB.

V

Y

EuGMS European Union Geriatric Medicine Society
Fostering geriatric medicine across Europe

AKADEMİK GERİATRİ DERNEĞİ

International Association of Gerontology and Geriatrics
Founded 1950

IOF International Osteoporosis Foundation

SERENAS

Organizasyon Sekretaryası
Serenas Uluslararası Turizm
Kongre Organizasyon A.Ş.
Hilal Mah. Cezayir Cad. No:13,
06550 Yıldız, Çankaya – Ankara / Türkiye
Tel: +90 312 440 50 11
E-posta: info@akademikgeriatri2023.org
Web: www.serenas.com.tr