

# TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ BÜLTENİ



Üç ayda bir çevrimiçi yayınlanır.

Sayı 85 • Ocak – Şubat – Mart • 2024



## ATAMIZIN HUZURUNA ÇIKTIK



Derneğimizin 60. Kuruluş Yılında Türkiye Endokrinoloji ve Metabolizma Derneği Yönetim Kurulu olarak 13.01.2024 tarihinde Atamızı ziyaret ettiğimiz.

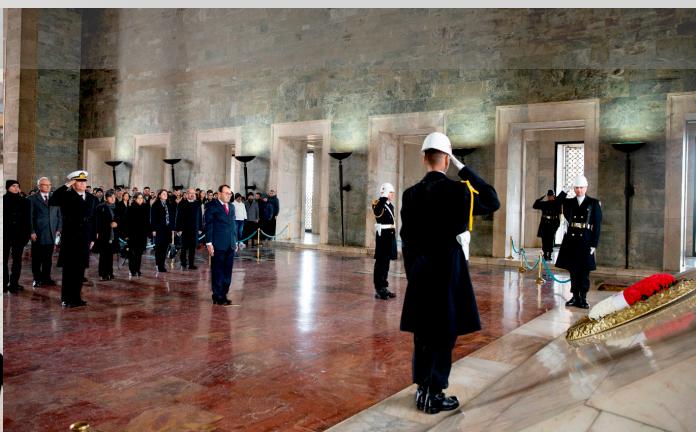


13.01.2024  
Cumhuriyetimizin Kurucusu, Ebedî Liderimiz Büyük Atatürk, Gösterdiğiniz müspet bilimin yolunda, sizin değerlerinizle yetişmiş, fikri, viddanı ve irfanı hür nesillerin bir parçası olan Türkiye Endokrinoloji ve Metabolizma Derneği'nin Kuruluşunun 60. Yıldönümünde, Dernek Yönetim Kurulu olarak huzurunuzdayız. Çağdaş ve uygar dünyanın kavram ve değerlerini devrimlerinizle ülkemize kazandırdınız. Modem Türkiye'nin dünyada sağlam bir şekilde yerini almasını sağladınız. Size minnettarız.

Bilim ve sağlık alanında "Üniversite Reformu" ve "Sağlık Hizmetlerinin Halka Yayılması" konusunda devrim niteliğindeki kararlarınız, bugün dahi etkilerini hissettirmekte; ülkemizin bilimsel olarak gelişiminde ve dünya biliminde söz sahibi olmasında önemli rol oynamaktadır.

Kendinizi ve milletimizin sağlığını emanet ettiğiniz Türk Hekimleri olarak; açtığınız yolda ve gösterdiğiniz hedefte hiç durmayan azmınızla güveninize layık olmak için çalışıyoruz. 60. Kuruluş Yılımızda, kurduğunuz Türkiye Cumhuriyeti'ne yüksek sadakatle bağlı bireyler olarak, bilimin ışığından ayrılmayacağımıza ve ülkemizi her alanda çağdaş medeniyet seviyesinin üstüne çıkarma ümidiinden vazgeçmeyeceğimize söz veriyoruz. "Özgürlük ve Bağımsızlık Benim Karakterimdir" diyerek kahramanca kazandığınız bu topraklarda yetmiş, bilgili, çalışan bilim insanları olarak, Türkiye Cumhuriyeti'nin daima aydın ve bağımsız bir dünya devleti şeklinde kalması adına her türlü engeli aşağığımıza yürekten inanıyoruz.

İdealleriniz ideallerimizdir. Önderliğiniz, liderliğiniz rehberimizdir. Şükranla, Yüksek Saygı ve Sonsuza dek Bağlılıkla, Türkiye Endokrinoloji ve Metabolizma Derneği adına; Prof. Dr. Mustafa Cesur Yönetim Kurulu Başkanı



# 2. Tıbbi Beslenme ve Egzersiz Sempozyumu Tamamlandı

2. Tıbbi Beslenme ve Egzersiz Sempozyumu 24 Şubat 2024 tarihinde Gazi Üniversitesi Tıp Fakültesi, Ankara'da gerçekleştirildi. Sempozyuma 107 meslektaşımız katıldı. Emeği geçen tüm üyelerimize teşekkür eder, saygılarını sunarız.



# Tiroid USG kursu tamamlandı

Tiroid USG Kursu 9 Mart 2024 tarihinde İstanbul'da tamamlandı. Toplantıya 52 katılımcı, 17 konuşmacı hekimimiz katılmıştır. Emeği geçen tüm üyelerimize teşekkür eder, saygılarını sunarız.



## Türkiye Endokrinoloji ve Metabolizma Derneği Eğitici Eğitimi Programı Tamamlandı

**Türkiye Endokrinoloji ve Metabolizma Derneği Eğitici Eğitimi Programı, 8-12 Ocak 2024 tarihlerinde saat 20:00 - 22:00 saatleri arasında Ege Üniversitesi Sürekli Eğitim Merkezi üzerinden çevrim içi tamamlandı. Programa 20 üyemiz katıldı.**

Tarih	Konu Başlığı	Eğitici
08.01.2024	Tanışma ve Beklentiler	Tüm eğiticiler Prof Dr. Hatice Şahin
	Dünyada ve Türkiye'de Tıp Eğitimi	
	Yetişkin Öğrenmesi	
	Mesleksel Yetkinlikler Kavramı UÇEP, TUKMOS	
09.03.2024	Öğrenme Hedefleri	Prof Dr. A.Hilal Batı
	Büyük Grplarda Eğitim	
	Küçük Grplarda Eğitim	
10.01.2024	Beceri Eğitimi	Doç. Dr. Nilüfer Demiral Yılmaz
	Beceri Eğitimi Tasarımı	
	Tıpta Ölçme Değerlendirme	
11.01.2024	Çoktan Seçmeli Sırvavlar	Doç. Dr. Ö. Sürel Karabilgin Öztürkçü
	Performansa Dayalı Ölçme Değerlendirme Uygulamaları	
	Eğitim Teknolojileri	
12.01.2024	Tıp Eğitimimde Yapay Zeka	Dr. Öğr. Gör. Ozan Karaca Tüm eğiticiler Ege Üniversitesi Akademi TV
	Kapanış	
	Sınav	

## Ankara Endokrin Günleri, Türkiye'de İlk Kez Endokrinoloji Kürsüsünün Kuruluşunun 50. Yılı Kutlamaları Tamamlandı

Ankara Endokrin Günleri, 11 Şubat 2024 tarihinde Ankara Üniversitesi Tıp Fakültesi, Endokrinoloji ve Metabolizma Hastalıkları Bilim Dalı ev sahipliğinde Türkiye'de ilk kez Endokrinoloji Kürsüsünün Kuruluşunun 50. Yılı kutlamaları ile birlikte tamamlandı.



# ERKEN KARIYER GRUBU ENDOKRİN KARIYER TOPLANTILARIMIZ...

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■ ERKEN  
KARIYER —  
GRUBU

TÜRKİYE  
ENDOKRİNOLOJİ VE  
METABOLİZMA  
DERNEĞİ

11

**Endokrin  
Kariyer  
Toplantıları**

25.01.2024  
Perşembe  
21:00 - 22:00  
GMT+3

• Essential Skills For Early Career Researchers:  
Tips to Succeed

MODERATÖR  
Doç. Dr. Adnan Batman  
Koç Üniversitesi Tıp Fakültesi

KONUŞMACI  
Prof. Martin Fassnacht, MD  
Division of Endocrinology and Diabetes  
University Hospital Würzburg, Germany

MODERATÖR  
Doç. Dr. Emre Sedar SAYGILI  
Çanakkale Onsekiz Mart Üniversitesi  
Tıp Fakültesi

Online

# ENDOKRİN AKADEMİ YENİ MODÜLLERİMİZ



## 5. HİPOFİZ HASTALIKLARI SEMPOZYUMU

**"HİPOFİZ YETMEZLİĞİ"**

Sunum Videoları YAYINDA

**HEMEN İZLE**

<https://endokrinakademi.org/>

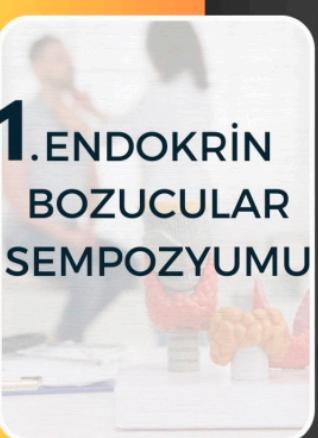


## 2. Kemik Endokrinolojisi, Osteoporoz ve Metabolik Kemik Hastalıkları Sempozyumu

**SUNUM VİDEOLARI  
YAYINDA**

**HEMEN İZLE**

<https://endokrinakademi.org/>



## 1. ENDOKRİN BOZUCULAR SEMPOZYUMU

## SUNUM VİDEOLARI YAYINDA

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## 6. HİPOFİZ HASTALIKLARI SEMPOZYUMU

**"HİPERPROLAKTİNEMİ"**

**Sunum Videoları Yayında**

**HEMEN İZLE**

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**1. MODÜL**  
KEMİK VE MİNERAL METABOLİZMASI VE BOZUKLULARI

**3. BÖLÜM-4.DERS**  
Hipokalsemiler

**YAYINDA**

Türkiye Endokrinoloji Ve Metabolizma Derneği'nin Online Eğitim Platformu Endokrin Akademi'de bu konuyu siz değerli meslektaşlarım için anlattım.

  
Dr. Aysegül Atmaca  
Eğitmen

  
TEM'D  
Endokrin Akademi

  
TÜRKİYE  
ENDOKRİNOLOJİ VE  
METABOLİZMA  
DERNEĞİ

**YAYINDA**  
17.Modül - 4.Bölüm - 2.Ders

## Gebelik ve Feokromositoma

Türkiye Endokrinoloji ve Metabolizma Derneği'nin Online Eğitim Platformu Endokrin Akademi'de bu konuyu siz değerli meslektaşlarım için anlattım.

**EĞİTMEN**  
Dr. Gamze Akkuş

  
TÜRKİYE  
ENDOKRİNOLOJİ VE  
METABOLİZMA  
DERNEĞİ

  
TEM'D  
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[www.endokrinakademi.org](http://www.endokrinakademi.org) **HEMEN İZLE** 

**YAYINDA**  
17.Modül - 2.Bölüm - 2.Ders

## Gestasyonel Diabetes Mellitus

Türkiye Endokrinoloji ve Metabolizma Derneği'nin Online Eğitim Platformu Endokrin Akademi'de bu konuyu siz değerli meslektaşlarım için anlattım.

**EĞİTMEN**  
Dr. Hasan Aydin

  
TÜRKİYE  
ENDOKRİNOLOJİ VE  
METABOLİZMA  
DERNEĞİ

  
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**YAYINDA**  
17.Modül - 2.Bölüm - 4.Ders

## Gebelik ve Tip 2 Diabetes Mellitus

Türkiye Endokrinoloji ve Metabolizma Derneği'nin Online Eğitim Platformu Endokrin Akademi'de bu konuyu siz değerli meslektaşlarım için anlattım.

**EĞİTMEN**  
Dr. Meral Mert

  
TÜRKİYE  
ENDOKRİNOLOJİ VE  
METABOLİZMA  
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TEM'D  
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## SOSYAL MEDYA PAYLAŞIMLARIMIZ





**Kongre, Kurslar ve Sempozyumlar**

**TEM  
60  
YAŞINDA**

# **45. TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA HASTALIKLARI KONGRESİ**

**17-21 Nisan 2024**  
Susesi Hotel, Antalya

[www.temhk.org](http://www.temhk.org)



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ENDOKRİNOLOJİ VE  
METABOLİZMA  
DERNEĞİ

TEM'DE  
60 YAŞINDA

# ENDOKURS

[www.temdendokurs.org](http://www.temdendokurs.org)

## MEZUNİYET SONRASI EĞİTİM KURSU

31 Ekim - 03 Kasım 2024 • DoubleTree By Hilton - ŞANLIURFA



Feniks  
PCD & INCENTIVE & EVENT

Feniks Kongre Organizasyon

Sukarno Cad. No:31 Yıldız, Çankaya – ANKARA Tel: +90 312 442 70 40  
Atatürk Cad. No:31/1 Sahrayicedit, Kadıköy - İSTANBUL Tel: +90 216 357 10 00

temd@feniksturizm.com.tr  
[www.feniksturizm.com.tr](http://www.feniksturizm.com.tr)



## 22. Obezite, Dislipidemi ve Hipertansiyon Eğitim Sempozyumu

4-5 Mayıs 2024

Mardin Artuklu Üniversitesi  
Atatürk Kültür Merkezi

## 29 ŞUBAT NADİR HASTALIKLAR GÜNÜ BASIN BİLDİRİSİ

**A**vrupa Nadir Hastalıklar Organizasyonu (EURORDIS), 2008 yılında bilinmeyen veya gözden kaçan hastalıklar konusunda farkındalık yaratmak, nadir hastalıklara dikkat çekmek amacıyla her dört yılda bir denk gelen nadir bir tarih olan 29 Şubat gününü 'Dünya Nadir Hastalıklar Günü' ilan etmiştir. O günden beri Şubat ayının son günü 'Dünya Nadir Hastalıklar Günü'dür.

### *Elini uzat farkındalık yarat*

İlk olarak 1980'li yıllarda ortaya çıkan "nadir hastalıklar" kavramı, biri toplumda ender rastlanan, önemli bir kısmının henüz standart bir tanı ve tedavi yöntemi bulunmayan, hatta bir kısmı henüz tıbben tanımlanmamış olan çok sayıda hastalığı bir arada temsil etmektedir. Bir hastalığın "nadir" olarak nitelendirilebilmesi, görülme sıklığı temeline dayandırılmıştır ve Avrupa Birliği'nde, ülkemizde 1/2000'den daha az görülen hastalıklar, nadir hastalık olarak tanımlanmaktadır. Tanımlanmış yaklaşık 8000 nadir hastalık bulunmaktadır ve bunlara her yıl yeni hastalıklar eklenmektedir. Bu hastalıkların %72'si genetik kökenlidir ve %70'i çocuklu çağında ortaya çıkar.

Dünya'da 300 milyon nadir hastalıkla yaşayan birey bulunduğu tahmin edilmektedir ve bu rakam nüfus açısından dünyanın 3. büyük ülkesine denk gelmektedir. Türkiye'de de yaklaşık 5 milyon nadir hastalıkla yaşayan bireyin olduğu öngörmektedir ancak bu Avrupa verilerine dayanılarak yapılan bir yansımadır. Genetik hastalıkların görülme riskini artıran akraba evliliği, Avrupa ülkelerinde %5'den az iken ülkemizde ortalama %23,2'dir, bu da nadir hastalıkların ülkemizde çok daha sık olabileceğini düşündürmektedir.

### *Renklerini paylaş, nadir için ışık ol*

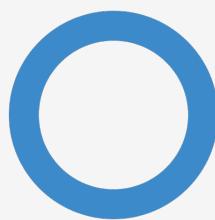
Aynı ayrı değerlendirildiğinde sınırlı sayıda hastanın mağduriyeti gibi düşünülebilir ancak binlerce nadir hastalık olduğu göz önünde bulundurulduğunda çok sayıda hastanın bu hastalıklardan mağduriyet yaşadığı bir gerektir. Nadir hastalıklar genellikle kronik, ilerleyen ve engellilik ya da erken ölümle sonuçlanan hastalıklardır, dolayısıyla da ciddi bir tıbbi, sosyal, psikolojik ve maddi yük getirmektedir. ABD'de yaklaşık 15,5 milyon hastayı etkileyen 379 nadir hastalığının yarattığı yıllık toplam mali yük 966 milyar dolar olarak hesaplanmıştır.

Koruyucu sağlık hizmetleri, tarama ve erken tanı yöntemleri, nadir hastalıklar açısından çok önemlidir. Ülkemizde 5 hastalık (fenilketonüri, konjenital hipotiroidi, biyotidinaz eksikliği, kistik fibrozis, konjenital adrenal hiperplazi ve spinal müsküler atrofi) yenidoğan döneminde, 3 hastalık (talassemi, orak hücreli anemi ve spinal müsküler atrofi) evlilik öncesinde taranmaktadır.

Her bir nadir hastalığın çok kısıtlı sayıda hastayı etkilemesi, sadece bebeklik veya çocuklukta görüleceğine inanılması, belirtilerin ve bulguların kişiden kişiye farklılık göstermesi, daha sık görülen bazı kronik hastalıklarla karıştırılması, hastalık ilerleyene ve yeni belirtiler ortaya çıkana kadar geçici tedaviler uygulanması, ilgili olmayan branş hekimlerine başvurulması ve söz konusu hastalıklarla ilgili bilinç, bilgi düzeyi ile tıbbi deneyimin yetersiz olması nadir hastalıklarda doğru tanıya ulaşmayı daha uzun ve zor kıalan faktörleri bazı etkenler vardır.

Hastalar farklı ancak hikayeleri benzerdir. Tanı konuluncaya dek geçen süre uzundur (yaklaşık 4-10 yıl). Tanı öncesi farklı uzmanlıklarda ortalama 7-8 uzman hekim ziyareti yapılmıştır. Bir çok kez hastaneye yatış, yanlış tanı, tedavi ve gereksiz tıbbi müdahaleler tecrübe edilmişdir.





## 4 MART OBEZİTE GÜNÜ BASIN BİLDİRİSİ

- AVRUPA'DA OBEZİTE ORANININ EN YÜKSEK OLDUĞU ÜLKEMİZ
- EĞER ÖNLEM ALAMAZSAK 10 YIL SONRA NÜFUSUN YARISI OBEZİTELİ OLACAK
- OBEZİTE HASTALARINA KARŞI SAYGILI BİR DİL KULLANMALIYIZ
- OBEZİTEYİ ÖNLERSEK PEK ÇOK KRONİK HASTALIĞI DA ÖNLERİZ

Obezite Dünyanın ve ülkemizin en önemli sağlık sorunlarından biri olup sıklığı giderek artmaktadır. Türkiye, 20 milyon obezite hastası ile Avrupa'da obezite görülmeye oranının en yüksek olduğu ülkelerden biridir. Ülkemizde her dört çocuktan birinde kilo fazlalığı, her üç erişkinden birinde obezite bulunmaktadır. Önlem alamazsa 10 yıl sonra nüfusumuzun yarısında obezite bulunanı tahmin edilmektedir.

### **"Obezite bir hastalık, iradesizlik nedeniyle gelişmez"**

Obezitenin bir hastalık olduğunu, iradesizlik yüzünden gelişmediğini israrla vurguluyoruz. Bu sorunu çözebilmek için öncelikle nedenleri iyi anlamalıyız. Obezitenin nedenleri arasında;

- Ailesel (genetik) yatkınlık,
- Sosyokültürel ve çevresel faktörler ve alışkanlıklar,
- Stres faktörleri, depresif bozukluklar
- Bazı ilaçlar ve endokrin hastalıklar yer alır

Yukarıda söz edilen faktörlere toplum genel olarak maruz kalmakta ancak genetik yatkınlığı olanlar daha fazla etkilenmektedirler. Bu kişiler fazla kilolarından ötürü aşağılanmakta, suçlanmakta ve ayırcılığa uğramaktadır. Obezitenin bir hastalık olduğunu farkında olmalı ve obeziteli bireylere karşı saygı dilini kullanmaya özen göstermeliyiz. Buna ilk olarak "Obez Hasta""Şişman kişi" gibi damgalayıcı bir dil yerine "Obezite Hastası" veya "Obeziteli birey" gibi bir dil kullanarak başlayabiliriz.

### **"Obezite pek çok kronik hastalıkın nedenidir"**

Obezitenin kendisinin neden olduğu yaşam kısıtlarına ilave olarak kilo fazlalığının bir sonucu olarak ortaya çıkan pek çok kronik hastalık da bulunmaktadır. Bu hastalıkların bir kısmını şöyle sıralamak mümkün:

- Tip 2 diyabet
- Hipertansiyon
- Dislipidemi
- Uyku apnesi, astım
- Karaciğer yağlanması
- Koroner arter hastalığı
- Kanserler (özellikle meme, rahim, kolon, pankreas, prostat, böbrek)
- Reflü, pankreatit, safra kesesi hastalıkları
- İdrar inkontinansı (idrar tutamama), fitik
- İnfertilite (kısırlık), polikistik over sendromu
- Çocuklarda erken ergenlik
- İnme, migren, Alzheimer
- Depresyon
- Venöz yetmezlik
- Eklem romatizması, gut
- Taban çökmesi, topuk dikenli
- Katarakt, glokom

### **"Obezite tedavisi mültidisipliner yaklaşım gerektir"**

Obezite tedavisinde hedef sadece kilo vermek değil, verilen kiloyu muhafaza etmektir. Pek çok obezite hastasının öyküsünde başarılı kilo verme girişimleri bulunsa da bir süre sonra kilo aldıkları görülmektedir. Bunun nedeni obezitenin altında farklı disiplinleri ilgilendiren çeşitli nedenlerin yer almıştır. Bu yüzden, obezite tedavisi deneyimli bir ekibi ve farklı disiplinlerden sağlık profesyonellerinin iş birliğini gerektirir. Obezite tedavisini gerçekleştiren ekip içinde doktor (sağlık kuruluşunun yeterlilik düzeyine göre aile hekimi, iç hastalıkları uzmanı veya endokrinoloji ve metabolizma hastalıkları uzmanı), diyetisyen, egzersiz uzmanı (sağlık kuruluşunun yeterlilik düzeyine göre spor hekimi, fizyoterapist, spor koçu, beden eğitimi öğretmeni), hemşire, obezite cerrahi, hastanın komplikasyonlarına ve ihtiyacına göre ilgili psikiyatри, göğüs hastalıkları, kardiyoloji, gastroenteroloji, ortopedi, fizik tedavi ve rehabilitasyon gibi diğer hekimler bulunabilir.

### **"Bilim dışı yaklaşımlar Obezite hastalarına zarar veriyor"**

Ne yazık ki günümüzde obezite hastalarına bilimsel dayanağı olmayan mucize diyetler, mucize bitkiler, mucize ilaçlar veya mucize cerrahi yöntemler önerilmekte, hastalar istismar edilmektedir. Bu bilim dışı yaklaşımların başında kendilerine yer bulmaları ve rutin uygulamalar gibi sunulması hastalara ayrıca zarar verebilmektedir. Özellikle internet ve sosyal medya ortamındaki bilgi kirliliği obezite hastalarının doğru bilgiye ulaşmasını engellemektedir.

### **"Obezitenin çözümü önlemedir"**

Obezitesi bulunan herkesi tedavi etmek teknik açıdan mümkün değildir. Obezite sorununun çözümünde en önemli ve etkili adım obezitenin önlenmesidir. Bunun için öncelikle toplumun yaşam biçimini ve beslenme alışkanlıklarının doğru biçimde şekillenmesi gerekmektedir. Ailelerin çocuk yetiştirmeden sağlıklı beslenme kurallarına uymaları, çocukluk döneminden itibaren sağlıklı beslenme ve fizik aktivitetenin benimsättirilmesi, toplum hayatımda fizik aktiviteyi artırmaya yönelik önlemlerin ve zararlı gıdaların tüketiminin sınırlayacak düzenlemelerin yapılması bu tür önlemler arasında sayılabilir. Merkezi ve yerel yönetimler, sivil toplum kuruluşları ve basın iş birliği içinde obezitenin önlenmesi için ortak çalışmalar yapmalıdır.





Hashimoto Hastalığına Tedavisi Nasıl Yapılır?

PROF. DR. MUSTAFA KULAKSIZOĞLU  
Endokrinoloji ve Metabolizma Uzmanı

Hashimoto Hastalığını yakaladığımız yer; eğer tiroid bezinin yavaşlamasına sebep olmadiysa

SIGARAYI BİRAKMAK İŞİTU AZALTMAK

Hashimoto Hastalığının Tedavisi Nasıl Yapılır? - Prof. Dr. Mustafa Kulaksızoğlu

Tiroid Kanseri Düşündüren Durumlar Nelerdir?

PROF. DR. SİBEL GÜLDİKEN  
Endokrinoloji ve Metabolizma Uzmanı

Nodüllerin %95'i şikayeteye sebep olmaz

Tiroid Kanseri Düşündüren Durumlar Nelerdir? - Prof. Dr. Sibel Güldiken

Tiroid Nodülü Saptandıktan Sonra Hangi Tetkikleri Yaptırmamalıyız?

PROF. DR. SİBEL GÜLDİKEN  
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**ÖNCELİKLE  
TİROİD HORMON DÜZEYLERİMİZİ DEĞERLENDİRMELİYİZ**

Tiroid Nodülü Saptandıktan Sonra Hangi Tetkikleri Yaptırmamalıyız?  
Prof. Dr. Sibel Güldiken

Tiroid Nodülleri Nasıl Tespit Edilir?

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PROF. DR. SİBEL GÜLDİKEN  
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Tiroid Nodülleri Nasıl Tespit Edilir? - Prof. Dr. Sibel Güldiken

Hangi Risk Faktörleri Tiroid Kanseri Riskini Artırır?

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veya ileri yaş  
dönemine kadar  
nodülü olmayan  
bir kişiye  
nodül gelişiyorsa  
“kanser riski”  
artar

Hangi Risk Faktörleri Tiroid Kanseri Riskini Artırır? - Prof. Dr. Sibel Güldiken

Hangi Risk Faktörleri Tiroid Kanseri Riskini Artırır?

TİROİD BEZİNİN AZ YA DA ÇOK ÇALIŞMASINA NEDEN OLABİLİR

PROF. DR. SİBEL GÜLDİKEN  
Endokrinoloji ve Metabolizma Uzmanı

Tiroid Nodülleri Niçin Önemlidir? - Prof. Dr. Sibel Güldiken

Tiroid Nodülleri Nasıl Takip Edilmelidir?

PROF. DR. SİBEL GÜLDİKEN  
Endokrinoloji ve Metabolizma Uzmanı

NODÜL TESPİT EDİLDİKTEN SONRA;  
BİR ENDOKRİNOLOJİ UZMANI TARAFINDAN DEĞERLENDİRİLMELİDİR

Tiroid Nodülleri Nasıl Takip Edilmelidir? - Prof. Dr. Sibel Güldiken

## ULUSAL VE ULUSLARARASI BİLİMSEL KONGRE VE SEMPOZYÜMLAR

- 11-14 Nisan 2024  
**WCO-IOF-ESCEO, World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases**  
**United Kingdom Hilton London Metropole, London**  
<https://www.wco-iof-esceo.org/>
- 17-21 Nisan 2024  
**45. Türkiye Endokrinoloji ve Metabolizma Hastalıkları Kongresi**  
**Susesi Hotel, Antalya**  
<https://www.temd.org.tr/>
- 03-04 Mayıs 2024  
**9. İstanbul Hipofiz Sempozyumu**  
<https://www.istanbulhipofiz.org/tr/>
- 4-5 Mayıs 2024  
**22. Obezite, Dislipidemi ve Hipertansiyon Eğitim Sempozyumu**  
**Mardin Artuklu Üniversitesi, Atatürk Kültür Merkezi, Mardin**  
<https://temd.org.tr/>
- 11-14 Mayıs 2024  
**26<sup>th</sup> European Congress of Endocrinology - ECE 2024, Stockholm, Sweden**  
<https://www.ese-hormones.org/events-deadlines/european-congress-of-endocrinology/ece-2024/>
- 15-18 Mayıs 2024  
**60. Ulusal Diyabet Metabolizma ve Beslenme Hastalıkları Kongresi**  
**Selectum Hotels – Kremlin Palace, Antalya**  
<https://diyabetkongresi.org/>
- 31 Mayıs - 1 Haziran  
**11. Adrenal Gonad ve Nöroendokrin Tümörler Sempozyumu**  
**Wyndham Garden, Diyarbakır**  
<https://temd.org.tr/>
- 1-4 Haziran 2024  
**ENDO 2024, Annual Meeting of the Endocrine Society, Boston, MA**  
<https://www.endocrine.org/meetings-and-events/endo-2024/general-information>
- 06-08 Haziran 2024  
**Annual Congress of The Central Europe Diabetes Association – CEDA 2024**  
**Palermo, Italy**  
<https://ceda2024.com/>
- 21-24 Haziran 2024  
**83<sup>th</sup> ADA Scientific Sessions**  
**Orlando, FL.**  
<https://professional.diabetes.org/scientific-sessions>
- 29 Haziran 2024  
**7. Nadir Görülen Metabolizma Hastalıkları Sempozyumu**  
**Güven Hastanesi 14 Mart Salonu, Ankara**  
<https://temd.org.tr/haberler/7-nadir-gorulen-metabolizma-hastaliklari-sempozyumu>
- 9-13 Eylül 2024  
**59<sup>th</sup> Annual Meeting - European Association for the Study of the Diabetes, Madrid, Spain**  
<https://www.easd.org/annual-meeting/easd-2024.html>
- 17-20 Ekim 2024  
**Endobridge 2024**  
**Cornelia Diamond Congress Center, Antalya**  
<https://www.endobridge.org/>
- 31 Ekim-3 Kasım 2024  
**ENDOKURS 8**  
**Double Tree By Hilton, Şanlıurfa**  
<http://www.temdendokurs.org/>

## ÜYELERİMİZDEN LİTERATÜR SEÇMELERİ

### Association Between Plasma Asprosin Levels and Gestational Diabetes Mellitus

İbrahim Bekir Boz<sup>1</sup>, Semra Aytürk Salt<sup>2</sup>, Ömer Salt<sup>3</sup>, Niyazi Cenk Sayın<sup>4</sup>, İlker Dibirdik<sup>5</sup>

*Diabetes Metab Syndr Obes.* 2023 Aug 23;16:2515-2521. doi: 10.2147/DMSO.S424651. eCollection 2023. PMID: 37641645 PMCID: PMC10460609 DOI: 10.2147/DMSO.S424651

**Purpose:** This study sought to investigate whether asprosin can be used in the diagnosis of GDM or for diagnostic purposes in high-risk pregnancies, along with a review of other parameters that may be associated with serum asprosin levels.

**Patients and methods:** The study investigated the association between gestational diabetes mellitus (GDM) and asprosin levels. A total of 93 participants; 30 patients with GDM, 33 healthy pregnant women with normal glucose tolerance (NGT), and 30 healthy non-diabetic women (control group) at the Endocrinology and Metabolic Diseases outpatient clinic of a tertiary care university hospital were enrolled in the study. Patients with GDM and NGT were examined in terms of GDM between the 24th and 28th week of pregnancy (2nd trimester). Patient data were collected during routine examinations, and asprosin levels were measured using the ELISA method. All participants underwent testing for measurements of serum hemoglobin, insulin, C-peptide, fasting plasma glucose, and glycated hemoglobin (HbA1c) levels following a fasting period of at least eight hours.

**Results:** Asprosin levels were higher in pregnant women with NGT and with GDM versus controls (Control-NGT asprosin,  $p = 0.001$ ; Control-GDM asprosin,  $p = 0.001$ ). Pregnant women with GDM had higher asprosin levels than those with NGT ( $p = 0.001$ ). In detecting GDM in pregnant women, an asprosin cutoff value of  $>31.709$  ng/mL yielded a sensitivity of 93.3%, specificity of 90.9%, positive predictive value of 90.3%, and negative predictive value of 93.75% ( $p <0.001$ ).

**Conclusion:** Serum asprosin levels can potentially be used as a marker in the diagnosis of GDM.

### Effects of Sleeve Gastrectomy on Pelvic Floor Disorders in Female Patients with Severe Obesity: a Prospective Study

Yasin Güneş<sup>1</sup>, Mehmet Mahir Fersahoğlu<sup>2</sup>, Nuriye Esen Bulut<sup>2</sup>, Ahmet Çakmak<sup>3</sup>, Anıl Ergin<sup>2</sup>, Emre Teke<sup>4</sup>, Tuğba Caner Karataş<sup>2</sup>, Aytaç Şahin<sup>5</sup>, Seda Sancak<sup>6</sup>

*Obes Surg.* 2023 Oct;33(10):3069-3076. doi: 10.1007/s11695-023-06725-w. Epub 2023 Jul 10. PMID: 37428362 DOI: 10.1007/s11695-023-06725-w

**Introduction:** Obesity is associated with pelvic floor disorders (PFD). Sleeve gastrectomy (SG) is one of the most effective weight loss methods. Although SG has been found to improve urinary incontinence (UI) and overactive bladder (OAB), its impact on fecal incontinence (FI) remains controversial.

**Materials and methods:** This prospective, randomized study involved 60 female patients with severe obesity who were randomly assigned to two groups: the SG group and the diet group. The SG group underwent SG, while the diet group received a low-calorie, low-lipid diet for 6 months. The patients' condition was assessed before and after the study using three questionnaires: the International Consultation on Incontinence Questionnaire-Female Lower Urinary Tract Symptoms (ICIQ-FLUTS), the Overactive Bladder 8-Question Awareness Tool (OAB-V8), and the Wexner Score (CCIS).

**Results:** After 6 months, the SG group had a significantly higher percentage of total weight loss (%TWL) compared to the diet group ( $p <0.01$ ). Both groups showed a decrease in the ICIQ-FLUTS, OAB-V8, and CCIS scores ( $p <0.05$ ). UI, OAB, and FI improved significantly in the SG group ( $p <0.05$ ), but no improvement was observed in the diet group ( $p >0.05$ ). The correlation between %TWL and PFD was statistically significant but weak, with the strongest correlation between %TWL and ICIQ-FLUTS score and the weakest correlation between %TWL and CCIS score ( $p <0.05$ ).

**Conclusions:** We recommend bariatric surgery for the treatment of PFD. However, given the weak correlation between %TWL and PFD after SG, further research should explore factors other than %TWL that are effective in recovery, particularly in relation to FI.

## Hypoprolactinemia. Does it Matter? Redefining The Hypopituitarism and Return From a Mumpsimus: "Absence of Proof is Not the Proof of Absence"

Zuleyha Karaca<sup>1</sup>, Kursad Unluhizarcı<sup>1</sup>, Fahrettin Kelestimur<sup>2</sup>

*Rev Endocr Metab Disord.* 2023 Oct 25. doi: 10.1007/s11154-023-09847-9. PMID: 37875774 DOI: 10.1007/s11154-023-09847-9

Prolactin (PRL) is secreted by the lactotroph cells in the anterior pituitary gland which is under inhibitory control of dopamine. The mature human PRL has more than 300 physiological actions including lactation, reproduction, homeostasis, neuroprotection, behavior, water and electrolyte balance, immunoregulation and embryonic and fetal development. PRL is involved in the growth and development of mammary gland, preparation of the breast for lactation in the postpartum period, synthesis of milk, and maintenance of milk secretion. Abnormalities in the synthesis and secretion of PRL may result in hyperprolactinemia or hypoprolactinemia. Although hyperprolactinemia has been extensively investigated in the literature, because of the subtle or unclearly defined symptoms, hypoprolactinemia is a less-known and neglected disorder. Failure of lactation is a well-known clinical manifestation of hypoprolactinemia. Recent studies reveal that hypoprolactinemia may have some effects beyond lactation such as increased risk for metabolic abnormalities including insulin resistance, abnormal lipid profile, obesity and sexual dysfunction. Very low level of PRL is suggested to be avoided in patients receiving dopamin agonist treatment to prevent unwanted effects of hypoprolactinemia. Another important point is that hypoprolactinemia is not included in the classification of hypopituitarism. Anterior pituitary failure is traditionally classified as isolated, partial and complete (panhypopituitarism) hypopituitarism regardless of prolactin level. Therefore, there are two kinds of panhypopituitarism: panhypopituitarism with normal or high PRL level and panhypopituitarism with low PRL level. In this review, we present two personal cases, discuss the diagnosis of hypoprolactinemia, hypoprolactinemia associated clinical picture and suggest to redefine the classification of hypopituitarism.

## Effect of Cabergoline Treatment on Disease Control in Acromegaly Patients

Hulya Hacisahinogullari<sup>1</sup>, Gulsah Yenidunya Yalın<sup>1</sup>, Ozlem Soyluk Selcukbiricik<sup>1</sup>, Nurdan Gul<sup>1</sup>, Bilge Bilgic<sup>2</sup>, Ayse Kubat Uzum<sup>1</sup>, Refik Tanakol<sup>1</sup>, Ferihan Aral<sup>1</sup>

*Horm Metab Res.* 2022 Oct;54(10):664-670. doi: 10.1055/a-1930-6585. Epub 2022 Oct 7. PMID: 36206759 DOI: 10.1055/a-1930-6585

The aim of this study was to evaluate the efficacy of cabergoline in normalizing plasma IGF-I levels in acromegaly patients with elevated IGF-I levels after surgery and/or SRL therapy. Acromegaly patients (n: 143) were evaluated retrospectively. Patients with elevated IGF-I levels after surgery and/or SRLs therapy and a fixed dose of SRLs treatment for the last six months with no history of radiotherapy in the last three years were included in the study (n: 12). Previous treatment regimens, baseline PRL and IGF-I levels (ULNR), sella

MRI, and immunohistochemical findings were evaluated. Cabergoline was used as an add on (n: 11) or single medical treatment (n: 1). The median duration of treatment with SRL alone was 12 months (range 6-48 months). The mean IGF-I value before cabergoline therapy was  $1.45 \pm 0.4$  ULNR. The mean cabergoline dose and duration of treatment were  $1.55 \pm 0.75$  mg/week and  $9 \pm 6.3$  months, respectively. IGF-I normalization was only achieved in patients with serum IGF-I concentration  $< 1.5 \times$  ULNR before the onset of cabergoline treatment (n: 9). In some of the patients with IGF-I normalization, baseline prolactin levels were normal (n: 3). Immunopositivity for prolactin in adenoma tissue was found in three patients with IGF-I normalization. Cabergoline therapy is effective in the normalization of IGF-I levels even in normoprolactinemic acromegaly patients when IGF-I levels are mildly or moderately elevated during SRL therapy.

## Diagnosis and Management of Tumor-Induced Osteomalacia: A Single Center Experience

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*Endocrine.* 2023 Nov;82(2):427-434. doi: 10.1007/s12020-023-03450-3. Epub 2023 Jul 22. PMID: 37480497 DOI: 10.1007/s12020-023-03450-3

**Purpose:** The aim of this study is to review the clinical and laboratory characteristics, diagnostic and treatment modalities of tumor-induced osteomalacia (TIO) cases managed in a single center.

**Material methods:** Demographic and clinical features, biochemical findings, diagnostic procedures, treatment modalities, and outcomes of nine patients who had the diagnosis of TIO were reviewed retrospectively.

**Results:** Mean age of the study group (F/M: 4/5) was  $45.8 \pm 10.8$  years, and mean time from the onset of symptoms to diagnosis was  $4.7 \pm 2.8$  years. The clinical manifestations were muscle weakness and difficulty in walking (8/9), hip pain (3/9), multiple fractures (2/9), stress fracture (2/9). Mean plasma phosphorus concentration was  $1.28 \pm 0.4$  mg/dl at presentation. We performed radionuclide imaging modalities (18F-FDG PET/CT, Ga68-DOTATATE PET/CT, octreotide scintigraphy) in seven of nine patients, and tumor was detected in all. Lower extremity (n = 6; %67), head region (n = 2; %22) and thorax (n = 1; %11) were the tumor locations of our cases. Eight patients underwent surgery and remission was achieved postoperatively in all of the operated patients and plasma phosphorus level normalized in  $4 \pm 2$  days. Pathological examination revealed mesenchymal tumors with different subtypes. Recurrence occurred in three patients at  $13 \pm 10.5$  months after the first surgery. Two patients were reoperated and radiotherapy was also performed in one of them.

**Conclusion:** Hypophosphatemia necessitates careful evaluation for the etiology. TIO is one of the important causes of adult-onset hypophosphatemic osteomalacia. Diagnosis of TIO is essential because the laboratory and clinical findings resolve after appropriate treatment.

## **Association of MG53 with Presence of Type 2 Diabetes Mellitus, Glycemic Control, and Diabetic Complications**

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*PLoS One.* 2023 Sep 12;18(9):e0291333. doi: 0.1371/journal.pone.0291333. eCollection 2023. PMID: 37699054 PMCID: PMC10497120 DOI: 10.1371/journal.pone.0291333

**Objectives:** Mitsugumin 53 (MG53) is a myokine that acts as a membrane repair protein in tissues. Data on the effect of MG53 on insulin signaling and type 2 diabetes mellitus (T2 DM) are still unknown; most are from preclinical studies. Nevertheless, some researchers have argued that it may be a new pathogenic factor, and therapies targeting MG53 may be a new avenue for T2 DM. Our study aims to evaluate the relationship of circulating MG53 levels with the presence of diabetes, diabetic complications, and glycemic control.

**Methods:** We conducted a case-control study with 107 patients with T2 DM and 105 subjects without insulin resistance-related disease. Concurrent blood samples were used for serum MG53 levels and other biochemical laboratory data. MG53 concentration was measured using Human-MG53, an enzyme-linked immunosorbent assay kit (Cat# CSB-EL024511HU).

**Results:** We found no difference in MG53 levels between the diabetic and control groups ( $p = 0.914$ ). Furthermore, when the subjects were divided into tertiles according to their MG53 levels, we did not find any difference between the groups in terms of the presence of diabetes ( $p = 0.981$ ). Additionally, no correlation was observed between weight, BMI, waist circumference, systolic and diastolic blood pressure, fasting blood glucose, HbA1c, albumin excretion in the urine, e-GFR levels, and MG53. Finally, MG53 levels were similar between the groups with and without microvascular and macrovascular complications of diabetes.

**Conclusion:** Our research finding provides insightful clinical evidence of lack of association between the levels of MG53 and T2 DM or glycemic control, at least in the studied population of Turkey's ethnicity. However, further clinical studies are warranted to establish solid evidence of the link between MG53, insulin resistance and glycemic control in a wider population elsewhere in the world.

## **Assessment of Three Different Radioiodine Doses for Ablation Therapy of Thyroid Remnants: Efficiency, Complications and Patient Comfort**

Selin Soyluoglu<sup>1</sup>, Burak Andac<sup>2</sup>, Ulku Korkmaz<sup>1</sup>, Funda Ustun<sup>1</sup>

*Medicine (Baltimore).* 2023 Sep 29;102(39):e35339. doi: 10.1097/MD.00000000000035339. PMID: 37773808 PMCID: PMC1045237 DOI: 10.1097/MD.00000000000035339

I-131 radioiodine (RAI) ablation removes postoperative residual tissue and facilitates follow-up in low- and intermediate-risk differentiated thyroid cancer (DTC). Although low doses have been reported to be as effective as higher doses for ablation, the doses administered still vary depending on the patient and the practitioner. We aimed to evaluate the ablation efficiency, complications, and length of stay (LOS) of patients with DTC treated with 3 different doses for ablation. Patients with DTC who received RAI therapy were retrospectively reviewed. One hundred thirty patients with low-intermediate-risk, according to American Thyroid Association classification, without known lymph nodes or distant metastases were included. Patients were divided into 3 groups as 30 to 50 mCi, 75 mCi, and 100 mCi. Residue thyroid and salivary glands were evaluated from 9 to 12 months post-RAI I-131 scans. No significant difference was found between groups regarding ablation success ( $P = .795$ ). In multivariable analyses, pretreatment thyroglobulin (hazard ratio = 0.8, 95% confidence interval 0.601-0.952,  $P = .017$ ) and anti-thyroglobulin antibody (hazard ratio = 1.0, 95% confidence interval 0.967-0.998,  $P = .024$ ) were 2 independent predictors of ablation success. The mean LOS was  $2.1 \pm 0.3$ ,  $2.6 \pm 0.6$ , and  $2.9 \pm 0.4$  days, respectively, ( $P = .001$ ). LOS rates of  $\geq 3$  days were 13.2%, 54.3%, and 84.8%, respectively. Mild decreases in hemoglobin, white blood cell (WBC), and platelet counts were observed in all groups after 6 weeks without any clinically significant findings. A lower rate of change in WBC counts was observed in the 30 to 50 mCi group compared to others. There was no dose-dependent difference regarding the early complaints questioned. Ablation with 30 to 50 mCi provides benefits such as shorter LOS, better patient comfort, less salivary gland dysfunction, and less WBC suppression, thus reducing costs without decreasing efficacy.

## Overlooked Complication of Cushing's Syndrome: Reactivation of Hepatitis B

Tugba Barlas<sup>1</sup>, Mehmet Muhittin Yalcin<sup>1</sup>, Hasan Selcuk Ozger<sup>2</sup>, Alev Eroglu Altinova<sup>1</sup>, Mujde Akturk<sup>1</sup>, Fusun Balos Toruner<sup>1</sup>, Ayhan Karakoc<sup>1</sup>, Ilhan Yetkin<sup>1</sup>  
*Clin Endocrinol (Oxf). 2023 Apr;98(4):481-486. doi: 10.1111/cen.14855. Epub 2022 Dec 7. PMID: 36443641 DOI: 10.1111/cen.14855*

**Objective:** Individuals infected with hepatitis B virus (HBV) are at increased risk of reactivation when they receive immunosuppressive therapies. Although exogenous corticosteroid use as immunosuppressive therapy is elaborated in current guidelines on HBV reactivation, Cushing's syndrome (CS) with endogenous hypercortisolemia is not addressed. We aimed to investigate the prevalence of HBV infection and discuss the necessity of antiviral prophylaxis in patients with CS as in other immunosuppressed patients.

**Design and patients:** We included 72 patients with CS (Adrenocorticotropic hormone (ACTH) dependent or independent) who were screened for HBV between 2016 and 2021. Patients were categorized into three groups: overt, mild autonomous cortisol secretion (MACS), and remission according to the cortisol burden. Changes in patients' HBV serology and clinical findings over time were analyzed retrospectively.

**Results:** Twenty-six patients had overt hypercortisolism, 18 had mild autonomous cortisol secretion and 28 patients were in remission. Nineteen (26.3%) patients were anti-HBc IgG positive, 4 of them were chronic HBV and 15 were isolated anti-HBc IgG positive. HBsAg was positive in four (5.5%) of the patients, who were all compatible with inactive chronic HBV. While two patients developed HBV reactivation, HBV flare was observed in one patient.

**Conclusion:** Since it is not always possible to achieve rapid remission in CS and these patients have long-term hypercortisolemia, we suggest that consensus should be reached on HBV serological assessment, standardization of follow-up, and planning of HBV prophylaxis in required instances in patients with CS especially in regions with a high prevalence of HBV infection.

## The Quality and Reliability Analysis of YouTube Videos About Insulin Resistance

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*Int J Med Inform. 2023 Feb;170:104960. doi: 10.1016/j.ijmedinf.2022.104960. Epub 2022 Dec 13. PMID: 36525801 DOI: 10.1016/j.ijmedinf.2022.104960*

**Aim:** There is an increasing trend in the use of internet as a search tool for health-related informations. Insulin resistance is one of the most searched subjects online and some of the videos about insulin resistance have been watched by millions of YouTube users. This study aims to determine the quality and reliability of the most popular videos about insulin resistance on YouTube.

**Methods:** On March 1, 2022, the term "insulin resistance" was searched on YouTube. The videos' popularity was assessed with Video Power Index (VPI). The quality and reliability were assessed with DISCERN score, modified DISCERN score and global quality score (GQS).

**Results:** A total of 100 most popular videos were evaluated after applying the exclusion criteria. Fifty-four percent of the videos were very poor-poor, 35% moderate, and 11% good-excellent quality. Although few in number, the videos with relatively higher quality and more reliable had higher numbers of views, likes and comments ( $p < 0.01$ ). There was a positive correlation between DISCERN score and VPI, duration, view, like, dislike, comment numbers of the videos ( $p < 0.01$ ). Healthcare providers uploaded 58% of the videos, while independent users uploaded 42%. Video like ratio (VLR) at healthcare providers' videos was significantly higher than independent users' videos ( $p = 0.001$ ).

**Conclusions:** Despite the high viewing rates of YouTube videos about insulin resistance, the overall quality and reliability were found to be very low. However, when high quality content regarding popular medical topics is produced, more people can be informed correctly.

## Sleep Quality in Patients with Non-Functioning Pituitary Adenoma: Impact of Replacement Therapies with an Emphasis on The Time of Hydrocortisone

Tugba Barlas<sup>1</sup>, Mehmet Muhittin Yalcin<sup>2</sup>, Doga Ecem Avci<sup>3</sup>, Yigit Kaplan<sup>3</sup>, Mujde Akturk<sup>2</sup>, Fusun Balos Toruner<sup>2</sup>, Ayhan Karakoc<sup>2</sup>, Alev Eroglu Altinova<sup>2</sup>  
*Pituitary. 2023 Aug;26(4):411-418. doi: 10.1007/s11102-023-01328-1. Epub 2023 Jun 1. PMID: 37261656 DOI: 10.1007/s11102-023-01328-1*

**Purpose:** Sleep disturbances are widespread and associated with pituitary diseases, even those under long-term therapeutic management. The aim of this study was to investigate sleep quality in patients with non-functioning pituitary adenoma (NFPA) and determine the factors that might influence sleep quality, including the detailed features of replacement therapy.

**Methods:** Eighty-two patients with NFPA and 82 age- and gender-matched control subjects were included. Pittsburgh Sleep Quality Index (PSQI), Hospital Anxiety and Depression Scale (HADS) and International Physical Activity Questionnaire (IPAQ) were used.

**Results:** In the NFPA group, 57.3% of patients had decreased sleep quality, compared to 35.4% in the control group ( $p=0.005$ ). Although there was no relationship between the presence of hydrocortisone replacement and sleep quality ( $p>0.05$ ), a strong positive correlation was observed between PSQI and morning hydrocortisone replacement time in patients with secondary adrenal insufficiency ( $r=0.834$ ,  $p<0.001$ ). Diabetes insipidus was found to be significantly higher in the group with decreased sleep quality ( $p=0.01$ ). Moreover, there was a negative correlation between PSQI and IGF-1 in patients with NFPA ( $r=-0.259$ ,  $p=0.01$ ). A multivariate logistic regression model revealed that depression score and free T4 level in the upper half of the normal limit influence the sleep quality of patients with NFPA.

**Conclusion:** Our study indicated the presence of depression, and a free T4 level in the upper half of the normal range have an impact on the sleep quality of patients with NFPA. The time of hydrocortisone replacement might be important factor for improved sleep quality in patients with secondary adrenal insufficiency.

## Evaluation of Lipohypertrophy in Patients With Type 1 Diabetes Mellitus on Multiple Daily Insulin Injections or Continuous Subcutaneous Insulin Infusion

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*Endocr Pract.* 2023 Feb;29(2):119-126. doi: 10.1016/j.eprac.2022.11.008. Epub 2022 Nov 22. PMID: 36423861 DOI: 10.1016/j.eprac.2022.11.008

**Objective:** To determine lipohypertrophy (LH) in patients with type 1 diabetes mellitus (T1DM) on multiple daily insulin injections (MDII) or continuous subcutaneous insulin infusion (CSII) and to reveal the factors associated with the development and severity of LH.

**Methods:** Sixty-six patients with T1DM treated with MDII ( $n = 35$ , 53%) or CSII ( $n = 31$ , 47%) for at least 1 year were included. LH localizations were detected with palpation and ultrasonography (USG).

**Results:** The LH detection rate with USG was significantly higher than that by palpation in the whole group ( $P < .001$ ). The LH was detected with USG in 30 (85.7%) patients in the MDII group and 22 (71.0%) patients in the CSII group ( $P = .144$ ). Advanced LH was detected in 13 (37.1%) of the patients treated with MDII and in 3 (9.7%) of the patients treated with CSII. LH was more severe in the MDII group than in the CSII group ( $P = .013$ ). Diabetes duration and length of infusion set use were significantly longer and body mass index, hypoglycemia, and complication rates were higher in patients with LH than those in patients without LH ( $P < .05$ ). A positive correlation was found between LH severity and HbA1C and insulin dose ( $P < .05$ , for both). MDII as insulin administration method, incorrect rotation, and a history of ketosis were found to be the most related factors with LH severity in a multiple linear regression analysis ( $P < .05$ ).

**Conclusion:** USG might be an effective approach for detecting and evaluating the severity of LH. MDII might cause more severe LH than CSII in patients with T1DM. In this study, LH was found to be associated mostly with incorrect rotation technique and a history of ketosis.

## Efficacy of Switching From Basal-Bolus Insulin Therapy to Twice-Daily Insulin Degludec/Insulin Aspart Co-Formulation Plus Insulin Aspart in Patients with Poorly Controlled Type 2 Diabetes

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*Eur Rev Med Pharmacol Sci.* 2023 Jul;27(14):6691-6699. doi: 10.26355/eurrev\_202307\_33139. PMID: 37522680 DOI: 10.26355/eurrev\_202307\_33139

**Objective:** The aim of this study was to evaluate the efficacy of twice-daily (BID) insulin degludec/insulin aspart (IDegAsp) co-formulation + once-daily (OD) bolus insulin aspart (IAsp) injection (IDegAsp BID-Plus) as simplified intensive insulin therapy in patients with poorly controlled type 2 diabetes mellitus (T2DM) with basal-bolus insulin therapy (BBIT).

**Patients and methods:** The retrospective study included 155 patients who switched from BBIT to IDegAsp BID-Plus.

After the initiation of the treatment, 73 patients continued regular follow-up and insulin doses, number of injections, hemoglobin A1c (HbA1c) levels, and other parameters were recorded from their files at baseline, 24, and 52 weeks.

**Results:** The mean age of the study population was  $54.3 \pm 10.2$  years, the duration of T2DM was  $9.7 \pm 5.7$  years, fasting plasma glucose (FPG) was  $252.7 \pm 66.7$  mg/dl, and HbA1c levels were  $10.5 \pm 1.5\%$ . Among the included patients, 15 patients received five injections, 51 patients received four injections, and 7 patients received three injections per day. There was a significant decrease in HbA1c (respectively;  $10.46 \pm 1.54\%$ ,  $7.97 \pm 1.24\%$ ,  $7.98 \pm 1.23\%$ , baseline and 6th-month  $p < 0.001$ , baseline and 12th-month  $p < 0.001$ ), FPG (respectively;  $251.6 \pm 66.5$  mg/dl,  $136.1 \pm 34.7$  mg/dl,  $125.4 \pm 67.0$  mg/dl, baseline and 6th-month  $p < 0.001$ , baseline and 12th-month  $p < 0.001$ ) and daily dose of insulin (respectively;  $102.9 \pm 29.0$  Unit,  $73.2 \pm 18.2$  U,  $63.7 \pm 20.3$  Unit, baseline and 6th-month  $p < 0.001$ , baseline and 12th-month  $p < 0.001$ ) at the end of week 24 and 52.

**Conclusions:** Based on real-world data, this study demonstrated that IDegAsp BID-Plus treatment provides rapid and sustainable blood glucose control with lower insulin doses and fewer injections than previous intensive insulin therapy.

## Total Testosterone Cut-Off Value Indicating Androgen-Secreting Tumor in Premenopausal Women with Hirsutism

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*Eur Rev Med Pharmacol Sci.* 2023 Sep;27(18):8681-8689. doi: 10.26355/eurrev\_202309\_33791. PMID: 37782181 DOI: 10.26355/eurrev\_202309\_33791

**Objective:** There is insufficient data on which cut-off value must be used to measure the increase in total testosterone (TT) compared to the upper limit of normal (CULN) in the diagnosis of androgen-secreting tumor (ASTM) in female individuals with premenopausal hirsutism (FIPH).

**Patients and methods:** A total of 413 FIPH over 18 years of age who were admitted to the endocrinology clinic between May 2013 and 30 April 2018 were eligible for the study. Hormone profiles of the participants in the follicular phase and other information were obtained from their files. The androgen suppression ratio (ASR) was analyzed after 48 hours of low-dose dexamethasone suppression test (LDDST) in those whose TT CULN (nmol/L) increased two-fold.

**Results:** Idiopathic hirsutism was found in 193 participants (46.73%) and polycystic ovary syndrome (PCOS) in 200 (48.43%) and other sources of hirsutism; non-classical congenital adrenal hyperplasia (NCCAH) in 10 patients (2.42%), hyperprolactinemia in 6 patients (1.45%), ASTM of ovarian origin in 2 patients (0.48%), Cushing's disease in 1 patient (0.24%), and adrenal ASTM in 1 patient (0.24%). A cut-off value of two-fold CULN increase for TT sensitivity of 100% and a specificity of 99.5% in indicating an ASTM source, and ASR above 49% in LDDST sensitivity of 80% and a specificity of 100% in excluding an ASTM source, was used.

**Conclusions:** At the TT level, a two-fold increase CULN in FIPH indicates an ASTM source. In addition, ASR after LDDST is a useful parameter in the exclusion of ASTM sources in the same patient population.

## **Isolated Maternal Hypothyroxinemia May be Associated with Insulin Requirement in Gestational Diabetes Mellitus**

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*Horm Metab Res.* 2023 Apr;55(4):245-250. doi: 10.1055/a-2003-0211. Epub 2022 Dec 21. PMID: 36543248 DOI: 10.1055/a-2003-0211

An insulin regimen may be necessary for about 30% of the patients with gestational diabetes mellitus (GDM). We aimed to investigate the association of free T4(fT4) levels with insulin requirement in pregnant women with GDM. We included pregnant women whose TSH levels were within the normal range and who were diagnosed with GDM, and excluded patients with thyroid dysfunction, chronic illnesses, or any previous history of antithyroid medication, levothyroxine, or antidiabetic medication use. The diagnosis and treatment of GDM were based on American Diabetes Association guidelines. Demographic features, previous history of GDM and gestational hypertension were recorded. Baseline (at diagnosis of GDM) fasting blood glucose, HbA1c, TSH, fT4, and fT3 levels were analyzed. We grouped the patients according to their baseline fT4 levels: isolated maternal hypothyroxinemia (IMH) (group A) vs. in the normal range (group B). We grouped those also based on insulin requirement in 3rd trimester. Of the patients (n=223), insulin requirement was present in 56, and IMH in 11. Insulin requirement was more frequent in group A than in group B ( $p=0,003$ ). HbA1c ( $\geq 47,5$  mmol/mol) and fT4 level (lower than normal range) were positive predictors for insulin requirement (OR:35,35,  $p=0,001$ ; and OR:6,05,  $p=0,008$ ; respectively). We showed that IMH was closely associated with insulin requirement in GDM. Pregnant women with IMH and GDM should be closely observed as regards to glycemic control. If supported by future large studies, levothyroxine treatment might be questioned as an indication for patients with GDM and IMH.

## **Free T4 is Associated with Exenatide-Related Weight Loss in Patients with Type 2 Diabetes Mellitus and Obesity**

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*International Journal of Diabetes in Developing Countries* (2023) <https://link.springer.com/article/10.1007/s13410-023-01197-1>

**Background:** Factors regarding exenatide-related weight loss have been underrecognized. We aimed to reveal the association between free T4 (fT4) level and exenatide-related weight loss, and change in thyroid function with exenatide treatment in euthyroid adult patients with type 2 diabetes and obesity.

**Methods:** We included euthyroid adult patients with type 2 diabetes and obesity whom exenatide was added to metformin treatment. We excluded those with contraindication to exenatide or history of thyroid dysfunction. We analyzed baseline demographic, clinical and laboratory features, and the change (difference between the last [6th month] and baseline levels) in body weight, body mass index (BMI), TSH, fT4, fasting blood glucose, HbA1c. We grouped them as Group A: weight loss-absent vs. Group B: weight loss-present ( $<10\%/\geq 10\%$ ).

**Results:** In total ( $n = 106$ ), TSH-change was  $-0.077(\pm 1.10)$ , and fT4-change  $-0.0123(\pm 0.20)$  ( $p = 0.229$  and  $p = 0.908$ , respectively). TSH decreased more in group A than in Group B ( $p = 0.018$ ). Baseline and the last fT4 levels were higher in group B ( $p = 0.010$  and  $p = 0.004$ , respectively). ROC curve analysis indicated that baseline fT4 (cut-off:1.16 ng/dL, AUC:0.708,  $p = 0.010$ ) was associated with weight loss. The ratio of patients having higher baseline fT4 ( $\geq 1.16$ ) was higher in group B ( $p = 0.016$ ). Baseline BMI ( $\geq 40$  kg/m $^2$ ) and fT4 ( $\geq 1.16$  ng/dL) levels were positive predictors for weight loss ( $p = 0.024$  and  $p = 0.013$ , respectively). Decrease in BMI was negatively correlated with baseline BMI ( $p = 0.002$ ).

**Conclusion:** Exenatide provides more weight loss in the patients with higher baseline BMI or fT4. Thyroid function remains unchanged during treatment.

## **Sonographic Features of Atypical and Initially Missed Parathyroid Adenomas: Lessons Learned from a Single Center Cohort**

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*J Clin Endocrinol Metab.* 2023 Sep 5:dgad527. doi: 10.1210/clinem/dgad527. Online ahead of print. PMID: 37668359 DOI: 10.1210/clinem/dgad527

**Context:** Awareness of typical and atypical ultrasonographic (US) features of parathyroid adenomas (PAs) is crucial since US is the most widely used first-line imaging modality.

**Objective:** The purpose of this study was to describe the atypical features of PAs on US and other possible factors leading to a false negative examination in a large single-center cohort.

**Materials and methods:** The US records of 457 PAs in 445 patients with biochemically proven primary hyperparathyroidism (PHPT) were evaluated in a prospectively maintained database. Atypical size, composition, shape, echogenicity, location, and vascular pattern on US were noted. For patients who previously had at least one negative US examination in referring centers, the main possible reason was defined accordingly.

**Results:** The study group included 359 female and 86 male patients with PHPT. Typical sonographic features were observed in 231 PAs (51%), whereas 226 (49%) had at least one atypical US feature. The most common atypical features were atypical size (29%), followed by atypical echogenicity (19%), shape (8%), location (7%), and composition (7%), respectively. There were 122 initially missed PAs in all groups. The most frequent main atypical US features leading to false negative examinations were atypical size (22.1%) and atypical location (18.8%). Inexperience was third most common reason (16.3%) for false negative US examinations.

**Conclusions:** Almost half of PAs have at least one atypical feature on US. Awareness of the high prevalence of atypical US features could increase the accuracy of US examination and potentially decrease demand for more expensive second-line imaging modalities.

## Immunohistochemical and Clinical Assessment of Low-Risk Thyroid Tumors

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*Endocrinol Res Pract* 2023; 27: 199-204 DOI: 10.5152/erp.2023.23238

**Objective:** Differential diagnosis and prognosis of low-risk follicular cell-derived thyroid neoplasms have been conflicting. We aimed to evaluate immunohistochemical features and prognosis of tumors in “well-differentiated tumor of uncertain malignant potential” and “noninvasive follicular thyroid neoplasm with papillary-like nuclear features” categories.

**Methods:** Fifty-two low-risk thyroid tumors which were classified as well-differentiated tumor of uncertain malignant potential ( $n=23$ ) and noninvasive follicular thyroid neoplasm with papillary-like nuclear features ( $n=29$ ) with a follow-up of at least 60 months were included. Galectin-3, HBME-1, CK19, and CD56 expressions were evaluated. The control group included benign nodules ( $n=53$ ), conventional papillary thyroid carcinomas ( $n=37$ ), and encapsulated follicular variant papillary thyroid carcinomas ( $n=60$ ).

**Results:** During a median 84 months follow-up period, none of the patients experienced a recurrence of tumor. Expression of HBME-1 in low-risk tumors was significantly frequent than benign and infrequent than malignant tumors ( $P=.001$  and  $P <.001$ , respectively). The frequency of galectin-3 positivity was similar between low-risk and malignant tumors ( $P=.805$ ) and significantly higher in low-risk tumors when compared to benign nodules ( $P <.001$ ). Expression of CK19 in low-risk tumors was significantly frequent than benign nodules and infrequent than malignant tumors ( $P=.01$  and  $P=.001$ , respectively). The expression profile of CD56 was similar in benign nodules and low-risk tumors ( $P=.361$ ). Total loss of CD56 in tumor was the most specific marker of malignancy (100%). Positive staining of HMVE-1 was the most sensitive marker (89.7%) for predicting malignancy.

**Conclusion:** Low-risk thyroid tumors had immunohistochemical features overlapping with both benign and malignant thyroid tumors and had a benign course of disease during a long follow-up period.

## Effects of Irisin and Exercise on Adropin and Betatrophin in a New Metabolic Syndrome Model

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*Biotech Histochem.* 2023 Nov 7:1-12. doi: 10.1080/10520295.2023.2276205. PMID: 37933453 DOI: 10.1080/10520295.2023.2276205

Metabolic syndrome (MetS) is a prevalent public health problem. Uric acid (UA) is increased by MetS. We investigated whether administration of UA and 10% fructose (F) would accelerate MetS formation and we also determined the effects of irisin and exercise. We used seven groups of rats. Group 1 (control); group 2 (sham); group 3 (10% F); group 4 (1% UA); group 5 (2% UA); group 6 (10% F + 1% UA); and Group 7, (10% F + 2% UA). After induction of MetS (groups 3 -7), Group 3 was divided into three subgroups: 3A, no further treatment; 3B, irisin treatment; 3C, irisin treatment + exercise. Group 4, 1% UA, which was divided into three subgroups: 4A, no further treatment; 4B, irisin treatment; 4C, Irisin treatment + exercise. Group 5, 2% UA, which was divided into three subgroups: 5A, no further treatment; 5B, irisin treatment; 5C, irisin treatment + exercise. Group 6, 10% F + 1% UA, which was divided into three subgroups: 6A, no further treatment; 6B, irisin treatment; 6C, irisin treatment + exercise. Group 7, 10% F + 2% UA, which was divided into three subgroups: 7A, no further treatment; 7B, irisin treatment; 7C, irisin treatment + exercise., Irisin was administered 10 ng/kg irisin intraperitoneally on Monday, Wednesday, Friday, Sunday each week for 1 month. The exercise animals (in addition to irisin treatment) also were run on a treadmill for 45 min on Monday, Wednesday, Friday, Sunday each week for 1 month. The rats were sacrificed and samples of liver, heart, kidney, pancreas, skeletal muscles and blood were obtained. The amounts of adropin (ADR) and betatrophin in the tissue supernatant and blood were measured using an ELISA method. Immunohistochemistry was used to detect ADR and betatrophin expression in situ in tissue samples. The duration of these experiments varied from 3 and 10 weeks. The order of development of MetS was: group 7, 3 weeks; group 6, 4 weeks; group 5, 6 weeks; group 4, 7 weeks; group 3, 10 weeks. Kidney, liver, heart, pancreas and skeletal muscle tissues are sources of adropin and betatrophin. In these tissues and in the circulation, adropin was decreased significantly, while betatrophin was increased significantly due to MetS; irisin + exercise reversed this situation. We found that the best method for creating a MetS model was F + UA2 supplementation. Our method is rapid and simple. Irisin + exercise was best for preventing MetS.

## Characteristics of Specialists Treating Hypothyroid Patients: The "THESIS" Collaborative

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*Front Endocrinol (Lausanne).* 2023 Nov 7;14:1225202. doi:10.3389/fendo.2023.1225202. eCollection 2023. PMID: 38027187 PMCID: PMC10660282 DOI: 10.3389/fendo.2023.1225202

**Introduction:** Thyroid specialists influence how hypothyroid patients are treated, including patients managed in primary care. Given that physician characteristics influence patient care, this study aimed to explore thyroid specialist profiles and associations with geo-economic factors.

**Methods:** Thyroid specialists from 28 countries were invited to respond to a questionnaire, Treatment of Hypothyroidism in Europe by Specialists: an International Survey (THESIS). Geographic regions were defined according to the United Nations Statistics Division. The national economic status was estimated using World Bank data on the gross national income per capita (GNI per capita).

**Results:** 5,695 valid responses were received (response rate 33·0%). The mean age was 49 years, and 65·0% were female. The proportion of female respondents was lowest in Northern (45·6%) and highest in Eastern Europe (77·2%) ( $p < 0·001$ ). Respondent work volume, university affiliation and private practice differed significantly between countries ( $p < 0·001$ ). Age and GNI per capita were correlated inversely with the proportion of female respondents ( $p < 0·01$ ). GNI per capita was inversely related to the proportion of respondents working exclusively in private practice ( $p < 0·011$ ) and the proportion of respondents who treated  $>100$  patients annually ( $p < 0·01$ ).

**Discussion:** THESIS has demonstrated differences in characteristics of thyroid specialists at national and regional levels, strongly associated with GNI per capita. Hypothyroid patients in middle-income countries are more likely to encounter female thyroid specialists working in private practice, with a high workload, compared to high-income countries. Whether these differences influence the quality of care and patient satisfaction is unknown, but merits further study.

## Evaluation of Subclinical Atherosclerosis in Obese Patients with Three Noninvasive Methods: Arterial Stiffness, Carotid Intima-Media Thickness, and Biomarkers of Endothelial Dysfunction

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*Arch Endocrinol Metab.* 2023 May 12;67(4):e000622. doi: 10.20945/2359-3997000000622. PMID: 37252704 PMCID: PMC10665069 DOI: 10.20945/2359-3997000000622

**Objective:** In this study, we aimed to evaluate subclinical atherosclerosis in patients with obesity who had cardiovascular disease risk indicators such as arterial stiffness, which is evaluated using pulse wave velocity (PWV), carotid intima-media thickness (CIMT), and biomarkers of endothelial dysfunction such as endocan, ADAMTS97, and ADAMTS9.

**Subjects and methods:** Sixty obese subjects, including 23 subjects with body mass index (BMI)  $\geq 40$ , 37 subjects with BMI  $\geq 30$  but  $< 40$ , and 60 age-and sex-matched control subjects, were included in our study. Serum endocan, ADAMTS97, and ADAMTS9 levels as well as PWV and CIMT measurements of the subjects in the obese and control groups were performed.

**Results:** In the obesity group, PWV levels were significantly higher than they were in the control group and endocan levels were significantly lower than they were in the control group. When we compared the obese group with BMI  $\geq 40$  and the control group, the BMI  $\geq 40$  group had significantly higher PWV and CIMT levels than the control group had, whereas endocan, ADAMTS7, and ADAMTS9 levels were similar to those of the control group. When we compared the obese group with BMI  $\geq 30 < 40$  to the control group, endocan levels were lower in the group with BMI  $\geq 30 < 40$ , and PWV and CIMT levels were similar to the control group.

**Conclusion:** We found that arterial stiffness and CIMT increased in obese patients with BMI  $\geq 40$  and that increased arterial stiffness was associated with age, systolic blood pressure, and HbA1c. In addition, we found that the endocan levels were lower in obese patients than they were in nonobese control individuals.

## Expression of Endocan and Vascular Endothelial Growth Factor and Their Correlation with Histopathological Prognostic Parameters in Pheochromocytoma

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*Endocrine.* 2023 Dec;82(3):638–645. doi: 10.1007/s12020-023-03489-2. Epub 2023 Aug 18. PMID: 37596456 DOI: 10.1007/s12020-023-03489-2

**Objective:** Endocan and vascular endothelial growth factor (VEGF) are markers expressed in various cancer types that are highly vascular, and they have prognostic significance for these cancers. In this study, we aimed to show the expression of endocan and VEGF in pheochromocytoma tumor tissues and to evaluate their correlations with histopathological parameters.

**Material and methods:** Thirty-eight patients who had been operated for pheochromocytoma were included in the study. As the control group, 28 subjects whose specimens contained normal adrenal medulla tissue were included. The formalin-fixed paraffin-embedded specimens of pheochromocytoma patients were evaluated for Pheochromocytoma of the Adrenal gland Scaled Score (PASS). Sections were then stained for immunohistochemical analysis. The degree of endocan and VEGF positivity was determined by the proportion of stained cells on a negative to strong scale.

**Results:** Endocan ( $p <0.001$ ) and VEGF ( $p = 0.004$ ) expressions were found to be significantly higher in the pheochromocytoma group than in the control group. In the pheochromocytoma group, total PASS score ( $r = 0.714$ ;  $p <0.001$ ) and most of the PASS score components were positively correlated with the level of endocan expression. Median Ki-67 index ( $p = 0.010$ ), total PASS score ( $p <0.001$ ), tumor cell spindling ( $p = 0.048$ ), and nuclear pleomorphism ( $p = 0.030$ ) were higher in pheochromocytoma with VEGF expression than in those without.

**Conclusion:** If our findings are supported by studies with a larger sample size, we think that endocan has the potential to be used both as a tumor marker and in predicting malignancy potential in patients with pheochromocytoma, and that the detection of VEGF expression in these tumors is also associated with an increase in malignancy potential.

## The Diurnal Change of Thyroid-Stimulating Hormone and The Effect of This Change on Thyroid Functions in Patients with Chronic Kidney Disease

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*Endocrine.* 2023 Dec;82(3):580–585. doi: 10.1007/s12020-023-03446-z. Epub 2023 Jul 25 PMID: 37490264 DOI: 10.1007/s12020-023-03446-z

**Purpose:** Thyroid-stimulating hormone (TSH) has a pulsatile and circadian rhythm in healthy individuals. We aimed to evaluate the diurnal changes of free thyroid hormones and serum TSH levels in patients with end-stage renal failure (ESRF) whose thyroidal functions are at normal ranges.

**Methods:** Thirty hemodialysis patients with chronic renal failure and without a known thyroidal disease who are over 18 and 35 healthy individuals were included. The serum TSH, free T3, and free T4 levels were examined among the patient and control group which were taken at 8:00 a.m., 4:00 p.m., and 0:00 a.m.

**Results:** Twenty-two (73.3%) patients were male, and the mean age of the patient group was 64 ( $sd = 14.45$  years). Seventeen (48.6%) of the control group were female, and the mean age was 31.9 ( $sd = 6.4$  years). Serum free T3 levels, measured at three different time points (8:00 a.m., 4:00 p.m., and 0:00 a.m.), were significantly lower in the patient group than in the control group and serum free T4 levels were measured at three different time points (8:00 am, 4:00 p.m., and 0:00 a.m.) were significantly higher in the patient group than in the control group. Serum TSH levels were higher in the patient group than in the control group at 08:00, and were lower at 24:00 ( $p <0.001$ ). The nocturnal increase of serum TSH level under 0.525 suggested diurnal rhythm disruption with 83% sensitivity and 87% specificity.

**Conclusion:** The nocturnal serum TSH increase is not seen in ESRF patients who did not have a thyroid disease. We think that not observing a nocturnal TSH increase could be an early indication of the sick euthyroid syndrome.

## Risk Factors, Use of Preventive Drugs, and Cardiovascular Events in Diabetes Mellitus: The PURE Türkiye Cohort

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Anatol J Cardiol. 2023 Aug 1;27(8):453-461. doi: 10.14744/AnatolJCardiol.2023.3465. Epub 2023 Jul 13. PMID: 37439234 PMCID: PMC10406140 DOI: 10.14744/AnatolJCardiol.2023.3465

**Background:** The risk of cardiovascular disease is correlated with the frequency and control of associated risk factors in diabetes mellitus and may vary according to country. We evaluated risk factors for cardiovascular disease, cardiovascular events, and the use of preventive medications in patients with diabetes mellitus using the Prospective Urban and Rural Epidemiological Türkiye cohort.

**Methods:** Patients with diabetes mellitus versus without diabetes mellitus were compared for risk factors, cardioprotective drugs (angiotensin-converting enzyme inhibitors or angiotensin-II receptor antagonists, statins, and antiplatelets), and cardiovascular events. The primary outcome was major cardiovascular events (composite of cardiovascular death, myocardial infarction, stroke, or heart failure).

**Results:** Among 4041 participants, 549 (13.6%) had diabetes mellitus. The mean age ( $54.8 \pm 8.4$  vs.  $49.3 \pm 9.0$  years,  $P < .001$ ) and proportion of women (65.4% vs. 59.9%,  $P = .014$ ) were higher in diabetics compared with non-diabetics. Hypertension, history of coronary heart disease, and use of statin, antiplatelets, and angiotensin-converting enzyme inhibitors or angiotensin-II receptor antagonists were more common in diabetics; however, the use of these medications at baseline was lower than optimal even in patients with diabetes mellitus and concomitant coronary heart disease (statin 31.2%, antiplatelets 46.9%, and angiotensin-converting enzyme inhibitors or angiotensin-II receptor antagonists 54.7%). During 11.5 years of follow-up, major cardiovascular events occurred in 288 (7.1%) patients, and the risk was higher in diabetics [hazard ratio (95% confidence interval) 1.71 (1.30-2.24);  $P < .001$ ]. The increase in the risk of future events was comparable for those with diabetes mellitus alone without cardiovascular disease [hazard ratio 1.62 (1.20-2.20)] versus those with cardiovascular disease alone without diabetes mellitus [hazard ratio 1.31 (0.83-2.07)] and was additive in those with both conditions [hazard ratio 2.79 (1.65-4.69)]. The risk of major coronary events (myocardial infarction, angina, percutaneous, or surgical coronary intervention) was also higher in diabetes mellitus [hazard ratio 1.64 (1.26-2.15);  $P < .001$ ].

## Effect of Sensor-Augmented Patch Pump with Predictive Low-Glucose Suspend Feature Compared to Multiple-Dose Insulin in Patients with Brittle Type 1 Diabetes

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Endocrinol Res Pract 2023; 27: 44-47 DOI: 10.5152/erp.2023.22130175

**Objective:** The conventional approach to brittle diabetes is the treatment of underlying causes and optimization with multiple-dose insulin injections. The goal of multiple-dose insulin therapy is to exactly mimic physiological insulin secretion; however, it often results in hypoglycemia. This study investigates the effectiveness of continuous subcutaneous insulin infusion therapy with a patch pump with the sensor augmented with predictive low-glucose suspend algorithm system in patients with uncontrolled type 1 diabetes who were treated with multiple-dose insulin and have high glycated hemoglobin values.

**Methods:** The data of patients whose glycemic control could not be achieved with multiple-dose insulin therapy and who were switched to sensor-augmented tubeless pump with predictive lowglucose suspend feature (Medtrum A7+ TouchCare patch pump and integrated A7+ continuous glucose monitoring system) were analyzed retrospectively.

**Results:** A total of 16 patients (male: 9; 56.3%) were included. After 3 months of the sensor-augmented pump with predictive low-glucose suspend treatment, patients' median (interquartile range) glycated hemoglobin level decreased to 7.55 (1.43) from 9.20 (3.55) ( $P=.008$ ). Time below 56 mg/dL was 0.34%, time between 56 and 70 mg/dL was 1.01%, time between 70 and 180 mg/dL was 72.90%, time above 180 mg/dL was 25.67%, time between 70and 250 mg/dL was 95.98%, and time above 250 mg/dL was 2.76%.

**Conclusions:** A pump system with predictive low-glucose suspend feature improves glycemic targets in patients with brittle uncontrolled type 1 diabetes without the expense of hypoglycemia compared to multiple-dose insulin treatment.

## High Thyroperoxidase Antibody Titers May Predict Response To Antithyroid Drug Treatment In Graves Disease: A Preliminary Study

P Gokbulut<sup>1</sup>, G Koc<sup>1</sup>, S M Kuskonmaz<sup>1</sup>, C E Onder<sup>2</sup>, T Omma<sup>1</sup>, S Firat<sup>1</sup>, C Culha<sup>1</sup>

*Acta Endocrinol (Buchar). 2023 Apr-Jun;19(2):195-200. doi: 10.4183/aeb.2023.195. Epub 2023 Oct 27. PMID: 37908881 PMCID: PMC10614590 DOI: 10.4183/aeb.2023.195*

**Background and aim:** Antithyroid drugs are first treatment for Graves hyperthyroidism worldwide. Although remission can be achieved in approximately 40-50% of patients in 12-18 months with antithyroid drugs, this period can be extended up to 24 months. We aimed to evaluate the effect of individual clinical/biochemical variables and GREAT score in predicting response to antithyroid drug in Graves disease.

**Material and methods:** This is a retrospective single-center study including 99 patients with the first episode of Graves disease treated for at least 18 months. The patients were classified into two groups as those who responded to antithyroid medication at 18-24 months (group 1) and those who did not respond at 24 months and continued with low-dose antithyroid medication (group 2).

**Results:** Medical treatment response was obtained in 38 (38.3%) of the patients at 18 months, and in 19 (19.1%) patients at 24 months. Long-term medical treatment (>24 months) was given to the remaining 43 patients due to the lack of response to medical treatment. Thyroid volume and free T4 levels were higher in those followed up with long-term antithyroid drugs, and orbitopathy was more common in this group. Median anti TPO value was significantly higher in group 1 when compared to group 2 (593 U/l and 191.6 U/l respectively). More patients were classified as GREAT class 3 in group 2 when compared to group 1 (46.5% and 12.5% respectively). We analyzed the Thyroperoxidase Antibody(anti TPO) titers, which we divided into three levels, according to groups 1 and 2. Post-hoc Chi-Square analysis revealed that falling into the highest anti TPO category was significantly associated with response to medical therapy in 24 months ( $p < 0.05$ ).

**Conclusion:** According to our study, GREAT score and anti TPO Ab titers at presentation may help predict response to ATD in Graves disease.

## Evaluation of the Effects of Empagliflozin on Acute Lung Injury in Rat Intestinal Ischemia-Reperfusion Model

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*J Endocrinol Invest. 2023 May;46(5):1017-1026. doi: 10.1007/s40618-022-01978-1. Epub 2022 Dec 10. PMID: 36495440 DOI: 10.1007/s40618-022-01978-1*

**Background:** Empagliflozin is a selective sodium-glucose co-transporter (SGLT2) inhibitor that is approved for the treatment of type 2 diabetes. The beneficial effects of empagliflozin on other organ systems including the heart and kidneys have been proven. The aim of this study is to evaluate the role of empagliflozin on acute lung injury induced by intestinal ischemia-reperfusion (I/R).

**Materials and methods:** A total of 27 male Wistar albino rats were divided into three groups: sham, I/R, and I/R + empagliflozin; each group containing nine animals. Sham group rats underwent laparotomy without I/R injury. Rats in the I/R group underwent laparotomy, 1 h of after ischemia-reperfusion injury (superior mesenteric artery ligation was followed by 2 h of reperfusion). Rats in I/R were given empagliflozin (30 mg/kg) by gastric gavage for 7 days before the ischemia-reperfusion injury. All animals were killed at the end of reperfusion and lung tissue samples were obtained for immunohistochemical staining and histopathological investigation in all groups.

**Results:** Serum glucose, AST, ALT, creatinine, native thiol, total thiol, and disulfide levels and disulfide-native thiol, disulfide-total thiol, and native thiol-total thiol ratios as well as the IMA levels were analyzed and compared among the groups. While intestinal I/R significantly increases serum aspartate aminotransferase (AST), alanine aminotransferase (ALT), and creatinine levels; did not cause any change in homeostasis parameters and IMA level. Empagliflozin treatment had no significant effect on biochemical parameters. Empagliflozin treatment induced a significant decrease in positive immunostaining for IL-1, IL-6, TNF-alpha, caspase 3, caspase 8, and caspase 9 compared to the I/R group in lung tissue samples. Intestinal I/R caused severe histopathological injury including edema, hemorrhage, increased thickness of the alveolar wall, and infiltration of inflammatory cells into alveolar spaces. Empagliflozin treatment significantly attenuated the severity of intestinal I/R injury.

**Conclusions:** It was concluded that empagliflozin treatment may have beneficial effects in acute lung injury, and, therefore, has the potential for clinical use.

## Evaluation of Management of Patients with Postoperative Permanent Hypoparathyroidism. How Close are we to The Targets?

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*Minerva Endocrinol (Torino).* 2023 Mar;48(1):12-18. doi: 10.23736/S2724-6507.20.03291-5. Epub 2020 Dec 3. PMID: 33269571 DOI: 10.23736/S2724-6507.20.03291-5

**Background:** Postoperative hypoparathyroidism (PO-HypoPT) is a complication usually seen after thyroid surgery. PO-HypoPT, which lasts longer than 6 months is defined permanently. The aim of this study was to evaluate how close permanent PO-HypoPT patients can approach target values.

**Methods:** One hundred seven patients who were followed-up with permanent diagnosis of PO-HypoPT between 2016-2020 were included in the study. The study protocol includes serum albumin corrected total calcium (Alb-sCa), phosphate (P), Ca-P product, and 24 h urine calcium measurements. Laboratory measurements of the patients include the values recorded in 4-year visits and in the last visit. In addition, radiological reports of renal/abdominal ultrasound and cranial tomography examinations performed in our hospital for any reason during this period were also reviewed.

**Results:** When looking at the total measurements in the 4-year period, the Alb-sCa level was below the target in most of the measurements (68.1%). P level was higher than normal in 296 (46.2%) measurements. Twenty-four h urine Ca excretion was measured 185 times in total visits, and 81 (43.7%) of these measurements showed hypercalciuric values. The patient's latest visit measurements were evaluated on 4 targets (Alb-sCa, P, Ca-P product and 24 h urine Ca excretion). The number of patients meeting all four targets was only 21 (19.6%). Six (7.5%) patients had kidney stones or nephrocalcinosis. Three (0.09%) patients with imaging had calcification in the basal ganglia.

## A National Multicenter Study of Leptin and Leptin Receptor Deficiency and Systematic Review

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*J Clin Endocrinol Metab.* 2023 Aug 18;108(9):2371-2388. doi: 10.1210/clinem/dgad099. PMID: 36825860 DOI: 10.1210/clinem/dgad099

**Context:** Homozygous leptin (LEP) and leptin receptor (LEPR) variants lead to childhood-onset obesity.

**Objective:** To present new cases with LEP and LEPR deficiency, report the long-term follow-up of previously described patients, and to define, based on all reported cases in literature, genotype-phenotype relationships.

**Methods:** Our cohort included 18 patients (LEP = 11, LEPR = 7), 8 of whom had been previously reported. A systematic literature review was conducted in July 2022. Forty-two of 47 studies on LEP/LEPR were selected.

**Results:** Of 10 new cases, 2 novel pathogenic variants were identified in LEP (c.16delC) and LEPR (c.40 + 5G >C). Eleven patients with LEP deficiency received metreleptin, 4 of whom had been treated for over 20 years. One patient developed loss of efficacy associated with neutralizing antibody development. Of 152 patients, including 134 cases from the literature review in addition to our cases, frameshift variants were the most common (48%) in LEP and missense variants (35%) in LEPR. Patients with LEP deficiency were diagnosed at a younger age [3 (9) vs 7 (13) years,  $P = .02$ ] and had a higher median body mass index (BMI) SD score [3.1 (2) vs 2.8 (1) kg/m<sup>2</sup>,  $P = 0.02$ ], which was more closely associated with frameshift variants ( $P = .02$ ). Patients with LEP deficiency were more likely to have hyperinsulinemia ( $P = .02$ ).

**Conclusion:** Frameshift variants were more common in patients with LEP deficiency whereas missense variants were more common in LEPR deficiency. Patients with LEP deficiency were identified at younger ages, had higher BMI SD scores, and had higher rates of hyperinsulinemia than patients with LEPR deficiency. Eleven patients benefitted from long-term metreleptin, with 1 losing efficacy due to neutralizing antibodies.

## Metabolic Role of Hepassocin in Polycystic Ovary Syndrome

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*Eur Rev Med Pharmacol Sci.* 2023 Jun;27(11):5175-5183. doi: 10.26355/eurrev\_202306\_32635. PMID: 37318492 DOI: 10.26355/eurrev\_202306\_32635

**Objective:** Polycystic ovary syndrome (PCOS) is a female endocrinopathy characterized by hyperandrogenemia, insulin resistance, glucose intolerance, dyslipidemia, non-alcoholic fatty liver disease (NAFLD), and obesity. Hepassocin (HPS) is a hepatokine involved in energy and lipid metabolism. We aimed to investigate the role of HPS in metabolic dysfunction and its relationship with fatty liver in patients with PCOS.

**Patients and methods:** A total of 45 newly diagnosed PCOS patients and 42 healthy women of similar age were included in the study. Routine anthropometric, biochemical, and hormonal information were recorded. Serum HPS and high-sensitivity C-reactive protein (hsCRP) were measured, and NAFLD fibrosis score (NFS) and Fibrosis-4 (FIB-4) were calculated and correlated.

**Results:** HPS and hsCRP values of the PCOS group were found to be significantly higher than controls ( $p=0.005$ ,  $p<0.001$ , respectively). A positive correlation was found between both HPS and hsCRP and luteinizing hormone (LH) ( $p<0.001$ ). No correlation was observed between HPS and NFS and FIB-4, however, only a weak negative correlation was observed between hsCRP and FIB-4. A negative correlation was found between HPS and BMI, waist circumference, fat ratio, and HbA1c ( $p<0.05$ ). In multivariate regression analysis for HPS, R-squared is 0.898, and hsCRP, neck circumference, fat amount, and LH are significant factors.

**Conclusions:** NAFLD is an important dysmetabolic component of PCOS. Serum HPS is elevated in PCOS patients. We found a positive correlation between hsCRP and LH and a negative correlation between obesity indices, although we did not find an association between NFS and FIB-4, and HPS. In the future, large-scale molecular studies of HPS may be beneficial.

## The Acromegaly Treatment Satisfaction Questionnaire (Acro-TSQ): Turkish Adaptation, Validity, and Reliability Study

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*Pituitary.* 2023 Aug;26(4):429-436. doi: 10.1007/s11102-023-01323-6. Epub 2023 Jun 9. PMID: 37294511 DOI: 10.1007/s11102-023-01323-6

**Purpose:** The patient-reported outcome becomes important to evaluate the situation perceived by the patients and to develop new strategies. This study aims to adapt the Acromegaly Treatment Satisfaction Questionnaire (Acro-TSQ), which was specially developed for patients with acromegaly, into Turkish by conducting a validity and reliability study.

**Methods:** After the translation and back-translation process, Acro-TSQ was filled in by face-to-face interviews with 136 patients diagnosed with acromegaly and currently receiving somatostatin analogue injection therapy. Internal consistency, content validity, construct validity, and reliability of the scale were determined.

**Results:** Acro-TSQ had a six-factor structure and explained 77.2% of the total variance in the variable. The Cronbach alpha value calculated for internal reliability showed high internal consistency (Cronbach's alpha = 0.870). Factor loads of all items were found to be between 0.567 and 0.958. As a result of EFA analysis, one item fell into a different factor in the Turkish version of the Acro-TSQ, different from its original form. CFA analysis shows that acceptable fit values are obtained for fit indices.

**Conclusion:** The Acro-TSQ, a patient-reported outcome tool, shows good internal consistency, and good reliability, suggesting it is an appropriate assessment tool for patients with acromegaly in the Turkish population.

## High Thyroperoxidase Antibody Titers May Predict Response To Antithyroid Drug Treatment In Graves Disease: A Preliminary Study

P Gokbulut<sup>1</sup>, G Koc<sup>1</sup>, S M Kuskonmaz<sup>1</sup>, C E Onder<sup>2</sup>, T Omma<sup>1</sup>, S Fırat<sup>1</sup>, C Culha<sup>1</sup>

*Acta Endocrinol (Buchar).* 2023 Apr-Jun;19(2):195-200. doi: 10.4183/aeb.2023.195. Epub 2023 Oct 27. PMID: 37908881 PMCID: PMC10614590 DOI: 10.4183/aeb.2023.195

**Background and aim:** Antithyroid drugs are first treatment for Graves hyperthyroidism worldwide. Although remission can be achieved in approximately 40-50% of patients in 12-18 months with antithyroid drugs, this period can be extended up to 24 months. We aimed to evaluate the effect of individual clinical/biochemical variables and GREAT score in predicting response to antithyroid drug in Graves disease.

**Material and methods:** This is a retrospective single-center study including 99 patients with the first episode of Graves disease treated for at least 18 months. The patients were classified into two groups as those who responded to antithyroid medication at 18-24 months (group 1) and those who did not respond at 24 months and continued with low-dose antithyroid medication (group 2).

**Results:** Medical treatment response was obtained in 38 (38.3%) of the patients at 18 months, and in 19 (19.1%) patients at 24 months. Long-term medical treatment (>24 months) was given to the remaining 43 patients due to the lack of response to medical treatment. Thyroid volume and free T4 levels were higher in those followed up with long-term antithyroid drugs, and orbitopathy was more common in this group. Median anti TPO value was significantly higher in group 1 when compared to group 2 (593 U/l and 191.6 U/l respectively). More patients were classified as GREAT class 3 in group 2 when compared to group 1 (46.5% and 12.5% respectively). We analyzed the Thyroperoxidase Antibody(anti TPO) titers, which we divided into three levels, according to groups 1 and 2. Post-hoc Chi-Square analysis revealed that falling into the highest anti TPO category was significantly associated with response to medical therapy in 24 months ( $p < 0.05$ ).

**Conclusion:** According to our study, GREAT score and anti TPO Ab titers at presentation may help predict response to ATD in Graves disease.

## Subacute THYROIDITIS RELATED TO SARS-CoV-2 VACCINE AND COVID-19 (THYROVAC STUDY): A MULTICENTER NATIONWIDE STUDY

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*J Clin Endocrinol Metab.* 2023 Sep 18;108(10):e1013-e1026. doi: 10.1210/clinem/dgad235. PMID: 37186260 DOI: 10.1210/clinem/dgad235

**Context:** The aims of the study are to compare characteristics of subacute thyroiditis (SAT) related to different etiologies, and to identify predictors of recurrence of SAT and incident hypothyroidism.

**Methods:** This nationwide, multicenter, retrospective cohort study included 53 endocrinology centers in Turkey. The study participants were divided into either COVID-19-related SAT (Cov-SAT), SARS-CoV-2 vaccine-related SAT (Vac-SAT), or control SAT (Cont-SAT) groups.

**Results:** Of the 811 patients, 258 (31.8%) were included in the Vac-SAT group, 98 (12.1%) in the Cov-SAT group, and 455 (56.1%) in the Cont-SAT group. No difference was found between the groups with regard to laboratory and imaging findings. SAT etiology was not an independent predictor of recurrence or hypothyroidism. In the entire cohort, steroid therapy requirement and younger age were statistically significant predictors for SAT recurrence. C-reactive protein measured during SAT onset, female sex, absence of antithyroid peroxidase (TPO) positivity, and absence of steroid therapy were statistically significant predictors of incident (early) hypothyroidism, irrespective of SAT etiology. On the other hand, probable predictors of established hypothyroidism differed from that of incident hypothyroidism.

**Conclusion:** Since there is no difference in terms of follow-up parameters and outcomes, COVID-19- and SARS-CoV-2 vaccine-related SAT can be treated and followed up like classic SATs. Recurrence was determined by younger age and steroid therapy requirement. Steroid therapy independently predicts incident hypothyroidism that may sometimes be transient in overall SAT and is also associated with a lower risk of established hypothyroidism.

## Assessment of Forearm Muscles with Ultrasound Shear Wave Elastography in Patients with Acromegaly

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*Pituitary.* 2023 Dec;26(6):716-724. doi: 10.1007/s11102-023-01352-1. Epub 2023 Oct 30. PMID: 37899388 DOI: 10.1007/s11102-023-01352-1

**Purpose:** The effects of acromegaly on soft tissues, bones and joints are well-documented, but information on its effects on muscle mass and quality remains limited. The primary goal of this study is to assess the sonoelastographic features of forearm muscles in patients with acromegaly.

**Method:** Forty-five patients with acromegaly and 45 healthy controls similar in terms of gender, age, and body mass index (BMI) were included in a single-center, multidisciplinary, cross-sectional study. The body composition was analyzed using bioelectrical impedance analysis (BIA), and height-adjusted appendicular skeletal muscle index (hSMI) was calculated. The dominant hand's grip strength was also measured. Two radiologists specialized in the musculoskeletal system employed ultrasound shear wave elastography (SWE) to assess the thickness and stiffness of brachioradialis and biceps brachii muscles.

**Results:** The acromegaly group had significantly higher thickness of both the biceps brachii ( $p = 0.034$ ) and brachioradialis muscle ( $p = 0.046$ ) than the control group. However, the stiffness of the biceps brachii ( $p = 0.001$ ) and brachioradialis muscle ( $p = 0.001$ ) was lower in the acromegaly group than in the control group. Disease activity has not caused a significant difference in muscle thickness and stiffness in the acromegaly group ( $p > 0.05$ ). The acromegaly group had a higher hSMI ( $p = 0.004$ ) than the control group. The hand grip strength was similar between the acromegaly and control group ( $p = 0.594$ ).

**Conclusion:** The patients with acromegaly have an increased muscle thickness but decreased muscle stiffness in the forearm muscles responsible for elbow flexion. Acromegaly can lead to a permanent deterioration of the muscular structure regardless of the disease activity.

**DUYURULAR**

# ENDOCRINOLOGY RESEARCH and PRACTICE OCAK 2024 SAYISI YAYINLANDI

"Endocrinology Research and Practice'in Ocak 2024 sayısı, dergimizin web sayfasında yayınlanmıştır.

<https://endocrinolrespract.org/EN/january-2024-00121>

Volume 28, Issue 1,  
January 2024



**ENDOCRINOLOGY  
RESEARCH AND  
PRACTICE**

# ENDOKRİN ACİLLER KİTABI

## YAYINLANDI

Editörlüğü Prof. Dr. Dilek Gogas Yavuz tarafından yapılan ve içeriği dernek üyelerimiz tarafından kaleme alınan "Endokrin Aciller" kitabı web sayfamızda Yayınlar/Elektronik Kitaplarımız sekmesinde yayınlanmaya başlamıştır.

Kitaba ulaşmak için tıklayınız...





## ESE STATE OF ENDOCRINOLOGY



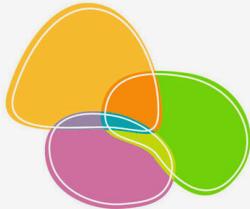
Başkanımız Prof. Dr. Mustafa Cesur, ESE tarafından Avrupa için önemli bir proje olan State of Endocrinology'de görev aldı. Prof. Dr. Cesur projenin Task Force ekibine davet edildi.



## 21. INTERNATIONAL CONGRESS OF ENDOCRINOLOGY (ICE 2024)

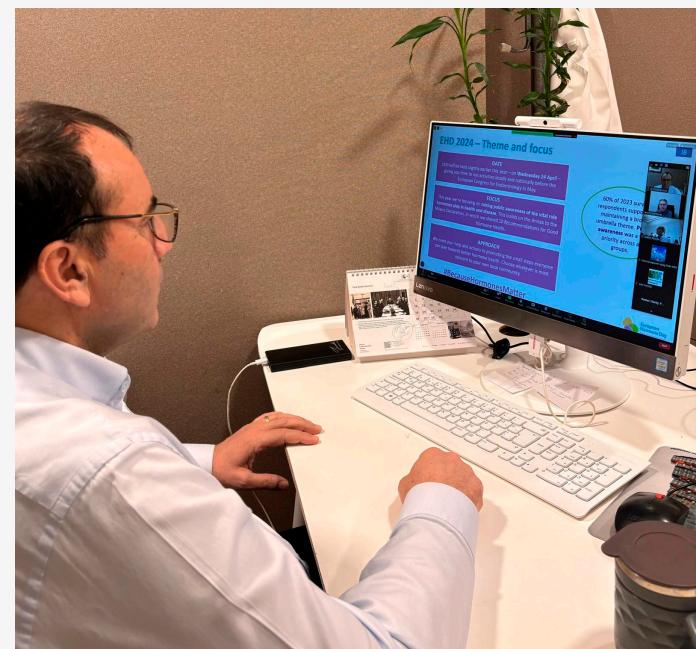
International Society of Endocrinology (ISE)'nin düzenlediği 21. International Congress of Endocrinology (ICE 2024) Dubai'de dünyanın çeşitli ülkelerinden gelen çok sayıda katılımcının katılımıyla 1-3 Mart tarihinde başarılı bir şekilde tamamlandı. TEMD olarak Düzenleme Komitesinde Başkanımız Prof. Dr. Mustafa Cesur ile temsil edildik. Ayrıca TEMD olarak The Canadian Society of Endocrinology and Metabolism (CSEM)'in daveti ile yapılan özel toplantıya da katıldık. Bu toplantıda Derneği başkanımız Prof. Dr. Mustafa Cesur'un yanı sıra üyemiz Doç. Dr. Muhammed Kızılgül de temsil etti.





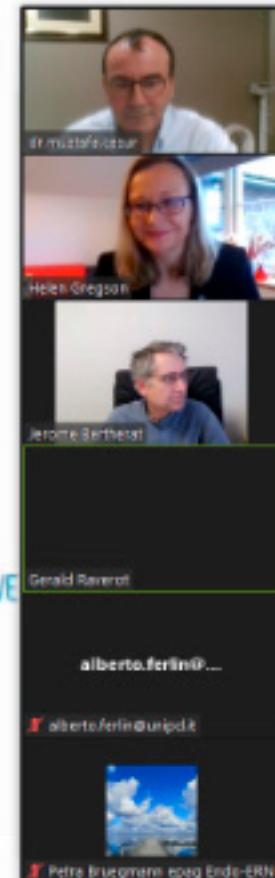
## ESE European Hormone Day

ESE tarafından 24 Nisan'da, bu yıl 3.sü düzenlenecek olan Avrupa Hormon Günü etkinliklerini planlama toplantısı 30 Ocak 2024'de tüm ESE'ye dahil ülke derneklerinin katılımıyla çevrimiçi olarak yapıldı. Derneği Prof. Dr. Mustafa Cesur, Prof. Dr. Ayşe Kubat Üzüm, Prof. Dr. Melek Eda Ertörer ve Prof. Dr. İbrahim Şahin'in temsil etiği toplantıda yaptığımız ön çalışmalar çok başarılı bulundu ve ESE yönetiminin isteğiyle diğer Avrupa ülkelerine ilham vermesi amacıyla Prof. Dr. Mustafa Cesur tarafından sunuldu. "Çünkü Hormonlar Önemlidir" sloganıyla ve hormonlar ile buna bağlı oluşan hastalıklara dikkat çekmek için her yıl yapılan organizasyonda, ülkemizdeki bu yıllık etkinliklerde Endokrin Bozucular Komisyonu, Hipertansiyon-Obezite-Dislipidemi Bilimsel Çalışma Grubu, Nöroendokrin Tümörler Bilimsel Çalışma Grubu ve Nadir Metabolizma Hastalıkları Bilimsel Çalışma Grubu da aktif rol alacak.



### EHD 2024 – Partner activities

- **Gérald Raverot**  
President of French Endocrine Society
- **Mustafa Cesur**  
President of Society of Endocrinology  
and Metabolism of Turkey



## YÖNERGE GÜNCELLEME DUYURULARI

Bu dönem içerisinde aşağıdaki önergelerimizde güncelleme yapılmıştır ve üyelerimize duyurulmuştur. Önergelerin güncel hallerine linklerden ulaşabilirsiniz.

- TEMD Yurtdışı Eğitim ve Araştırma Bursu Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/yurtdisi-egitim-ve-arastirma-bursu-yonergesi>

- TEMD Bilimsel Araştırma Desteği Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/bilimsel-arastirma-destegi-yonergesi>

- TEMD Genç Araştırmacı Ödül Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/genc-arastirici-odul-yonergesi>

- TEMD Makale Dil Revizyon Desteği Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/makale-dil-revizyon-destegi-yonergesi>

- TEMD Toplantı Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/toplanti-yonergesi>

- TEMD Endocrinology Research and Practice Ödüllü Makale Yarışması Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/odullu-makale-yarismasi-yonergesi>

- TEMD Uluslararası Yayın Destek Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/uluslararası-yayin-odulu-yonergesi>

- TEMD Kongre Katılım Desteği Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/kongre-katilim-destegi-yonergesi>

- TEMD Dergi Yönergesi - Endocrinology Research and Practice

<https://www.temd.org.tr/hakkimizda/yonergeler/dergi-yonergesi>

- TEMD Kitap Basım Desteği ile İlgili Yönerge

<https://www.temd.org.tr/hakkimizda/yonergeler/kitap-basim-destegi>

- TEMD Tıpta Uzmanlık Yeterlik Kurulu Yönergesi

<https://www.temd.org.tr/hakkimizda/yonergeler/tipta-uzmanlik>



## ÜYELERİMİZDEN DUYURULAR

- Prof. Dr. Murat Sert Çukurova Üniversitesi Tıp Fakültesi Dekanı
  - Doç. Dr. Gamze Akkuş Çukurova Üniversitesi Tıp Fakültesi Dekan yardımcısı olarak atanmıştır.
- Yeni görevlerinde başarılar dileriz.

## AKADEMİK YÜKSELMELER

Doç. Dr. Bekir Uçan

Doç. Dr. Özlem Soyluk Selçukbiricik

Profesörlüğe yükselmişlerdir.

Uzm. Dr. Elif Tutku Durmuş

Uzm. Dr. Onur Elbasan

Doçentlige yükselmişlerdir.

*Üyelerimizi tebrik eder, başarılarının devamını dileriz.*



**ACI KAYBIMIZ**

Üyelerimizden Sağlık Bilimleri Üniversitesi  
Fatih Sultan Mehmet Eğitim ve Araştırma Hastanesinde görev yapan  
**Prof. Seda Sancak Nurdan'**  
27 Şubat 2024 tarihinde kaybettik.

Kendisine rahmet, ailesi ve tüm sevenlerine başsağlığı dileriz.

**Acımız sonsuz**

"Seni Hep Güldüğün Yerde Göreceğiz"

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Türkiye Endokrinoloji ve Metabolizma Derneği'nce  
Üç ayda bir çevrimiçi yayınlanır

**Yayın Türü:** Yaygın süreli

**TEMİD Adına Sahibi:** Prof. Dr. Mustafa Cesur

**Sorumlu Yazı İşleri Müdürleri:**

Prof. Dr. Ayşe Kubat Üzüm, Prof. Dr. Mine Adaş

**Yayın Danışma Kurulu:** Prof. Dr. Melek Eda Ertörer, Prof. Dr. İbrahim Şahin, Prof. Dr. Erman Çakal, Prof. Dr. Zeynep Cantürk

TEMİD bülteninde yayınlanacak derneğimiz ile ilgili haberlerin bekletilmeksızın  
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