TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ BÜLTENİ

Üç ayda bir online yayımlanır

Sayı 77 • Ocak – Şubat – Mart • 2022

CANLI YAYIN TOPLANTILARIMIZ...


TEMD
Endokrin Akademi
Diyabette Kardiyovasküler ve Renal Komplikasyonların Önlenmesi, Tanısı ve Tedavisi İçin Uzlaşı
ENDOKRİNOLOJİ KARDİYOLOJİ NEFROLOJİ (ENKARNE) RAPORU
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
MODERATÖR
Prof. Dr. Serpil Salman
TEMD Diyabet Çalışma Grubu Başkanı
MODERATÖR
Prof. Dr. Ülver Derici
KONUŞMACI
Prof. Dr. Alper Sönmez
KONUŞMACI
Prof. Dr. Mustafa Arıcı
KONUŞMACI
Prof. Dr. Öner Özdoğan
CANLI
23 Şubat 2022, Çarşamba
SAAT : 20:00


TEMD
HİPOFİZ VE NÖROENDOKRİN TÜMÖRLER ÇALIŞMA GRUPLARININ ORTAK OLGU SUNUMU
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
MODERATÖR
Prof. Dr. Sema Yarman
MODERATÖR
Prof. Dr. Züleyha Karaca
MEN-1 KLİNİK ÖZELLİKLERİ
KONUŞMACI
Doç. Dr. Soner Cander
OLGU - 1
KONUŞMACI
Dr. Öğr. Üyesi Ayşa Hacıoğlu
OLGU - 2
KONUŞMACI
Doç. Dr. Feyza Nur Tuncer
MEN-1 GENETİĞİ
CANLI
15 Mart 2022 Salı
SAAT : 20:00


TEMD
Endokrin Akademi
OLGULARLA BESLENME TEDAVİSİ
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
MODERATÖR
Prof. Dr. Yüksel Altuntaş
TEMD Tıbbi Beslenme ve Egzersiz Metabolizması Bilimsel Çalışma Grubu Başkanı
Sağlık Bilimleri Üniversitesi,
İstanbul Şişli Hamidiye Etfal Sağlık Uygulama Ve Araştırma Merkezi,
Endokrinoloji ve Metabolizma Hastalıkları, İstanbul
KONUŞMACI
Prof. Dr. Murat Yılmaz
Özel Reyap Sağlık Grubu,
Endokrinoloji ve Metabolizma Hastalıkları, İstanbul
KONUŞMACI
Doç. Dr. Ayşe Nur İzol Torun
Özel Adana Hastanesi,
Endokrinoloji ve Metabolizma Hastalıkları, Adana
CANLI
24 Mart 2022 Perşembe
SAAT : 20:00

Obeziteyle Mücadelenizde

yanınızdayız!

Obezite; **Tip 2 Diyabet, Hipertansiyon, Kalp ve Solunum Sistemi hastalıkları** gibi birçok kronik hastalığı beraberinde getirir. Sağlıklı bir yaşam için Vücut Kitle İndeksi'nizi hesaplayıp, doktorunuza başvurmayı ihmal etmeyin!

Dünya Obezite Günü 4 Mart

TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ


Şimdi değilse,
Ne zaman?
Obezitenin beraberinde getirdiği birçok kronik hastalıktan korunmak için doktorunuza başvurarak sağlıklı bir yaşama adım atın. Hemen şimdi!
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
KANSER
EKLEM
DEPRESYON
KALP VE SOLUNUM SİSTEMİ HASTALIKLARI
HİPERTANSİYON
TİP 2 DİYABET
4 MART
DÜNYA OBEZİTE
GÜNÜ


8 MART
Dünya Emekçi Kadınlar Günü Kutlu Olsun
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ


14 Mart Tıp Bayramı Kutlu Olsun
Zor şartlar altında çalışmak mecburiyetinde bırakılan hekimler olarak beklentimiz meslek onurumuzun korunması, sağlıkta şiddete son verilmesi, özlük haklarımızın olması gereken düzeye getirilmesidir.
Bayram gibi tıp bayramları kutlayabilmek dileği ile.


TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
18 MART
ÇANAKKALE ZAFERİ
Ulusumuzun kaderini değiştiren
Çanakkale Zaferi'nin 107. yıldönümü kutlu olsun

KONGRE, KURSLAR VE SEMPOZYUMLAR

TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ

1. TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA HASTALIKLARI DERNEĞİ

BESLENME VE EGZERSİZ ÇALIŞMA GRUBU SEMPOZYUMU

Seyrantepe Hamidiye Etfal
Eğitim Araştırma Hastanesi
Konferans Salonu/ İSTANBUL
9 Nisan 2022
Cumartesi

TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ

TÜRKİYE ENDOKRİNOLOJİ ve METABOLİZMA DERNEĞİ
Meşrutiyet Cad. Ali Bey Apt. 29/12 Kızılay,
Ankara Türkiye
0 312 425 20 72 - 0 312 425 20 98
president@temd.org.tr

CONSENSUS

Consensus Kongre & Organizasyon Servisleri
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K: 11 D: 21
Gayrettepe / Beşiktaş - İstanbul
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TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ
43.
TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
HASTALIKLARI
KONGRESİ
18 - 22 MAYIS 2022
SUSESİ OTEL
ANTALYA
www.temhkongresi.org
BİLİMSEL SEKRETERYA
TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ
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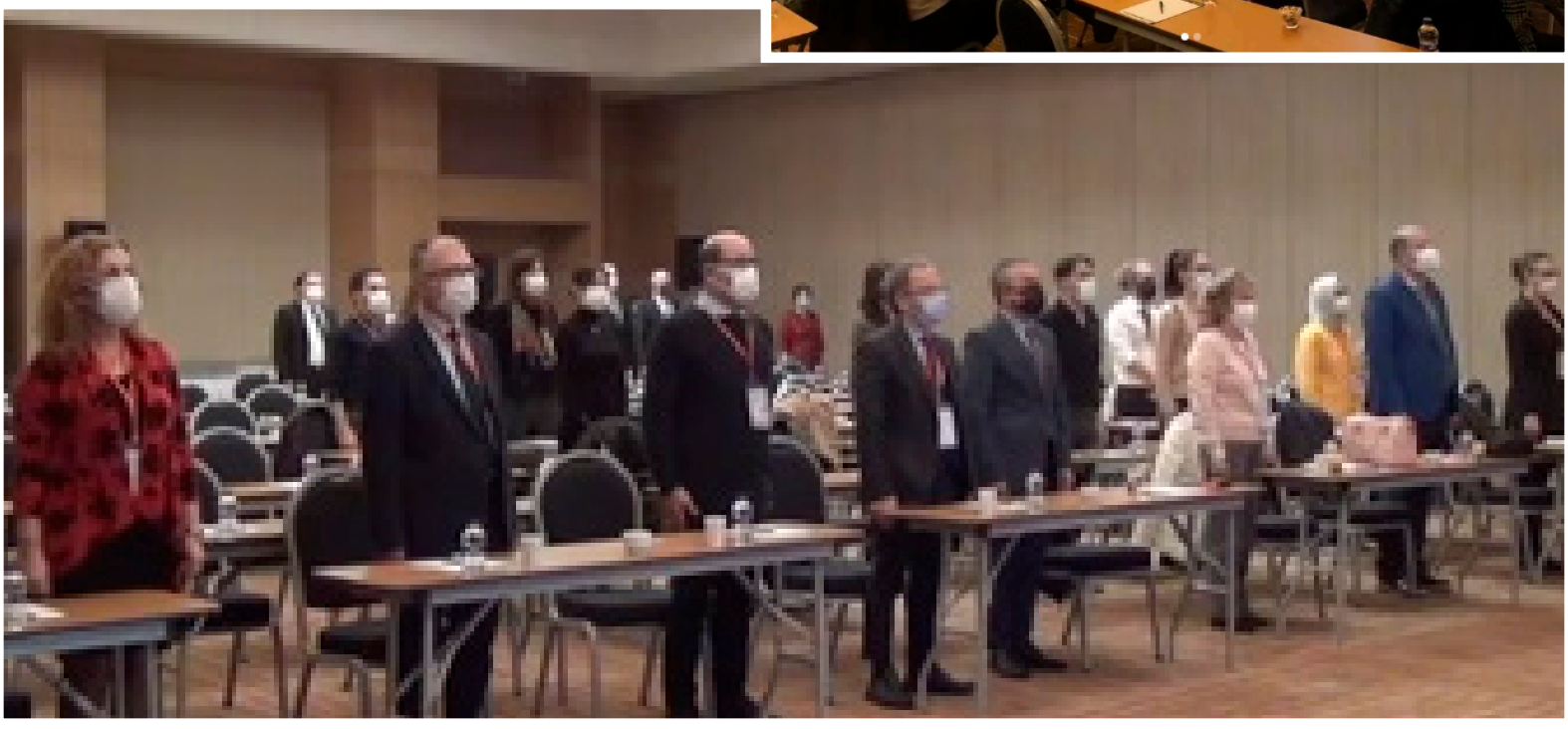
www.consensustourism.com


TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ
ENDOKURS 6
Mezuniyet Sonrası
Eğitim Kursu
13-16 Ekim 2022
Adana HiltonSA

TEMD TİROİD SONOGRAFİ KURSU TAMAMLANDI

TEMD Tiroid Sonografi Kursu 14-15 Ocak 2022 tarihlerinde Ankara Green Park Otel'de, 51 meslektaşımızın fiziki ve 500 meslektaşımızın online katılımı ile gerçekleştirilmiştir. Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.



NADİR GÖRÜLEN METABOLİZMA HASTALIKLARI SEMPOZYUMU TAMAMLANDI

Nadir Görülen Metabolizma Hastalıkları Eğitim Sempozyumu 26-27 Şubat 2022 tarihlerinde Kayseri Wyndham Grand Otel'de 130'un üzerinde meslektaşımızın katılımı ile gerçekleştirilmiştir. Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.

10. ADRENAL GONAD VE NÖROENDOKRİN TÜMÖRLER SEMPOZYUMU TAMAMLANDI

10. Adrenal Gonad ve Nöroendokrin Tümörler Sempozyumu 11-12 Mart 2022 tarihlerinde Hatay Mustafa Kemal Üniversitesi'nde 125 meslektaşımızın katılımı ile gerçekleştirilmiştir. Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.

19. HİPERTANSİYON, DİSLİPİDEMİ VE OBEZİTE EĞİTİM SEMPOZYUMU TAMAMLANDI

19. Hipertansiyon, Dislipidemi ve Obezite Eğitim Sempozyumu 26-27 Mart 2022 tarihlerinde Bursa Crowne Plaza Convention Center'da 160 meslektaşımızın katılımı ile gerçekleştirilmiştir. Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.

ULUSAL VE ULUSLARARASI BİLİMSEL KONGRE VE SEMPOZYUMLAR

- 4 - 8 Nisan 2022
  29th ESE Postgraduate Training Course in Clinical Endocrinology, Diabetes and Metabolism 2022 online
  https://www.ese-hormones.org/ese-courses/29th-ese-postgraduate-training-course-in-clinical-endocrinology-diabetes-and-metabolism-2022-online/
- 9 Nisan 2022
  1. Beslenme ve Egzersiz Sempozyumu Seyrantepe Hamidiye Etfal Eğitim Araştırma Hastanesi Konferans Salonu/İstanbul
  https://temd.org.tr/haberler/1-beslenme-ve-egzersiz-sempozyumu
- 16 - 17 Nisan 2022
  A'dan Z'ye Diyabet Klinik Araştırmaları Temel Eğitimi Sertifika Programı - Online
  https://temd.org.tr/haberler/adan-zye-diyabet-klinik-arastirmalari-temel-egitimi-sertifika-programi
- 4 – 7 Mayıs 2022
  ECO 2022 VIRTUAL - 29th Annual European Congress on Obesity / Virtual
  https://easo.org/
- 11-14 Mayıs 2022
  58. Ulusal Diyabet Metabolizma ve Beslenme Hastalıkları Kongresi, Titanic Hotel, Antalya
  https://www.diyabetkongresi.org/
- 18-22 Mayıs 2022
  43. Türkiye Endokrinoloji ve Metabolizma Hastalıkları Kongresi, Susesi Otel, Antalya
  https://temhkongresi.org/
- 21 - 24 Mayıs 2022
  ECE 2022, 23rd European Congress of Endocrinology Milano, Italy
  https://www.ese-hormones.org/events-deadlines/ese-events/ece-2022-24th-european-congress-of-endocrinology/
- 3 - 7 Haziran 2022
  82nd ADA Scientific Sessions, New Orleans, LA
  https://professional.diabetes.org/scientific-sessions
- 4 - 5 Haziran 2022
  20. Obezite, Dislipidemi Hipertansiyon Eğitimi Sempozyumu, Van
  https://temd.org.tr/etkinlikler
- 11 - 12 Haziran 2022
  Osteoporoz ve Diğer Metabolik Kemik Hastalıkları Sempozyumu, İstanbul
  https://temd.org.tr/etkinlikler
- 11 - 14 Haziran 2022
  ENDO 2022, Annual Meeting of the Endocrine Society, Atlanta, GA
  https://www.endocrine.org/endo2022
- 7 - 10 Ağustos 2022
  International Congress of Neuroendocrinology ICN, Glasgow, Scotland, UK
  https://icn2022.org/
- 7 - 10 Eylül 2022
  Lyon ENEA 2022 Congress - 20th Congress of the European Neuroendocrine Association Lyon, Cité Internationale – Centre de Congrès, France
  https://eneassoc.org/
- 10 - 13 Eylül 2022
  44th Annual Meeting of the European Thyroid Association (ETA), Brussels, Belgium
  www.eurothyroid.com
- 19 - 23 Eylül 2022
  58th Annual Meeting - European Association for the Study of the Diabetes, Stockholm, Sweden
  https://www.easd.org/annual-meeting/easd-2022.html
- 13 - 16 Ekim 2022
  Mezuniyet Sonrası Eğitim Kursu - ENDOKURS 6 Adana HiltonSA
  http://endokurs.org/
- 19 - 23 Ekim 2022
  24. Ulusal İç Hastalıkları Kongresi Titanic Otel & Kongre Merkezi, Antalya
  https://2022.ichastaliklari.org/tr/
- 19 - 23 Ekim 2022
  91st Annual Meeting of the American Thyroid Association, Palais de Congres de Montreal Montreal, Quebec, Canada
  https://www.thyroid.org/91st-annual-meeting-ata/
- 20 – 23 Ekim 2022
  EndoBridge 2022, Cornelia Diamond Kongre Merkezi, Antalya
  https://www.endobridge.org/
- 4 – 5 Kasım 2022
  17. Hipofiz Sempozyumu ve 3. Hipofiz Görüntüleme Kursu, Ankara
- 02 - 05 Mart 2023
  12. Ulusal Obezite ve Eşlik Eden Hastalıklar Kongresi Antalya
  https://obezitekongresi.org/
- 4 - 7 Mayıs 2023
  IOF-WCO-IOF-ESCEO, World Congress on Osteoporosis, Osteoarthrisis and Musculoskeletal Diseases – Virtual Congress, CCIB Congress Center Barcelona, Spain
  https://virtual.wco-iof-esceo.org/

ÜYELERİMİZDEN LİTERATÜR SEÇMELERİ

THE STIMULATORY EFFECTS OF GLUCAGON ON CORTISOL AND GH SECRETION OCCUR INDEPENDENTLY FROM FGF-21

Ilyas Akkar[1], Zuleyha Karaca[2], Serpil Taheri[3], Kursad Unluhizarci[1], Aysa Hacioglu[1], Fahrettin Kelestimur[4]

Endocrine. 2022 Jan;75(1):211-218. doi: 10.1007/s12020-021-02829-4. Epub 2021 Sep 25. PMID: 34562190 DOI: 10.1007/s12020-021-02829-4

Purpose: Glucagon stimulation test (GST) is used to assess the hypothalamo-pituitary-adrenal (HPA) and growth hormone (GH) axes with an incompletely defined mechanism. We aimed to assess if glucagon acted through fibroblast growth factor-21 (FGF-21) to stimulate cortisol and GH secretion. The secondary outcome was to determine the relationship of FGF-21 with variable GH responses to GST in obesity.

Methods: A total of 26 healthy participants; 11 obese (body mass index (BMI) >30 kg/m^2) and 15 leans (BMI <25 kg/m2) were included. Basal pituitary and target hormone levels were measured and GST was performed. During GST, glucose, insulin, cortisol, GH, and FGF-21 responses were measured.

Results: The mean age of the participants was 26.3±3.6 years. Glucagon resulted in significant increases in FGF-21, glucose, insulin, cortisol, and GH levels. The levels of basal cortisol, GH, FGF-21, and IGF-1 were similar in the two groups. The peak GH and area under the curve (AUC)(GH) responses to GST in the obese group were lower than those of the normal-weight group with a different pattern of response. There were no differences between the groups in terms of peak cortisol, AUC(cortisol), peak insulin, AUC(insulin), peak FGF-21, and AUC(FGF21). Obesity was associated with significantly increased glucose and insulin responses and slightly decreased FGF-21 response to glucagon.

Conclusion: Obesity was associated with blunted and delayed GH, but preserved cortisol responses to GST. This is the first study showing that glucagon stimulates the HPA and GH axis independently from FGF-21. The delayed GH response to GST in obesity does not seem to be related to FGF-21.

TYPE 2 DIABETES IS ASSOCIATED WITH THE MTNR1B GENE, A GENETIC BRIDGE BETWEEN CIRCADIAN RHYTHM AND GLUCOSE METABOLISM, IN A TURKISH POPULATION

Hilal Arikoglu[1], Dudu Erkoc-Kaya[2], Suleyman Hilmi Ipekci[3], Fatma Gokturk[2], Funda Iscioglu[4], Muslu Kazim Korez[5], Suleyman Baldane[6], Mustafa Sait Gonen[7]

Mol Biol Rep. 2021 May;48(5):4181-4189. doi: 10.1007/s11033-021-06431-9. Epub 2021 Jun 11. PMID: 34117605 DOI: 10.1007/s11033-021-06431-9

Type 2 diabetes (T2D) is a complicated public health problem in Turkey as well as worldwide. Genome-wide approaches have been guiding in very challenging situations, such as the elucidation of genetic variations underlying complex diseases such as T2D. Despite intensive studies worldwide, few studies have determined the genetic susceptibility to T2D in Turkish populations. In this study, we investigated the effect of genes that are strongly associated with T2D in genome-wide association (GWA) studies, including MTNR1B, CDKAL1, THADA, ADAMTS9 and ENPP1, on T2D and its characteristic traits in a Turkish population. In 824 nonobese individuals (454 T2D patients and 370 healthy individuals), prominent variants of these GWA genes were genotyped by real-time PCR using the LightSNiP Genotyping Assay System. The SNP rs1387153 C/T, which is located 28 kb upstream of the MTNR1B gene, was significantly associated with T2D and fasting blood glucose levels ($P < 0.05$). The intronic SNP rs10830963 C/G in the MTNR1B gene was not associated with T2D, but it was associated with fasting blood glucose, HbA1C and LDL levels ($P < 0.05$). The other important GWA loci investigated in our study were not found to be associated with T2D or its traits. Only the SNP rs1044498 (A/C variation) in the ENPP1 gene was determined to be related to fasting blood glucose ($P < 0.05$). Our study suggests, consistent with the literature, that the MTNR1B locus, which has a prominent role in glucose regulation, is associated with T2D development by affecting blood glucose levels in our population.

GENETIC AND CLINICAL CHARACTERIZATION OF PATIENTS WITH MATURITY-ONSET OF DIABETES OF THE YOUNG (MODY): IDENTIFICATION OF NOVEL VARIATIONS

Esra Arslan Ateş[1], Özlem Üstay[2], Hamza Polat[3], Tuğçe Apaydın[2], Onur Elbasan[2], Özlem Yıldırım[4], Ahmet İlter Güney[3]

Balkan Med J. 2021 Sep;38(5):272-277. doi: 10.5152/balkanmedj.2021.20155. PMID: 34462253 PMCID: PMC8880849 DOI: 10.5152/balkanmedj.2021.20155

Background: Maturity-onset diabetes of the young (MODY) is a rare monogenic type of diabetes, and accounts for 2-5% of all diabetes cases. An early age of onset, a family history supporting autosomaldominant inheritance, insulin resistance, and the absence of autoimmunity are the major characteristics of MODY. However, genetic testing is crucial for diagnosis.

Aims: To investigate the 7 MODY-related genes and clinical findings of patients with a preliminary clinical diagnosis of MODY.

Study design: Retrospective cross-sectional study.

Methods: In this study, 7 genes (KCNJ11, ABCC8, INS, GCK, HNF4A, HNF1A, and HNF1B) related to MODY were screened via targeted sequencing in 182 cases with a confirmed pre-diagnosis of MODY. The clinical characteristics of the patients were evaluated retrospectively.

Results: A total of 182 patients, 48% of whom were women, between the ages of 18-62 were included in the study. In 30 cases (16.4%), 28 different pathogenic variations were found, of which 20 were previously reported and 8 were novel variations segregated by disease within the family. Pathogenic variations were detected in the following genes in order of mutation frequency; GCK, HNF1A, ABCC8, HNF4A, HNF1B and KCNJ11. Interestingly, six of the 30 cases (20%) carried a pathogenic variation in the ABCC8 gene. No mutation was detected in the INS gene. A family history of vertically transmitted diabetes and elevated HbA1C at the time of diagnosis were found in 20 (66%) and 16 (52%) cases, respectively.

Conclusion: In this series, 28 different pathogenic variations are identified, 8 of which are novel. The rate of pathogenic variation in the ABCC8 gene is unexpectedly high. Two-thirds of cases have a family history of vertically transmitted diabetes.

RELATIONSHIP BETWEEN GLYCOSYLATED HEMOGLOBIN AND IRON DEFICIENCY ANEMIA: A COMMON BUT OVERLOOKED PROBLEM

Bünyamin Aydın[1], Serhat Özçelik[2], Türkan Paşalı Kilit[3], Sertaç Eraslan[3], Mehmet Çelik[4], Kevser Onbaşı[1]

Prim Care Diabetes. 2022 Jan 6;S1751-9918(22)00002-X. doi: 10.1016/j.pcd.2022.01.002. Online ahead of print PMID: 35000894 DOI: 10.1016/j.pcd.2022.01.002

Introduction: Both diabetes mellitus (DM) and iron deficiency anemia (IDA) are prevalent in every area of the world, and so, the possibility of these two diseases co-existing is also very high. It is our belief that clinical results of any correlation between iron status of the body and glycosylated haemoglobin (HbA1c) would be beneficial to many patients, therefore in this study, the effect of IDA on HbA1c was investigated.

Materials - methods: A total of 146 patients with DM and IDA were evaluated prospectively. While the patients were administered 270 mg/day of ferrous sulphate (80 mg elemental iron) orally for three months for the treatment of IDA, no interventions were made for the treatment of DM. Patient levels of hemoglobin (Hb), hematocrit, red blood cells (RBC), mean corpuscular volume (MCV), platelet, white blood cells (WBC), serum iron, serum iron binding capacity (SIBC), ferritin, fasting plasma glucose (FPG), HbA1c, body mass index (BMI), C-reactive protein (CRP) values were measured at baseline and at the third month of treatment with iron, and were compared.

Results: The median age of our patients was 45 (40-50) and median duration of diabetes was 3 years (1,75-5). While the baseline median Hb was 10.4 (mg/dL) (9.5-11.1), MCV was 74 (fL) (70.8-77), ferritin was 4 (ug/L) (3-6) at three months, Hb was measured at 12.6 (mg/dL) (12.1-13.2), MCV was measured at 82 (fL) (80-86), ferritin was measured at 15 (ug/L) (9-21.2) and was significantly higher compared to baseline values ($p < 0.001$). The baseline median HBA1c of patients was 7.09 ± 0.51 (%) and three month HBA1c was 6.69 ± 0.53 (%), which was significantly lower than when comparing baseline values with values at third month ($p < 0.001$). Baseline and three month values for FPG were 118 (mg/dL) (108-132) and 116 (mg/dL) (106-125) respectively, and there was no significant difference (p:0.07). A 2.2 mg/dL (1.5-3.5) increase in median Hb level accompanied a 0.4 % (0.2-0.6) decrease in median HbA1c levels (Spearman rho = -0.362; $p < 0.001$).

Conclusion: Our study has shown conclusivly that IDA is related to increased HbA1c concentrations and HbA1c decreases significantly following treatment with iron. IDA should be considered before making any decisions regarding diagnosis or treatment according to HbA1c.

EVALUATION OF HEALTH-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIORS OF UNDERGRADUATE STUDENTS BY CARDİOVASCULAR RISK FACTORS

Volkan Aydin[12], Caner Vizdiklar[3], Ahmet Akici[1], Mehmet Akman[1], Dilek Gogas Yavuz[1], Zehra Aysun Altikardes[1], S Guniz Kucukguzel[14], Mumine Topcu[1], Berrin Aysevinc[1], Ali Serdar Fak[1]

Prim Health Care Res Dev. 2021 Oct 14;22:e53. doi: 10.1017/S1463423621000578. PMID: 34645536 PMCID: PMC8515490 DOI: 10.1017/S1463423621000578

Aim: To determine the presence of cardiovascular (CV) risk (CVR) factors in university students and evaluate how these factors are affected from the knowledge, attitudes, and habits of the individuals regarding healthy lifestyle.

Background: Starting from early ages, lifestyle habits such as lack of physical activity, unhealthy eating, and inappropriate drug use increase CV and metabolic risks of individuals.

Methods: In April-May 2018, sociodemographic characteristics of 770 undergraduate students, in addition to their knowledge, attitudes, and habits regarding their nutrition and physical activity status were obtained through face-to-face questionnaires. CVR factors were determined according to blood pressure, blood glucose, total cholesterol levels, and anthropometric measurements. Collected data were compared by CVR factor presence (CV[+] or CV[-]) in students.

Findings: The mean age of the participants was 22.3 ± 2.6 years. 59.6% were female and 71.5% were students of non-health sciences. In total, 274 individuals (35.9%) belonged to CV(+) group (mean risk number: 1.3 ± 0.5) with higher frequency in males (42.1% versus 31.6%, $P < 0.05$). The most common CVR factors were smoking (20.6%), high total cholesterol (7.5%), and hypertension/high blood pressure (6.0%). 15.5% of the participants regularly used at least one drug/non-pharmaceutical product. 11.3% complied the Mediterranean diet well. 21.9% of CV(+) stated consuming fast food at lunch compared to 14.3% of CV(-) ($P < 0.05$). 44.6% stated exercising below the CV-protective level.

Conclusions: This study showed one-third of university students was at CVR, independent of their sociodemographic characteristics. Furthermore, the students appear to perform below expectations in terms of nutrition and physical activity. Extensive additional measures are needed to encourage young individuals for healthy nutritional and physical activity habits.

THE CURRENT SITUATION IN THE APPROACH TO OSTEOPOROSIS IN OLDER ADULTS IN TURKEY: AREAS IN NEED OF IMPROVEMENT WITH A MODEL FOR OTHER POPULATIONS

Gulistan Bahat[1], Nezahat Muge Catikkas[2], Dilek Gogas Yavuz[3], Pinar Borman[4], Rengin Guzel[5], Jean Yves Reginster[6]

Arch Osteoporos. 2021 Nov 30;16(1):179. doi: 10.1007/s11657-021-01038-w. PMID: 34846612 DOI: 10.1007/s11657-021-01038-w

Purpose: The total number of older adults in Turkey is striking, amounting to around 8 million, and this translates into considerably higher numbers of cases of osteoporosis (OP) and fractures in older adults. In this article, we outlined the current situation of OP in older adults in Turkey and investigated the differences between Turkey and a representative developed European country (Belgium), in terms of the screening, diagnosis, and treatment of OP. Our intention in this regard was to identify areas in need of improvement and subsequently to make a clear call for action to address these issues.

Methods: Herein, considering the steps related to the OP approach, we made a complete review of the studies conducted in Turkey and compared with the literature recommendations.

Results: There is a need for a national osteoporotic fracture registry; measures should be taken to improve the screening and treatment of OP in older males, such as educational activities; technicians involved in dual-energy X-ray absorptiometry (DXA) scanning should undergo routine periodic training; all DXA centers should identify center-specific least significant change values; all older adults should be considered for routine lateral dorsolumbar X-ray imaging for the screening of vertebral fractures while ordering DXA scans; the inclusion of vertebral fracture assessment (VFA) software in DXA assessments should be considered; screening using a fracture risk assessment tool (FRAX) algorithm that is specific to Turkey should be integrated; the fortification of foods with vitamin D is required; the high fracture risk by country-specific FRAX algorithm and the presence of falls/high fall risk should be integrated in reimbursement terms; and finally, more "fracture liaison services" should be established.

Conclusion: We suggest that the practical consideration of our suggestions will provide considerable support to the efforts for combating with the adverse consequences of OP in society. This approach can be subsequently modeled for other populations to improve the management of OP globally.

TURKISH INAPPROPRIATE MEDICATION USE IN THE ELDERLY (TIME) CRITERIA TO IMPROVE PRESCRIBING IN OLDER ADULTS: TIME-TO-STOP/TIME-TO-START

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Eur Geriatr Med. 2020 Jun;11(3):491-498. doi: 10.1007/s41999-020-00297-z. Epub 2020 Mar 5. PMID: 32297261 PMCID: PMC7280176 DOI: 10.1007/s41999-020-00297-z

Purpose: To improve prescribing in older adults, criterion sets have been introduced from different countries. While current criterion sets are useful to some extent, they do not meet the need in some European countries. Turkish inappropriate medication use in the elderly (TIME) criteria was planned to meet this need.

Methods: In phase 1, the user friendly sets: STOPP/START version2 and CRIME criteria were combined. National experts composed of geriatricians and non-geriatricians were invited to review and comment. In phase 2, thorough literature review was performed and reference-based revisions, omissions, and additions were made. Explanatory additions were added to some criteria to improve application in practice. In phase 3, all working group members reviewed the criteria/explanations and agreed on the final content.

Results: Phase 1 was performed by 49 expert academicians between May and October 2016. Phase 2 was performed by 23 working group academicians between October 2016 and November 2018 and included face-to-face interviews between at least two geriatrician members and one criterion-related specialist. Phase 3 was completed between November 2018-March 2019 with review and approval of all criteria by working group academicians. As a result, 55 criteria were added, 17 criteria were removed, and 60 criteria were modified from the first draft. A total of 153 TIME criteria composed of 112 TIME-to-STOP and 41 TIME-to-START criteria were introduced.

Conclusion: TIME criteria is an update screening tool that differs from the current useful tools by the interactive study of experts from geriatrics and non-geriatrics, inclusion of practical explanations for some criteria and by its eastern European origin. TIME study respectfully acknowledges its roots from STOPP/START and CRIME criteria. Studies are needed whether it would lead improvements in older adults' health.

RISK OF HYPERCALCEMIA IN PATIENTS WITH VERY HIGH SERUM 25-OH VITAMIN D LEVELS

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Int J Clin Pract. 2021 Jul;75(7):e14181. doi: 10.1111/ijcp.14181. Epub 2021 Apr 29. PMID: 33759301 PMCID: PMC8250214 DOI: 10.1111/ijcp.14181

Objective: We aimed to evaluate the risk of hypercalcemia in patients with very high levels of 25-hydroxy vitamin D (25(OH)D).

Methods: The distribution of patients who were screened for 25(OH)D in our hospital between January 2014 and December 2018 was evaluated and patients with serum concentrations of 25(OH)D >88 ng/mL were selected. Then, biochemical parameters of the cases with 25(OH)D >88 ng/mL were compared according to calcium status, vitamin D level (group 1, 88-100 ng/mL; group 2, 100-150 ng/mL, and group 3, >150 ng/mL), and gender.

Results: A total of 282 932 patients who underwent 25(OH)D tests in our hospital were evaluated. A total of 1311 (0.5%) patients had very high 25(OH)D levels (>88 ng/mL). Four hundred and ninety-five patients who met our inclusion criteria and had complete data participated in the study. The median age was 58 years (interquartile range [IQR] = 41-71 years) and the median level of 25(OH)D was 104.6 mg/mL (IQR =94.9-124.9 ng/mL). Most of the subjects (83.7%) with very high 25(OH)D levels were normocalcemic. A weak inverse correlation was observed between 25(OH)D level and intact parathyroid hormone (iPTH) level (r = -0.118, P =.01), but no correlation between 25(OH)D and calcium levels was observed. Alkaline phosphatase (ALP) levels were significantly higher in males (P =.032), and age and iPTH levels were higher in females (P <.001 and P =.004). ALP, phosphorus levels, and iPTH suppression rates were higher in hypercalcemic patients (P <.001, P <.001, and P <.001, respectively), while the iPTH level was significantly lower in hypercalcemic patients (P <.001) than in normocalcemic patients. Amongst the three groups with different 25(OH)D levels, no difference was found in levels of iPTH, calcium, phosphorus, ALP, or age.

Conclusion: Most patients with very high vitamin D levels were normocalcemic, but severe hypercalcemia was also observed. Vitamin D replacement therapy and follow-up should be performed according to clinical guideline recommendations.

ASSESSMENT OF THYROID DISORDERS IN PATIENTS WITH ROSACEA: A LARGE CASE-CONTROL STUDY

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An Bras Dermatol . Sep-Oct 2021;96(5):539-543. doi: 10.1016/j.abd.2021.02.004. Epub 2021 Jul 16. PMID: 34275693 PMCID: PMC8441452 DOI: 10.1016/j.abd.2021.02.004

Background: The frequency of autoimmune diseases and thyroid cancer has been increasingly reported in association with rosacea. However, studies investigating thyroid diseases in rosacea are scarce with conflicting results.

Objective: To investigate the relationship between thyroid disorders and rosacea.

Methods: A large case-control study on age- and gender-matched 2091 rosacea patients and 9572 controls was conducted. Rosacea patients using the rosacea-specific ICD codes were compiled from the hospital records. Additionally, all participants were evaluated in terms of the presence of hypothyroidism and hyperthyroidism. Conditional logistic regression analysis was used to compute case-control odds ratios (OR) with 95% confidence intervals.

Results: The analysis comprehended 2091 rosacea patients (1546 female, 545 male; mean 48.73 ± 14.53 years) and 9572 controls (7009 female, 2563 male; mean 48.73 ± 15.1 years). Whereas the rate of hypothyroidism was significantly higher in rosacea patients (OR = 1.3, 95% CI 1.13-1.49, p < 0.001), there was no significant difference in the rate of hyperthyroidism between the groups (OR = 1.12, 95% CI 0.81-1.53, p = 0.497). Stratification for gender revealed a significant association between hypothyroidism and rosacea in females (OR = 1.27, 95% CI 1.1-1.47, p = 0.002) and males (OR = 1.58, 95% CI 1.04-2.4, p = 0.032). The frequency of hypothyroidism in rosacea patients increased towards the age range of 40-49 and then decreased, parallel with the hypothyroidism frequency of the study population.

Study limitations: Different subtypes and severities of rosacea were not distinguished.

Conclusions: Hypothyroidism may be a comorbidity of rosacea and investigation for hypothyroidism may be appropriate when evaluating rosacea patients.

THYROID NODULES IN PATIENTS WITH ACROMEGALY: FREQUENCY ACCORDING TO THE ACR TI-RADS CLASSIFICATION AND ITS RELATIONSHIP WITH DISEASE ACTIVITY

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Exp Clin Endocrinol Diabetes. 2021 Dec;129(12):931-936. doi: 10.1055/a-1500-4591. Epub 2021 Aug 23. PMID: 34425596 DOI: 10.1055/a-1500-4591

Purpose: In our study, we aimed to determine the frequency of thyroid nodules in patients with acromegaly according to the American College of Radiology (ACR) Thyroid Imaging, Reporting and Data System (TI-RADS) classification and its relationship with acromegaly disease activity.

Methods: A total of 56 patients with acromegaly and age, sex, and body mass index matched with 56 healthy control subjects were included in our study. Thyroid-stimulating hormone, free thyroxine, and anti-thyroperoxidase antibody levels of patients and control subjects were measured. In addition, patients and healthy controls were evaluated by ultrasonography to determine thyroid structure, thyroid volume, and thyroid nodules and to make ACR TI-RADS classification.

Results: Thyroid nodules were present in 31 (55.4%) of 56 patients in the acromegaly group and 20 (35.7%) of 56 subjects in the control group, and the frequency of thyroid nodules was significantly higher in the acromegaly group (p=0.038). The mean number of nodules in the acromegaly group and control group was 1.27±1.43 and 0.48±0.73, respectively, and the mean number of nodules was significantly higher in the acromegaly group (p=0.003). The number of patients with TI-RADS 1, TI-RADS 2, and TI-RADS 4 nodules in the acromegaly group was higher than the control group (p=0.026, p=0.049, p=0.007, respectively). No difference was found in terms of cytological findings between those who have undergone FNAB in the acromegaly group and control group.

Conclusion: In our study, we found that the frequency of thyroid nodules, the number of thyroid nodules, and the number of TI-RADS 1, TI-RADS 2, and TI-RADS 4 nodules increased in patients with acromegaly. There was no significant difference between acromegaly disease activity and thyroid nodule frequency, number of thyroid nodules, and TI-RADS classifications.

ROLE OF TESTOSTERONE TO ESTRADIOL RATIO IN PREDICTING THE EFFICACY OF RECOMBINANT HUMAN CHORIONIC GONADOTROPIN AND TESTOSTERONE TREATMENT IN MALE HYPOGONADISM

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Arch Endocrinol Metab. 2021 Oct 29;65(5):617-624. doi: 10.20945/2359-3997000000399. Epub 2021 Sep 29. PMID: 34591405 DOI: 10.20945/2359-3997000000399

Objective: We aimed to investigate the role of testosterone to estradiol ratio in predicting the effectiveness of human chorionic gonadotropin and testosterone treatments in male hypogonadism.

Methods: Thirty-six male patients with hypogonadotropic hypogonadism were included in the study. Seventeen (47.2%) patients received weekly recombinant human choriogonadotropin alpha (hCG) treatment (group-1) and 19 (52.8%) received testosterone replacement therapy (T treatment) every 21 days (group-2). Under these treatments, adequate frequency of morning erection (≥3/week), testosterone to estradiol ratio (T/E), and testicular volume changes were analyzed.

Results: The mean age of the patients was 28.5 ± 8.7 years. When the frequency of morning erection (≥3/week) was specified as adequate, the cut-off value for effective T/E ratio was found to be 12.0 (sensitivity 93.8%, specificity 90.0%). There was no significant difference between the treatment groups in terms of total testosterone levels, T/E ratio, or frequency of morning erections (≥3/week) ($p > 0.05$). However, there was a statistically significant difference between the groups in terms of median left-right testicular volume in favor of group-1 ($p < 0,05$).

Conclusion: In patients with hypogonadism who are under treatment, elevated estradiol-induced erectile dysfunction symptoms may persist even if serum testosterone levels are normal. Testosterone to estradiol ratio can be used as a predictive value in the effective treatment of hypogonadotropic hypogonadism with hCG and T.

MONOGENIC CHILDHOOD DIABETES: DISSECTING CLINICAL HETEROGENEITY BY NEXT-GENERATION SEQUENCING IN MATURITY-ONSET DIABETES OF THE YOUNG

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OMICS. 2021 Jul;25(7):431-449. doi: 10.1089/omi.2021.0081. Epub 2021 Jun 25. PMID: 34171966 DOI: 10.1089/omi.2021.0081

Diabetes is a common disorder with a heterogeneous clinical presentation and an enormous burden on health care worldwide. About 1-6% of patients with diabetes suffer from maturity-onset diabetes of the young (MODY), the most common form of monogenic diabetes with autosomal dominant inheritance. MODY is genetically and clinically heterogeneous and caused by genetic variations in pancreatic β-cell development and insulin secretion. We report here new findings from targeted next-generation sequencing (NGS) of 13 MODY-related genes. A sample of 22 unrelated pediatric patients with MODY and 13 unrelated healthy controls were recruited from a Turkish population. Targeted NGS was performed with Miseq 4000 (Illumina) to identify genetic variations in 13 MODY-related genes: *HNF4A*, *GCK*, *HNF1A*, *PDX1*, *HNF1B*, *NEUROD1*, *KLF11*, *CEL*, *PAX4*, *INS*, *BLK*, *ABCC8*, and *KCNJ11*. The NGS data were analyzed adhering to the Genome Analysis ToolKit (GATK) best practices pipeline, and variant filtering and annotation were performed. In the patient sample, we identified 43 MODY-specific genetic variations that were not present in the control group, including 11 missense mutations and 4 synonymous mutations. Importantly, and to the best of our knowledge, the missense mutations *NEUROD1* p.D202E, *KFL11* p.R461Q, *BLK* p.G248R, and *KCNJ11* p.S385F were first associated with MODY in the present study. These findings contribute to the worldwide knowledge base on MODY and molecular correlates of clinical heterogeneity in monogenic childhood diabetes. Further comparative population genetics and functional genomics studies are called for, with an eye to discovery of novel diagnostics and personalized medicine in MODY. Because MODY is often misdiagnosed as type 1 or type 2 diabetes mellitus, advances in MODY diagnostics with NGS stand to benefit diabetes overall clinical care as well.

HIGHER RATE OF COVID-19 MORTALITY IN PATIENTS WITH TYPE 1 THAN TYPE 2 DIABETES: A NATIONWIDE STUDY

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Endokrynol Pol. 2022 Feb 4. doi: 10.5603/EP.a2022.0008. Online ahead of print. PMID: 35119089 DOI: 10.5603/EP.a2022.0008

Introduction: COVID-19 disease has a worse prognosis in patients with diabetes, but comparative data about the course of COVID-19 in patients with type 1 (T1DM) and type 2 diabetes (T2DM) are lacking. The purpose of this study was to find out the relative clinical severity and mortality of COVID-19 patients with T1DM and T2DM.

Material and methods: A nationwide retrospective cohort of patients with confirmed (PCR positive) COVID-19 infection (n = 149,671) was investigated. After exclusion of individuals with unspecified diabetes status, the adverse outcomes between patients with T1DM (n = 163), T2DM (n = 33,478) and those without diabetes (n = 115,108) were compared by using the propensity score matching method. The outcomes were hospitalization, the composite of intensive care unit (ICU) admission and/or mechanical ventilation, and mortality.

Results: The patients with T1DM had higher mortality than the age- and gender-matched patients with T2DM (n = 489) and those without diabetes (n = 489) ($p < 0.001$). After further adjustment for the HbA1c, and microvascular and macrovascular complications, the odds of mortality (OR: 3.35,

95% CI: 1.41-7.96, p = 0.006) and ICU admission and/or mechanical ventilation (OR: 2.95, 95% CI: 1.28-6.77, p = 0.011) were significantly higher in patients with T1DM compared to those with T2DM. Older age (OR: 1.06, 95% CI: 1.01-1.12, p = 0.028) and lymphopaenia (OR: 5.13, 95% CI: 1.04-25.5, p = 0.045) were independently associated with mortality in patients with T1DM.

Conclusions: Patients with T1DM had worse prognosis of COVID-19 compared to T2DM patients or those without diabetes. These cases should be cared for diligently until more data become available about the causes of increased COVID-19 mortality in T1DM.

TRIGLYCERIDE-GLUCOSE INDEX LEVELS IN PATIENTS WITH CONGENITAL HYPOGONADOTROPIC HYPOGONADISM AND THE RELATIONSHIP WITH ENDOTHELIAL DYSFUNCTION AND INSULIN RESISTANCE

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Endokrynol Pol. 2021;72(3):232-237. doi: 10.5603/EP.a2021.0019. Epub 2021 Mar 22. PMID: 33749808 DOI: 10.5603/EP.a2021.0019

Introduction: The risk of cardiometabolic diseases is increased in patients with hypogonadism. The triglyceride-glucose (TyG) index is a novel surrogate marker of insulin resistance and is associated with cardiovascular diseases. We investigated the TyG index levels and the relationship with endothelial dysfunction and insulin resistance in patients with congenital hypogonadotropic hypogonadism (CHH).

Material and methods: A total of 98 patients with CHH (mean age 21.66 ± 1.99 years) and 98 healthy control subjects (mean age 21.69 ± 1.21 years) were enrolled. The demographic parameters, TyG index, asymmetric dimethylarginine (ADMA), high-sensitivity C-reactive protein (hs-CRP), and homeostatic model assessment of insulin resistance (HOMA-IR) levels were measured for all participants.

Results: The patients had higher waist circumference (p < 0.001), triglycerides (p = 0.001), insulin (p = 0.003), HOMA-IR (p = 0.002), ADMA (p < 0.001), and TyG index (p < 0.001) levels and lower HDL-C (p = 0.044) and total testosterone (p < 0.001) levels compared to healthy control subjects. TyG index levels significantly correlated with the ADMA (r = 0.31, p = 0.003) and HOMA-IR (r = 0.32, p < 0.001) levels. TyG index was also determinant of HOMA-IR levels (ß = 0.20, p = 0.018).

Conclusion: The results of the present study show that patients with CHH had increased TyG index levels. Also, the TyG index is independently associated with insulin resistance in patients with CHH. Long-term follow-up studies are warranted to find out the role of the TyG index in determining cardiometabolic risk in patients with hypogonadism.

A RETROSPECTIVE COMPARISON BETWEEN INTENSIVE AND NON-INTENSIVE INSULIN REGIMENS IN TYPE 2 DIABETES MELLITUS

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Minerva Endocrinol. 2021 Jan 12. doi: 10.23736/S0391-1977.20.03323-4. Online ahead of print. PMID: 33435647 DOI: 10.23736/S0391-1977.20.03323-4

Background: This study compared the outcomes between intensive and non-intensive insulin regimens and assessed the predictive factors for failing to achieve the glycated hemoglobin (A1C) goals in type 2 diabetes mellitus (T2DM) patients requiring insulin therapy.

Methods: A single-center, retrospective assessment of the medical records of 125 T2DM patients undergoing intensive (46 patients) and non-intensive insulin therapy (79 patients) were conducted.

Results: No significant differences were found when the intensive and non-intensive insulin therapy groups were compared in terms of the percentage decreases of glucose and A1C levels. The mean A1C levels of the non-intensive and intensive groups declined from 11.15% and 11.30% to 7.97% and 8.06%, respectively.

Conclusions: Both intensive and non-intensive insulin therapies improved the baseline glycemic parameters, but being overweight or obese and/or being reluctant to dietary recommendations led to treatment failures regardless of the insulin regimen.

A SINGLE-CENTER OBSERVATIONAL STUDY ASSESSING THE PREDICTIVE FACTORS ASSOCIATED WITH THE PROGNOSIS OF ACROMEGALY

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Growth Horm IGF Res. 2020 Dec;55:101342. doi: 10.1016/j.ghir.2020.101342. Epub 2020 Aug 27. PMID: 32916586 DOI: 10.1016/j.ghir.2020.101342

Aim: The aim of this study was to clarify the prognostic values of various preoperative factors, including the surgeon's ability as well as the patient's age, gender, tumor size, cavernous sinus invasion, compression of the optic chiasm, hypopituitarism, immunohistochemical (IHC) staining pattern of the adenoma, and insulin-like growth factor-1 (IGF-1) level, in acromegalic patients who had undergone pituitary surgery.

Study design: This single-center, retrospective study assessed the medical records of 108 patients who had undergone pituitary surgery with the same neurosurgical team.

Results: The mean total follow-up period after surgery was 44.8 (min: 24, max: 59) months. Remission was reported in 67 (62.0%) patients, and 57 (52.8%) patients did not experience recurrence. Initial tumor volume, IGF-1 level, and optic chiasm compression, but not patients' age, gender, cavernous sinus invasion, and IHC staining patterns of the adenoma, were prognostic of either remission or recurrence. An IGF-1 level of 860 ng/mLwas found to be a convenient cut-off point for determining remission.

Conclusions: The experience of the surgical team suggests that the initial tumor volume, IGF-1 level, and optic chiasm compression have high prognostic values in relation to pituitary surgery for patients with acromegaly.

OXIDATIVE STRESS VALUES OF TUMOR CORE, EDGE, AND HEALTHY THYROID TISSUE IN THYROID MASSES

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Eur Arch Otorhinolaryngol. 2021 Aug;278(8):2953-2960. doi: 10.1007/s00405-020-06422-9. Epub 2020 Oct 14. PMID: 33052461 DOI: 10.1007/s00405-020-06422-9

Purpose: Reactive oxygen radicals play an important role in tumor formation, progression, and invasion. In this study, the aim was to investigate the relationship between the oxidative stress values of tumor core, edge, and healthy thyroid tissue in thyroid tumors.

Methods: A total of 51 patients with thyroid tumor, 24-malignant, and 27-benign, were included in this study. Samples, measuring 5 × 5 × 5 mm, were taken from the tumor core, edge, and healthy thyroid tissue of the participants. Total antioxidant status (TAS), total oxidant status (TOS), and oxidative stress index (OSI) values were examined. The oxidative stress values of core, edge, and healthy thyroid tissue of all tumors (n = 51) were compared according to the localization. The participants were divided into two groups as malignant (Group 1: Differentiated thyroid cancers) and benign (Group 2: Multinodular goiter). The groups were compared according to tissue localizations.

Results: The TOS value of tumor edge was significantly higher than the values of tumor core and healthy thyroid tissue. The OSI value of tumor edge was significantly higher than the values of tumor core and healthy thyroid tissue. There was no significant difference between Group 1 and Group 2 in terms of TAS, TOS, and OSI values of tumor core. The OSI values in tumor edge and healthy thyroid tissue were significantly higher in Group 1 than in Group 2. There was no significant difference between the groups in terms of TAS and TOS values of tumor edge and healthy thyroid tissue.

Conclusion: The oxidative stress values of tumor edge were significantly higher than the tumor core and healthy thyroid tissue values. The oxidative stress values of tumor edge and healthy thyroid tissue were significantly higher in malignant thyroid tumors compared to benign thyroid tumors.

THYROID NODULES LOCATED IN THE LOWER POLE HAVE A HIGHER RISK OF MALIGNANCY THAN LOCATED IN THE ISTHMUS: A SINGLE-CENTER EXPERIENCE

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Int J Endocrinol. 2021 Jul 14;2021:9940995. doi: 10.1155/2021/9940995. eCollection 2021. PMID: 34335749 PMCID: PMC8298157 DOI: 10.1155/2021/9940995

Purpose: The aim of our study is to investigate whether thyroid nodules (TNs) localization has value as a predictor of malignancy. Ultrasonography provides very valuable information in the evaluation of TNs, but it does not correlate perfectly with histopathologic findings. Therefore, studies that will include new diagnostic methods that can improve these unknowns can be welcomed gratefully.

Methods: This study was carried out retrospectively in a tertiary care center from September 2016 to January 2020. The study included 862 adult patients who have one or more nodules. Ultrasonography of characteristics of nodules such as echogenicity, content, margins, calcifications, size, and localization was recorded. Fine-needle aspiration biopsy (FNAB) was performed on dominant and suspicious 1142 nodules.

Results: The patients were composed of 692 (80.3%) females and 170 (19.7%) males. Compared to nodules located in the isthmus; the malignancy risk increased 8.39 (OR: 8.39 (2.34-30.12), $p = 0.001$) times in the lower pole, 4.27 (OR: 4.27 (1.16-15.72), $p = 0.029$), times in the middle pole, 8.09 (OR: 8.09 (2.11-30.94), $p = 0.002$) times in the upper pole, and 7.63 (OR: 7.63 (1.95-29.81), $p = 0.003$) times in the nodules covering the whole of the lobe. Although the most nodular location was in the middle pole, the risk of malignancy was less than that in the lower and upper poles.

Conclusions: Unlike the other localization studies, we found a higher risk of malignancy in the lower and similarly upper thyroid poles. Besides well-defined malignancy indicators in the literature and guidelines, localization information is promising for this purpose in the future.

TRANSCOVID: DOES GENDER-AFFIRMING HORMONE THERAPY PLAY A ROLE IN CONTRACTING COVID-19?

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J Sex Marital Ther. 2021 Nov 21;1-12. doi: 10.1080/0092623X.2021.2000535. Online ahead of print. PMID: 34806552 DOI: 10.1080/0092623X.2021.2000535

Based on the possible effects of androgens on the course of COVID-19, it can be posited that Gender-Affirming Hormone Therapy (GAHT) may affect the course of the disease in people with GD. We aimed to investigate the relationship between GAHT and contracting COVID-19, as well as the severity of the disease in individuals with Gender Dysphoria (GD). The single center, cross-sectional, web-based survey was completed by people with GD who received GAHT. The questionnaire contained three parts: a sociodemographic data form; a GAHT data form; a COVID-19-related data form. Of the 238 participants, 179 were individuals with female-to-male (FtM) and 59 male-to-female (MtF) GD. We detected that the risk of contracting COVID-19 increased 3.46 times in people with FtM GD, who had received testosterone therapy, in comparison to people with MtF GD, who received estrogen and anti-androgen therapy. Additionally, people with FtM GD who contracted COVID-19 had received longer testosterone therapy when compared to those who did not contract COVID-19. Our findings indicate that individuals with FtM GD who receive testosterone treatment within the scope of GAHT are at higher risk of contracting COVID-19 and that the clinicians who follow-up on GAHT should be more careful about this issue.

EFFICACY OF PREOPERATIVE THERAPEUTIC PLASMA EXCHANGE IN PATIENTS WITH HYPERTHYROIDISM AND FACTORS AFFECTING THE NUMBER OF SESSIONS

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Endocrine. 2022 Jan 30. doi: 10.1007/s12020-021-02975-9. Online ahead of print. PMID: 35094312 DOI: 10.1007/s12020-021-02975-9

Purpose: Achieving preoperative euthyroidism in patients with hyperthyroidism for whom antithyroid drugs (ATDs) cannot be used for treatment is a serious clinical problem. We aimed to evaluate the effectiveness of therapeutic plasma exchange (TPE) in hyperthyroid patients scheduled for surgery and predictive factors for a high number of TPE sessions.

Methods: We retrospectively analyzed the data of 21 patients with hyperthyroidism who were treated with TPE for preoperative euthyroidism in our institution. Pre- and post-TPE thyroid function tests were compared to assess efficacy. Binary logistic regression analysis was applied to determine predictors of patients requiring a high number of TPE sessions.

Results: All patients (20 patients with Graves' disease and 1 patient with toxic multinodular goiter; 12 women and 9 men; mean age 35.71 ± 12.38 years) had severe hyperthyroidism before TPE. The changes before and after TPE in fT3, fT4, and TSH levels were statistically significant ($p < 0.001$, $p < 0.001$, $p = 0.002$, respectively). The median number of TPE sessions was 8 (range: 1-24). Levels of fT3 before TPE were significantly higher in patients for whom higher numbers of TPE sessions were required (≥8) (OR: 1.427, 95% CI: 1.038-1.961, $p = 0.028$). Receiver operating characteristic curve analysis revealed an optimum cut-off value of 12.8 pg/ml for fT3 before TPE (91% sensitivity, 80% specificity, area under the curve: 0.927).

Conclusion: TPE should be considered as an effective alternative treatment option that can be used to rapidly achieve euthyroidism before surgery when ATDs cannot be used. Pre-TPE fT3 levels of >12.8 pg/ml may be an independent factor predicting the need for higher numbers of TPE sessions (≥8).

EFFECTS OF CONCOMITANT OBESITY AND DIABETES ON THE AGGRESSIVENESS AND OUTCOMES OF DIFFERENTIATED THYROID CANCER PATIENTS

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Arch Endocrinol Metab. 2021 Nov 3;65(4):455-461. doi: 10.20945/2359-3997000000361. Epub 2021 Apr 27. PMID: 33909380 DOI: 10.20945/2359-3997000000361

Objective: Obesity and diabetes are the risk factors for cancer development including differentiated thyroid cancer (DTC). Contradictory accumulated data indicates the possible negative effects of obesity and hyperglyceamia as a factor for aggressiveness of DTC. The aim of the present study is to investigate the association of high body mass index (BMI) and presence of type 2 diabetes mellitus (T2DM) on the histological aggressiveness and clinical outcomes in DTC patients followed for over 4 years in a single center.

Methods: Consequative 526 DTC patients who had undergone total thyroidectomy and/or radioactive iodine (RAI) ablation were reviewed retrospectively. Patients were divided into groups based on their BMI: normal weight, overweight, obese and also were evalauted in 3 groups presence of diabetes, prediabetes and nomoglyceamia. Histological aggressiveness of DTC at the time of diagnosis and clinical response at the time of last clinical visit were reassessed according to the criteria suggested by ATA 2015 guideline.

Results: No differences in histopathologic features, risk of recurrence, cumulative dose of RAI ablation and prevalence of 131I avid metastatic disease were demonstrated among the groups both classified according to BMI and hyperglycemia. Mean of 3.4 year follow-up also showed no differences in the clinial repsonse to therapy and percentage of nonthyroid primary cancer in DTC patients.

Conclusion: In this retrospective study we demonstrated that obesity and T2DM have no additive effect on DTC aggressiveness and response to therapy. DTC patients with obesity and diabetes can be treated according to present guidelines without requirement for spesific attention.

THE ROLE OF THE PLATELET-TO-LYMPHOCYTE RATIO AND NEUTROPHIL-TO-LYMPHOCYTE RATIO IN THE PREDICTION OF LENGTH AND COST OF HOSPITAL STAY IN PATIENTS WITH INFECTED DIABETIC FOOT ULCERS: A RETROSPECTIVE COMPARATIVE STUDY

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Acta Orthop Traumatol Turc. 2020 Mar;54(2):127-131. doi: 10.5152/j.aott.2020.02.518. PMID: 32254026 PMCID: PMC7286171 DOI: 10.5152/j.aott.2020.02.518

Objective: The aim of this study was to determine the role of new inflammatory markers, including the platelet-to-lymphocyte ratio (PLR) and neutrophil-to-lymphocyte ratio (NLR), in the prediction of length and cost of hospital stay in patients with infected diabetic foot ulcers (DFUs).

Methods: A total of 78 patients with DFUs who were admitted to our endocrinology clinic between January 2016 and July 2017 were included. Patients were then divided into three groups according to the Wagner DFU classification system: group 1: 18 patients with grade 2 DFU (11 men, 7 women; mean age = 57.5±7 years); group 2: 44 patients with grade 3 DFU (18 men, 26 women; mean age = 59.7±8.7 years); and group 3: 16 patients with grade 4 DFU (10 men, 6 women; mean age = 59.9±11.6 years). Laboratory findings were retrospectively obtained from hospital records; the PLR and NLR were calculated in all groups. Length and cost of hospital stay were recorded. Hospital costs were estimated in Turkish Lira (TL) based on the evaluation of glucose regulation, wound care, and antibiotic treatment.

Results: The mean NLR was significantly lower in group 1 (2.8±0.9) than in group 2 (6.0±5.2; p=0.017) and group 3 (6.9±5.3; p=0.011). The mean PLR was significantly lower in group 1 (140.8±42.6) than in group 3 (222.1±95.5; p=0.006). The mean length of stay was 7.9±2.7 days in group 1, 15.0±8.9 days in group 2, and 12.5±8.9 days in group 3. The mean cost was 1,310.8±500 TL in group 1, 2,966.9±2105 TL in group 2, and 3,488.1±3603.1 TL in group 3. Length and cost of stay were both significantly lower in group 1 than in groups 2 and 3 (p=0.011 and p=0.002, respectively). Comparative results showed that the length and cost of hospital stay increased with increasing severity of DFUs. Furthermore, correlation analyses demonstrated no correlation of length of stay with PLR and NLR but an obvious correlation between cost of stay and PLR (r=0.412; p<0.001). Additionally, there was no correlation between cost of stay and NLR (r=0.158, p>0.05).

Conclusion: The PLR is inflammatory marker that can be measured by an inexpensive and easily accessible test and can aid in the prediction of length and cost of hospital stay in patients with DFUs.

ALTERATION IN CHOROIDAL MICROVASCULATURE DETERMINED BY OPTICAL COHERENCE TOMOGRAPHY ANGIOGRAPHY IN PATIENTS WITH ACROMEGALY

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Photodiagnosis Photodyn Ther. 2021 Dec;36:102590. doi: 10.1016/j.pdpdt.2021.102590. Epub 2021 Oct 18. PMID: 34673271 DOI: 10.1016/j.pdpdt.2021.102590

Aim: We aimed to investigate the retinal layers and macular capillary structure using optical coherence tomography angiography (OCTA) with acromegaly patients and determine the relationship between OCTA parameters and disease duration, Growth hormone (GH) and Insuline growth factor (IGF - 1) levels.

Patients and method: Twenty-two patients with acromegaly who were followed up in the endocrinology outpatient clinic of Sisli Hamidiye Etfal Health Training and Research Hospital, were recruited into the study. Healthy control group was consisted of 22 age and gender matched subjects. Complete opthalmological examination including best visual acuity (BCVA), axial lenght, intraocular pressure (IOP) measurement, anterior segment and fundus examination, central corneal thickness with pachymetry and OCTA measurement were performed in the patients and healthy control group. Foveal avascular zone (FAZ), foveal vascular density (FVD), parafoveal vascular density (PFVD), choroidal flow (CF), foveal thickness (FT) and choroidal thickness (CT) were compared beetwen groups. Correlation between disease duration, GH and IGF-1 levels and OCTA parameters were evaluated.

Results: There was no statistically significant difference between the groups in terms of BCVA, axial length, IOP, FT, FAZ, FD and PFVD. Choroidal thickness and CF was significantly high in the patients group compared to healthy controls (respectively, $p = 0.003$, $p = 0.022$). The mean follow-up period in patients with acromegaly was 90±50.2 months. There was a significant correlation between GH and subfoveal choroidal thickness in the patient group ($p < 0.001$, $r = 0.52$), a significant correlation was determined between disease duration and corneal thickness ($p = 0.01$, $r = 0.41$). In addition, an inverse correlation was detected between the IGF-1 level and the FAZ domain ($p = 0.022$, $r= -0.34$).

Conclusion: In patients with acromegaly, choroidal vasculature seems to be more affected than the retinal vasculature.

EARLY-ONSET SEVERE OBESITY DUE TO HOMOZYGOUS P.R105W (C313C> T) MUTATION IN LEPTIN GENE IN TURKISH SIBLINGS: TWO CASES REPORTS

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Obes Res Clin Pract. Nov-Dec 2021;15(6):600-603. doi: 10.1016/j.orcp.2021.11.001. Epub 2021 Nov 19. PMID: 34802983 DOI: 10.1016/j.orcp.2021.11.001

Congenital leptin deficiency (CLD) is a rare cause of monogenic form obesity due to homozygous or compound heterozygous mutations in the LEP gene. To date, nine pathogenic mutations have been reported. In this study, we present are; an 18-year-old morbidly obese girl and a 14-year-old obese brother, both with homozygous mutation in the LEP gene [p.R105W (c313C> T)] and their data after three years of recombinant leptin treatment. To date, few cases of CLD have been reported in the literature. The cases reported here were siblings who were not diagnosed despite presentation at the clinic due to obesity in childhood, and diagnosis was delayed until adolescence. Clinicians need to consider CLD, a monogenic form of obesity in children with early severe obesity onset, especially if they are the child of a consanguineous marriage.

EARLY PREVENTION OF DIABETES MICROVASCULAR COMPLICATIONS IN PEOPLE WITH HYPERGLYCAEMIA IN EUROPE. EPREDICE RANDOMIZED TRIAL. STUDY PROTOCOL, RECRUITMENT AND SELECTED BASELINE DATA

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PLoS One. 2020 Apr 13;15(4):e0231196. doi: 10.1371/journal.pone.0231196. eCollection 2020. PMID: 32282852 PMCID: PMC7153858 DOI: 10.1371/journal.pone.0231196

Objectives: To assess the effects of early management of hyperglycaemia with antidiabetic drugs plus lifestyle intervention compared with lifestyle alone, on microvascular function in adults with pre-diabetes.

Methods: Trial design: International, multicenter, randomised, partially double-blind, placebo-controlled, clinical trial.

Participants: Males and females aged 45-74 years with IFG, IGT or IFG+IGT, recruited from primary care centres in Australia, Austria, Bulgaria, Greece, Kuwait, Poland, Serbia, Spain and Turkey.

Intervention: Participants were randomized to placebo; metformin 1.700 mg/day; linagliptin 5 mg/day or fixed-dose combination of linagliptin/metformin. All patients were enrolled in a lifestyle intervention program (diet and physical activity). Drug intervention will last 2 years. Primary Outcome: composite end-point of diabetic retinopathy estimated by the Early Treatment Diabetic Retinopathy Study Score, urinary albumin to creatinine ratio, and skin conductance in feet estimated by the sudomotor index. Secondary outcomes in a subsample include insulin sensitivity, beta-cell function, biomarkers of inflammation and fatty liver disease, quality of life, cognitive function, depressive symptoms and endothelial function.

Results: One thousand three hundred ninety one individuals with hyperglycaemia were assessed for eligibility, 424 excluded after screening, 967 allocated to placebo, metformin, linagliptin or to fixed-dose combination of metformin + linagliptin. A total of 809 people (91.1%) accepted and initiated the assigned treatment. Study sample after randomization was well balanced among the four groups. No statistical differences for the main risk factors analysed were observed between those accepting or rejecting treatment initiation. At baseline prevalence of diabetic retinopathy was 4.2%, severe neuropathy 5.3% and nephropathy 5.7%.

Conclusions: ePREDICE is the first -randomized clinical trial with the aim to assess effects of different interventions (lifestyle and pharmacological) on microvascular function in people with pre-diabetes. The trial will provide novel data on lifestyle modification combined with glucose lowering drugs for the prevention of early microvascular complications and diabetes.

THE ASSOCIATION BETWEEN INSULIN-LIKE GROWTH FACTOR 1 LEVELS WITHIN REFERENCE RANGE AND EARLY POSTOPERATIVE REMISSION RATE IN PATIENTS WITH CUSHING'S DISEASE

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Endocr Res. 2021 Aug;46(3):92-98. doi: 10.1080/07435800.2021.1883056. Epub 2021 Feb 9. PMID: 33560156 DOI: 10.1080/07435800.2021.1883056

Introduction: The relationship between growth hormone (GH)/insulin-like growth factor 1 (IGF-1) and glucocorticoids (GC) was examined in various studies. Long-term GC treatment was shown to decrease GH concentration and, interestingly, to increase IGF-1 concentration. We performed a retrospective study in order to examine how preoperative IGF-1 concentrations vary within the reference range and if tertiles of age- and sex-adjusted normal IGF-1 are predictive for early postoperative remission in the patients with Cushing's Disease (CD).

Patients and methods: Patients diagnosed with CD were retrospectively evaluated. After the exclusion of 67 patients, a final cohort of 250 CD patients were included. Age- and sex-adjusted normal IGF-1 levels were divided into tertiles (T1, T2 and T3). Early postoperative remission was defined as a nadir morning cortisol concentration measured within the first 3 consecutive days following surgery of less than 5 μg/dL (138 nmol/L).

Results: Early postoperative remission rate was the lowest in T1 and highest in T3; 49.1% (n = 28) versus 77.3% (n = 75), p = .001, respectively. Binary logistic regression analysis showed the remission rate in T3 was three times higher than that in T1 (p = .003). Cortisol and ACTH concentration were significantly higher and GH concentrations were significantly lower in T1 compared to those in the other two tertiles.

Conclusions: As the first study evaluating the correlation between early postoperative remission rate in patients with CD and the tertiles of normal age- and sex-adjusted IGF-1 levels, we have shown that higher IGF-1 levels could predict better outcome in CD.

RAPID AND EFFECTIVE VITAMIN D SUPPLEMENTATION MAY PRESENT BETTER CLINICAL OUTCOMES IN COVID-19 (SARS-COV-2) PATIENTS BY ALTERING SERUM INOS1, IL1B, IFNG, CATHELICIDIN-LL37, AND ICAM1

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Nutrients. 2021 Nov 12;13(11):4047. doi: 10.3390/nu13114047. PMID: 34836309 PMCID: PMC8618389 DOI: 10.3390/nu13114047

Background: We aimed to establish an acute treatment protocol to increase serum vitamin D, evaluate the effectiveness of vitamin D3 supplementation, and reveal the potential mechanisms in COVID-19.

Methods: We retrospectively analyzed the data of 867 COVID-19 cases. Then, a prospective study was conducted, including 23 healthy individuals and 210 cases. A total of 163 cases had vitamin D supplementation, and 95 were followed for 14 days. Clinical outcomes, routine blood biomarkers, serum levels of vitamin D metabolism, and action mechanism-related parameters were evaluated.

Results: Our treatment protocol increased the serum 25OHD levels significantly to above 30 ng/mL within two weeks. COVID-19 cases (no comorbidities, no vitamin D treatment, 25OHD <30 ng/mL) had 1.9-fold increased risk of having hospitalization longer than 8 days compared with the cases with comorbidities and vitamin D treatment. Having vitamin D treatment decreased the mortality rate by 2.14 times. The correlation analysis of specific serum biomarkers with 25OHD indicated that the vitamin D action in COVID-19 might involve regulation of INOS1, IL1B, IFNg, cathelicidin-LL37, and ICAM1.

Conclusions: Vitamin D treatment shortened hospital stay and decreased mortality in COVID-19 cases, even in the existence of comorbidities. Vitamin D supplementation is effective on various target parameters; therefore, it is essential for COVID-19 treatment.

CANCERS DETECTED DURING THE EVALUATION BEFORE BARIATRIC SURGERY IN OBESE PATIENTS: A HIGH-RISK POPULATION FOR CANCERS AND THEIR PREVALENCE

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Obes Surg. 2021 Dec;31(12):5391-5395. doi: 10.1007/s11695-021-05747-6. Epub 2021 Oct 21. PMID: 34674140 DOI: 10.1007/s11695-021-05747-6

Purpose: The purpose of the present study was to determine the types and prevalence of cancers in obese patients who have risks for cancer with multidisciplinary evaluation in managing the patients before bariatric surgery.

Materials and methods: The study had a descriptive cross-sectional method conducted by examining patients' files retrospectively. The frequency and types of diseases with cancer during the multidisciplinary evaluation of the study group with a BMI ≥40 kg/m^2 before bariatric surgery were used as the study data.

Results: A total of 1354 (64.97%) of these patients underwent bariatric surgery (for obesity), and 730 (35.02%) cases underwent metabolic surgery (type 2 diabetic patients). Eighteen patients had thyroid papillary cancer (0.86%) and colon cancer was detected in 8 people (0.38%), breast cancer in 6 people (0.47%), stomach cancer in 5 people (0.23%), kidney cancer in 3 people (0.1%) 4), lung cancer in 2 people (0.09%), pancreatic cancer in 2 people (0.09%), adrenal cancer in 2 people (0.09%), and neuroendocrine tumor in 1 person (0.04%).

Conclusion: It was found that obesity and some cancers are related. Weight loss to be achieved with obesity surgery can reduce the risk of obesity-related cancers.

RECURRENT PREGNANCY LOSS AND METABOLIC SYNDROME

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Ginekol Pol. 2020;91(6):320-323. doi: 10.5603/GP.a2020.0063. PMID: 32627153 DOI: 10.5603/GP.a2020.0063

Objectives: The aim of this study was to evaluate the frequency of metabolic syndrome (MetS) and its components in patients with unexplained recurrent pregnancy loss (RPL).

Material and methods: A cross-sectional study was held including 115 patients with unexplained RPL who were referred to a tertiary center between December 2018 and December 2019. In the study, MetS was classified according to The National Cholesterol Education Program (NCEP) Adult Treatment Panel III (ATP III) criteria on the basis of metabolic risk factors. Frequency of MetS in the patients with unexplained RPL was investigated. The relationship between miscarriage rate and metabolic risk factors was also evaluated.

Results: According to our study the percentage of MetS in patients with unexplained RPL was 24.4%. When evaluated according to different age groups, it was 18.4% in patients aged 20-29 years, and it was 27.8% in patients aged 30-39 years. At least having one of its components were high (82.6%) in all patients with unexplained RPL.

Conclusions: The percentage of MetS or of at least having one of its components were high in patients with unexplained RPL. Increased number of having MetS components were associated with increased miscarriage rate.

SGLT2 INHIBITORS IMPROVE PLASMA ATHEROGENIC BIOMARKERS IN PATIENTS WITH TYPE 2 DIABETES: A REAL WORLD RETROSPECTIVE OBSERVATIONAL STUDY

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Minerva Endocrinol (Torino). 2021 May 12. doi: 10.23736/S2724-6507.21.03465-5. Online ahead of print. PMID: 33979071 DOI: 10.23736/S2724-6507.21.03465-5

Introduction: There are cost-effective, non-invasive, and predictive tools used to predict the CVD risk in patients with diabetes such as the "atherogenic index of plasma (AIP)" which is defined as the logarithm to the base 10 of the ratio of fasting plasma TG (mg/dL) to HDL-C [log (TG/HDL-C)], triglyceride to high density lipoprotein (TG-to-HDL-C) ratio and the triglyceride glucose (TyG) index which is calculated as Ln (fasting TG (mg/dL) × fasting blood glucose (mg/dL)/2). These tools are indirect markers of atherosclerosis. Dapagliflozin and empagliflozin have exhibited cardiovascular beneficial effects and this study evaluated the effects of sodium glucose cotransporter 2 inhibitors (SGLT2i) on AIP, TyG index and TG-to-HDL-C ratio in patients with type 2 diabetes.

Methods: This single center, retrospective, observational study involved patients with type 2 diabetic patients who were prescribed SGLT2i in the endocrinology outpatient clinic between January 2017 and June 2019. Demographic and clinical data were collected from patient files. AIP, TyG index and TG-to-HDL-C ratio were calculated obtained at the first visit and the sixth month visit.

Results: Overall, 143 patients with T2DM (75 women, 68 men) were recruited in this study. Sixty six patients were prescribed dapagliflozin (46.2%), and 77 were prescribed empagliflozin (53.8%). SGLT2i treatment did not alter the lipid profile except the serum triglyceride (TG) levels. Serum TG levels were significantly reduced after 6 months of SGLT2i therapy ($p = 0.045$). All patients had significant reductions in AIP at 6-month follow-up ($p < 0.001$), accompanied by a significant reduction in TyG index ($p < 0.001$). Both empagliflozin and dapagliflozin caused significant decrease in AIP ($p = 0.043$ and $p < 0.001$, respectively) and TyG index ($p = 0.010$ and $p < 0.001$, respectively).

Conclusions: Both dapagliflozin and empagliflozin were noted to significantly affect AIP and TyG indexes, which indicate atherosclerotic cardiovascular risk, with or without statin treatment regardless of lipid parameters.

NUMBER OF CELLS IN PARATHYROID TISSUE IN PRIMARY HYPERPARATHYROIDISM CASES AND ITS RELATIONSHIP WITH SERUM CALCIUM VALUE

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Medicine (Baltimore). 2021 Nov 19;100(46):e27530. doi: 10.1097/MD.0000000000027530. PMID: 34797277 PMCID: PMC8601366 DOI: 10.1097/MD.0000000000027530

Background: The relationship between serum calcium (Ca) level to serum parathyroid hormone (PTH), phosphorus (P) levels and tissue properties of the parathyroid gland is unknown in primary hyperparathyroidism cases. Revealing this relationship may be useful for understanding the etiopathogenesis of primary hyperparathyroidism and determining the time of treatment.

Methods: Ninety patients (71 females, 19 males, age range; 27-73 years, average age; 46) who underwent single gland excision with the diagnosis of primary hyperparathyroidism were studied. The patients were divided into 2 groups as serum Ca level <12 and serum Ca level ≥12. Age and sex of the patients, mean cell number of the gland, mean volume of the gland, serum levels of PTH, P, and histopathologic type of hyperplasia were evaluated.

Results: The mean cell number per cubic centimeter is 22.9 (10-220 range) million in all glands. Serum Ca level was <12 in 82 (91.1%) of the patients, and ≥12 in 8 (8.9%) cases. Mean cell number of the gland, mean volume of the gland, existence of cystic hyperplasia of the gland, serum levels of PTH and P were statistically significant between the 2 groups ($P < .001$, $P < .001$, $P < .05$, $P < .001$, $P < .05$ respectively).

Conclusion: In primary hyperparathyroidism cases serum Ca level is not related to age and sex but directly related to proportionals to the cell number and volume of the gland and serum levels of PTH, inversely related to cystic hyperplasia and serum levels of P. Early surgical intervention should be planned since the serum Ca level will be high in large adenomas with a noncystic radiological appearance.

THE EFFECTS OF KEFIR ON KIDNEY TISSUES AND FUNCTIONS IN DIABETIC RATS

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Probiotics Antimicrob Proteins. 2021 Apr;13(2):375-382. doi: 10.1007/s12602-020-09698-9. PMID: 32820468 DOI: 10.1007/s12602-020-09698-9

This study was designed to determine the protective effect of kefir on the oxidative damage, as well as histological and biochemical changes that occur in the kidney tissues of experimental diabetic rats. Forty rats were allocated into four groups as "healthy saline" (SF), "healthy kefir" (KF), and the same groups with experimentally induced diabetes (DSF and DKF). Diabetes was induced by administering 65 mg/kg single-dose streptozotocin. Oral kefir was given 10 ml/kg/day for 35 days to the rats in the groups KF and DKF. The same amount of saline was given to the groups SF and DSF. On the 36th day of the study, blood glucose, urea, and creatinine were measured besides glucose, creatinine, microalbuminuria, and sodium in the urine. Additionally, histological examination was performed on the kidney tissues. Blood glucose, creatinine, and urea levels were significantly lower in the DKF group compared with those of the DSF group ($p < 0.001$). Also, the creatinine level was significantly decreased ($p < 0.001$), and microalbuminuria was increased ($p < 0.001$) in the DKF group compared with that of the DSF group. Histologically, intermittent expansion in the renal glomeruli, reduction of cast formation in the tubules, and improvement in the renal epithelial tissues of the DKF group were observed. Kefir decreased the damage caused by diabetes. These results indicate that kefir supplementation may contribute to better control of oxidative stress, which is related to the improvement of renal functions, suggesting its use to slow down the progression of diabetic nephropathy.

VITAMIN D DEFICIENCY IS A POTENTIAL RISK FOR BLOOD PRESSURE ELEVATION AND THE DEVELOPMENT OF HYPERTENSION

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Medicina (Kaunas). 2021 Nov 25;57(12):1297. doi: 10.3390/medicina57121297. PMID: 34946242 PMCID: PMC8703486 DOI: 10.3390/medicina57121297

Background and objectives: Hypertension is a global health problem and a major risk factor for cardiovascular diseases. Vitamin D deficiency is closely related to high blood pressure and the development of hypertension. This study investigated the relationship between the vitamin D and blood pressure status in healthy adults, and their 8-year follow-up was added.

Materials and Methods: A total of 491 healthy middle-aged participants without any chronic illness, ages 21 to 67 at baseline, were divided into two groups as non-optimal blood pressure (NOBP) and optimal blood pressure (OBP). NOBP group was divided into two subgroups: normal (NBP) and high normal blood pressure (HNBP). Serum 25-hydroxy vitamin D levels were measured with the immunoassay method. 8-year follow-up of the participants was added.

Results: The average vitamin D level was detected 32.53 ± 31.50 nmol/L in the OBP group and 24.41 ± 14.40 nmol/L in the NOBP group, and a statistically significant difference was found ($p < 0.001$). In the subgroup analysis, the mean vitamin D level was detected as 24.69 ± 13.74 and 24.28 ± 14.74 nmol/L in NBP and HNBP, respectively. Together with parathyroid hormone, other metabolic parameters were found to be significantly higher in the NOBP. During a median follow-up of 8 years, higher hypertension development rates were seen in NOBP group ($p < 0.001$).

Conclusions: The low levels of vitamin D were significantly associated with NBP and HNBP. The low levels of vitamin D were also associated with the development of hypertension in an 8-year follow-up.

THE EFFECT OF GESTATIONAL DIABETES ON THE EXPRESSION OF MITOCHONDRIAL FUSION PROTEINS IN PLACENTAL TISSUE

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Placenta. 2021 Nov;115:106-114. doi: 10.1016/j.placenta.2021.09.015. Epub 2021 Sep 24. PMID: 34600274 DOI: 10.1016/j.placenta.2021.09.015

Introduction: Gestational diabetes mellitus (GDM) poses a risk factor for fetal mortality and morbidity by directly affecting the placenta and fetus. Mitochondria are dynamic organelles that play a key role in energy production and conversion in placental tissue. Mitochondrial fusion and fission proteins are important in terms of providing mitochondrial dynamics, the adaptation of the cell to different conditions, and maintaining the metabolic stability of the cells. Although GDM shares many features with Type 2 diabetes mellitus (T2DM), different effects of these conditions on the mother and the child suggest that GDM may have specific pathological effects on placental cells. The aim of this study is to investigate the expression of mitochondrial dynamics, and mitochondrial protein folding markers in placentas from GDM patients and women with pre-existing diabetes mellitus.

Methods: Placentas were properly collected from women, who had pre-existing diabetes (Pre-DM), from women with gestational diabetes mellitus (GDM) and from healthy (non-diabetic) pregnant women. Levels of mitochondrial fusion markers were determined in these placentas by real time quantitative PCR and Western blot experiments.

Results: mRNA expressions and protein levels of mitochondrial fusion markers, mitofusin 1, mitofusin 2 (MFN1 and MFN2) and optical atrophy 1 (OPA1) proteins were found to be significantly lower in both Pre-DM placentas and those with GDM compared to healthy (non-diabetic) control group. Likewise, proteins involved in mitochondrial protein folding were also found to be significantly reduced compared to control group.

Discussion: Diabetes during pregnancy leads to processes that correlate with mitochondria dysfunction in placenta. Our results showed that mitochondrial fusion markers significantly decrease in placental tissue of women with GDM, compared to the healthy non-diabetic women. The decrease in mitochondrial fusion markers was more severe during GDM compared to the Pre-DM. Our results suggest that there may be differences in the pathophysiology of these conditions.

PERSONALITY TRAITS IN ACROMEGALIC PATIENTS: COMPARISON WITH PATIENTS WITH NON-FUNCTIONING ADENOMAS AND HEALTHY CONTROLS

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Growth Horm IGF Res. 2022 Feb;62:101439. doi: 10.1016/j.ghir.2021.101439. Epub 2021 Nov 17. PMID: 34814008 DOI: 10.1016/j.ghir.2021.101439

Objectives: Pituitary diseases may cause psychiatric and personality alterations. We aimed to compare the personality traits of acromegalic patients with those of patients with non-functioning pituitary adenomas and a healthy control group.

Design: Fifty-eight acromegalic patients, 45 patients with non-functioning adenoma, and 40 healthy subjects were enrolled in the study. Cloninger's Temperament and Character Inventory (TCI), Beck Depression Inventory, Beck Anxiety Inventory, and Rosenberg Self-Esteem Scale (RSES) were used to assess personality, depression, anxiety, and self-esteem.

Results: Depression score was higher in acromegaly and non-functioning adenoma groups than healthy controls. RSES scores were similar among the three groups. Regarding the scales of TCI, only novelty-seeking was significantly reduced in acromegaly and non-functioning adenoma than the control group. Pairwise comparisons revealed that the difference was due to the difference between acromegalic patients and controls. Scales of TCI were correlated with depression and anxiety in patients with acromegaly and non-functioning adenoma but not in healthy controls.

Conclusion: This study showed that novelty-seeking was reduced in patients with acromegaly. Both the hormonal lack and excess and structural changes can lead to cognitive and personality changes in acromegaly. More studies are needed to be carried out about personality characteristics in pituitary diseases.

DETERMINATION OF INSULIN-RELATED LIPOHYPERTROPHY FREQUENCY AND RISK FACTORS IN PATIENTS WITH DIABETES

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Endocrinol Diabetes Nutr (Engl Ed). 2021 Aug 24;S2530-0164(21)00184-1. doi: 10.1016/j.endinu.2021.07.002. Online ahead of print. PMID: 34452876 DOI: 10.1016/j.endinu.2021.07.002

Introduction: Insulin, which is used in the treatment of diabetes mellitus (DM), may lead to the development of lipohypertrophy (LH) which can negatively affect the management of diabetes mellitus. Two common methods to detect LH are palpation and superficial subcutaneous ultrasonography (SSU). We investigated the frequency of non-palpable LH using SSU, as well as examining risk factors.

Method: We included in our study patients who had been receiving insulin injections at least twice a day for over one year without palpable LH. The epidermis and the subcutaneous tissue thickness of each region were examined using SSU. The presence of LH and associated risk factors for LH were evaluated.

Results: We included 136 patients in our study. The mean age of all patients was 52.87±14.93 years, 59.6% were female and 73.5% had type 2 DM. The duration of DM and insulin usage were 15.76±9.20 and 11.42±8.26 years, respectively. The mean body mass index (BMI) of all patients was 30.59±7.40kg/m^2. Non-palpable LH was detected in 87.5% (n=116) of the patients using SSU. In the multivariate logistic regression analyses, total cholesterol level, short-acting insulin dose and coronary artery disease (CAD) were associated with LH presence.

Conclusion: Non-palpable LH can be seen at high rates in patients who have multiple insulin injections. Palpation is likely not enough to detect LH and we believe it would be appropriate to evaluate the presence of LH using SSU, especially for those who need high-dose insulin to control hyperglycaemia.

DETERMINATION OF THE FREQUENCY OF HYPERPROLACTINEMIA-RELATED ETIOLOGIES AND THE ETIOLOGY-SPECIFIC MEAN PROLACTIN LEVELS

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Minerva Endocrinol (Torino). 2021 Sep 16. doi: 10.23736/S2724-6507.21.03386-8. Online ahead of print. PMID: 34528777 DOI: 10.23736/S2724-6507.21.03386-8

Background: Prolactin (PRL) is a peptide hormone secreted by the anterior pituitary that provides lactation during the postpartum period. The causes of hyperprolactinemia are pituitary tumors, medications, primary hypothyroidism, polycystic ovary syndrome (PCOS), renal failure, idiopathic, and other physiological causes such as pregnancy and lactation. In this study, we aimed to investigate the prevalence of hyperprolactinemia etiologies and the mean/median prolactin levels in different etiologies.

Methods: The patients admitted to our outpatient clinic between January 2009-December 2019 were retrospectively screened from our hospital database with ICD-10 codes.

Results: Four hundred patients were included in the study. 69.5% of the patients were women. Their mean age was 43.67±13.42 years, the duration of illness was 7.8±5.6 years. The most frequent causes of hyperprolactinemia were found as follows: 52.5% (n:210) prolactinoma, 7%(n:28) gonadotropinoma, 6.5%(n:26) drug-related, 6.5%(n:25) PCOS, 5.8%(n:23) idiopathic, 5%(n:20) acromegaly, 4.8%(n:19) nonfunctioning adenoma 2.3%(n:9) craniopharyngioma. Patients with gonodotropinoma were significantly older, and the patients with PCOS were significantly younger than the patients with hyperprolactinemia due to the other etiologies. Patients with prolactinoma had significantly higher prolactin levels and longer duration of the illness when compared to other etiologies of hyperprolactinemia (168.00* ng/mL (14-23500) [168]; 8* years (0-39) [5.00] years respectively, *median values, (min- max levels) and [interquartile range], respectively. There was no significant difference between prolactin levels of other etiologic groups except prolactinoma. Surprisingly, we found PCOS patients with prolactin levels greater than 100 ng/ml and acromegaly or drug-induced hyperprolactinemia with prolactin levels greater than 200 ng/ml.

Discussion: In our study, unlike the literature, macroprolactinemia can be seen alone or together with other pathologies. Except for macroprolactinoma, it is not possible to diagnose according to prolactin level. Similar to the literature, prolactinoma was the most common cause of hyperprolactinemia. The causes of hyperprolactinemia, in order of decreasing frequency, were determined to be gonodotropinoma, drug-related, PCOS, idiopathic, and acromegaly. The range of prolactin detected in PCOS is given as new information. It was found that the pediatric group and the adult group had a similar etiology and PRL level.

Conclusions: A large spectrum of physiologic/ pathologic conditions increases the prolactin levels, and prolactin levels may vary from person to person. So, the serum prolactin level alone does not guide a clinical diagnosis or make a differential diagnosis.

COVID-19, ANXIETY, AND HOPELESSNESS: QUALITY OF LIFE AMONG HEALTHCARE WORKERS IN TURKEY

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Eval Health Prof. 2021 Dec 22;1632787211067530. doi: 10.1177/01632787211067530. Online ahead of print. PMID: 34937430 DOI: 10.1177/01632787211067530

The aim of the study is to investigate the effects of intense anxiety and hopelessness experienced by healthcare workers during the pandemic on their quality of life. This cross-sectional, online questionnaire-based study was conducted between August 31, 2020 and October 31, 2020, with 729 healthcare workers in Turkey. The study showed that hopelessness, the weekly working time, fatigue, and the workload of healthcare workers negatively affected their quality of life, those who found the pandemic measures inadequate had a lower quality of life and higher hopelessness levels, and those who needed knowledge on various issues to improve their skills had lower quality of life and higher levels of anxiety and hopelessness. Increasing the measures to make healthcare workers feel competent and ready during the COVID-19 pandemic and meet their information needs to improve their skills will reduce their anxiety and hopelessness and improve their quality of life. Identifying the factors affecting anxiety, hopelessness, and quality of life will help achieve sustainable success in the delivery of health services and promote employee health and safety.

ACUTE AND SHORT-TERM EFFECTS OF LACTOBACILLUS PARACASEI SUBSP. PARACASEI 431 AND INULIN INTAKE ON APPETITE CONTROL AND DIETARY INTAKE: A TWO-PHASES RANDOMIZED, DOUBLE BLIND, PLACEBO-CONTROLLED STUDY

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Appetite. 2022 Feb 1;169:105855. doi: 10.1016/j.appet.2021.105855. Epub 2021 Dec 13. PMID: 34915104 DOI: 10.1016/j.appet.2021.105855

This study aims to examine the acute and short-term effects of prebiotics, probiotics, and their combination on appetite, energy intake and satiety related hormones in two phases. The first phase was a randomized, double blind, placebo controlled crossover study. Prebiotic (16 g inulin), probiotic (Lactobacillus paracasei subsp. paracasei 431 (L. casei 431) ($>10^6$ cfu/ml), synbiotic (their combination) and control (16 g maltodextrin) dairy drinks were consumed by 16 healthy men with a standard breakfast on four separate test days, and the following satiety responses and ad libitum food intake at lunch and over 24 h were assessed. In the second phase, the effects of 21 days of synbiotic (n = 10) or control (n = 11) drink consumption on appetite sensation, energy intake, serum glucose, insulin, peptide YY, ghrelin, obestatin and adiponectin concentration were assessed in a randomized double-blind placebo-controlled design. In the first phase, energy intake values during ad libitum lunch were the lowest in the prebiotic drink, followed by probiotic, synbiotic and control drinks, respectively (p = 0.017); also the rest of the day and 24-h dietary energy intake was lower by prebiotic and probiotic drinks compared to the control drink ($p < 0.05$ for each). For short-term effects, no significant difference in anthropometric measurements, hunger-satiety scores and serum glucose, insulin, PYY, ghrelin, obestatin and adiponectin concentrations were recorded. Despite the potential of prebiotics and probiotics to reduce energy intake, further studies are required for a better understanding of their role in satiety related mechanisms.

CHARACTERISTICS OF PATIENTS WITH HYPERTENSION IN A POPULATION WITH TYPE 2 DIABETES MELLITUS. RESULTS FROM THE TURKISH NATIONWIDE SURVEY OF GLYCEMIC AND OTHER METABOLIC PARAMETERS OF PATIENTS WITH DIABETES MELLITUS (TEMD HYPERTENSION STUDY)

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Prim Care Diabetes. 2021 Apr;15(2):332-339. doi: 10.1016/j.pcd.2020.11.001. Epub 2020 Dec 1. PMID: 33277201 DOI: 10.1016/j.pcd.2020.11.001

Background: The present survey aimed to find out the demographical and clinical characteristics of patients with hypertension in a population with type 2 diabetes mellitus (T2DM) in Turkey.

Methods: Patients with T2DM who were followed-up in tertiary endocrine units for at least last one year were recruited. Demographic, clinical and biochemical data of the patients were collected. Hypertension was defined as taking anti-hypertensive medications or having office arterial blood pressure (ABP) ≥140/90 mmHg or home ABP ≥ 130/80 mmHg.

Results: A total of 4756 (58.9% women) diabetic patients were evaluated. The percentage of patients with hypertension was 67.5% (n = 3212). Although 87.4% (n = 2808) of hypertensive patients were under treatment, blood pressure was on target in 52.7% (n = 1479) of patients. Hypertension proportions were higher in woman (p = 0.001), older, more obese, and those who had longer diabetes duration, lower education levels, higher frequency of hypoglycemic events (all $p < 0.001$) and higher triglyceride levels (p = 0.003). LDL cholesterol level and the percentage of smokers were lower in hypertensive group than in non-hypertensive group (both $p < 0.001$). The percentage of macro and microvascular complications was higher in the hypertensive group than in the normotensive one (both $p < 0.001$). In multivariate logistic regression analysis, being a woman (OR: 1.26, 95% CI: 1.04-1.51, p = 0.016), smoking (OR: 1.38, 95% CI: 1.05-1.80, p = 0.020), regular physical activity (OR: 1.24, 95% CI: 1.01-1.53, p = 0.039) and the presence of macrovascular complications (OR: 1.38 95% CI: 1.15-1.65, p = 0.001) were the significant predictors of good ABP regulation. The ratios of masked and white coat hypertension were 41.2% and 5.7%, respectively.

Conclusion: Our findings indicate that two-thirds (67.5%) of adult patients with T2DM have hypertension. Co-existence of hypertension increases the frequency of macro and microvascular diabetic complications in these patients. Despite the critical role of hypertension in morbidity and mortality, only half of the patients have favorable ABP levels. Masked hypertension seems to be another important issue in this population.

THE EFFECT OF SOMATOSTATIN ANALOGS AND ACROMEGALY ON THE UPPER GASTROINTESTINAL SYSTEM

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Pituitary. 2021 Apr;24(2):184-191. doi: 10.1007/s11102-020-01095-3. Epub 2020 Oct 19. PMID: 33074400 DOI: 10.1007/s11102-020-01095-3

Purpose: To evaluate the effects of somatostatin analogs and disease activity status on the upper gastrointestinal system in patients with acromegaly.

Methods: One hundred eighty-one patients with acromegaly were retrospectively assessed. The demographic, biochemical, pathologic, and radiologic data of the patients were evaluated. The upper gastrointestinal endoscopies and endoscopic biopsies were investigated. We divided patients into four groups according to the use of somatostatin analogs, and into two groups according to disease activity. We compared the data of patients between groups A, B, C, and D, and controlled/uncontrolled groups separately.

Results: Before and in the peri-endoscopic period, 67 and 27 patients were being treated with octreotide long-acting release (LAR) (group A) and lanreotide autogel (group B), respectively. Twenty-one patients used somatostatin analogs, but they were stopped for various reasons before upper gastrointestinal endoscopy (group C), and 66 patients did not use a somatostatin analog (group D). In the peri-endoscopic period, 103 (60%) patients were responsive to medical and/or surgical treatment and 67 (40%) patients were non-responsive. The rate of gastritis was higher in group A than in groups B and D. The incidence of duodenitis and gastric ulcer was much higher in group D. The rate of gastritis was higher in the controlled group compared to the uncontrolled group.

Conclusion: The study showed that octreotide LAR treatment could be a risk factor in addition to known factors for the development of gastritis in patients with acromegaly.

THE EFFECTS OF CHRONIC LYMPHOCYTIC THYROIDITIS ON CLINICOPATHOLOGIC FACTORS IN PAPILLARY THYROID CANCER

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Endocr Pract. 2021 Dec;27(12):1199-1204. doi: 10.1016/j.eprac.2021.07.011. Epub 2021 Jul 19. PMID: 34293511 DOI: 10.1016/j.eprac.2021.07.011

Objective: This study evaluated the impact of chronic lymphocytic thyroiditis (CLT) on clinicopathologic parameters, prognostic outcome, and initial treatment responses in patients with papillary thyroid cancer (PTC).

Methods: A retrospective review was conducted of 1409 patients with PTC, comprising 443 patients with pathology-proven PTC with CLT and 447 patients with PTC without CLT.

Results: The median follow-up time was 58 months (range, 8-380 months), and the median age at the time of diagnosis was 43 years. The age at diagnosis was significantly lower in patients with CLT than in those without CLT (42 years vs 45 years, respectively; P = .001). The preoperative thyroid-stimulating hormone level was found to be significantly higher in patients with CLT than in those without CLT (1.71 mIU/L vs 1.28 mIU/L, respectively; P <.001). Multifocality and capsular, lymphovascular, and perineural invasion were detected at a higher rate in the group with CLT than in the group without CLT (P = .015, P = .024, P = .004, and P = .039, respectively). No difference was found between the 2 groups in terms of tumor size, bilaterality, extrathyroidal invasion, lymph node metastasis, disease stage, or response to treatment (P >.05).

Conclusion: The results of the present study demonstrated that the coexistence of PTC and CLT is very frequent. Patients with the coexistence of PTC and CLT were diagnosed at a younger age, and the thyroid-stimulating hormone level was higher in these patients. Contrary to previous studies, no positive effect of the CLT and PTC combination was detected on any clinicopathologic factor. In addition, lymphovascular and perineural invasions, which had negative effects on prognosis, were more common in the group with CLT.

IS THERE A RELATIONSHIP BETWEEN SERUM OMENTIN LEVEL AND ACUTE PHASE RESPONSE IN PATIENTS WITH FAMILIAL MEDITERRANEAN FEVER?

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Clin Rheumatol. 2021 Feb;40(2):669-674. doi: 10.1007/s10067-020-05249-3. Epub 2020 Jul 4. PMID: 32623649 DOI: 10.1007/s10067-020-05249-3

Objectives: Familial Mediterranean fever (FMF) is an autoinflammatory disease characterized by frequent attacks and chronic inflammation. Subclinical inflammation continues during the attack-free period. Omentin is an anti-inflammatory adipokine, which plays important roles in the adjustments of glucose metabolism, cardiovascular homeostasis and atherosclerosis. The aim is to investigate the omentin levels in FMF patients and to assess the association with markers of subclinical inflammation in FMF patients such as serum amyloid A (SAA), erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP).

Method: This cross-sectional study included 54 consecutive adult FMF patients (27 male, 27 female) and 28 healthy individuals (16 male, 12 female). The FMF patients were separated into 3 groups: (1) attack-free group, (2) active-attack group and (3) colchicine-resistant group. Serum omentin levels were compared between the FMF patients and the healthy control group.

Results: A significant difference was determined between the FMF patients and healthy control subjects in terms of omentin levels (108.05 (19.97-343.22) vs. 199.5 (42.98-339.41) p < 0.05). SAA values were significantly higher in the FMF patients compared with the healthy control group. When the FMF patients were examined as separate groups, serum omentin values were lower in the colchicine-resistant group than in the groups without resistance (76.64 (19.77-224.33) vs. 186.47 (28.41-343.21) p = 0.006).

Conclusions: FMF patients with colchicine resistance are associated with decreased omentin concentrations, probably mediated by inflammation-driven mechanisms. Key Points • Omentin is a type of adipokine which has an anti-inflammatory effect by inhibiting the inflammatory cytokine network. • Decreased omentin levels are associated with increased obesity, insulin resistance and comorbidities. • We report that omentin levels fluctuate in various diseases. In addition, we have focused on the levels of omentin in patients with FMF, as it may act as a biomarker for colchicine resistance.

THE CONTRIBUTION OF ULTRASONOGRAPHIC FINDINGS TO THE PROGNOSIS OF SUBACUTE THYROIDITIS

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Arch Endocrinol Metab. May-Jun 2020;64(3):306-311. doi: 10.20945/2359-3997000000253. PMID: 32555998 DOI: 10.20945/2359-3997000000253

Objective: Ultrasound assessment plays an important role in the diagnosis, and monitoring of subacute thyroiditis (SAT). However, the relationship between ultrasonographic findings and severity or prognosis of the disease is not known. The aim of the present study was to evaluate the relationship between bilateral and unilateral disease involvement and severity and prognosis of the disease.

Subjects and methods: The initial laboratory values, ultrasonographic findings and long-term outcomes of 247 SAT patients were evaluated retrospectively.

Results: In the ultrasonographic evaluation, bilateral involvement was detected in 154 patients, and unilateral involvement in 93 patients at the time of diagnosis. No significant difference was found between patients with bilateral or unilateral disease at the time of diagnosis in respect of the initial acute phase reactants. FT4 was significantly higher and TSH was significantly lower in the group with bilateral disease. Bilobar or unilobar disease on ultrasound at the time of diagnosis was not found to be a risk factor for permanent hypothyroidism or recurrence. The mean thyroid volume was determined to be 22.5 ± 10 cm3 at the beginning of treatment, and 11.2 ± 8 cm3 at the end of treatment. The initial thyroid volume and the thyroid volume at the end of treatment were significantly lower in patients who developed hypothyroidism.

Conclusion: There was no relationship between initial acute phase reactants and bilateral or unilateral involvement of the disease. FT4 levels were found to be associated with the extension of the disease. The risk of recurrence and permanent hypothyroidism are not associated with the initial ultrasonographic aspect. Arch Endocrinol Metab. 2020;64(3):306-11.

SPECIFIC FSTL1 POLYMORPHISM MAY DETERMINE THE RISK OF CARDIOMYOPATHY IN PATIENTS WITH ACROMEGALY

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Acta Cardiol. 2021 Jul 8;1-10. doi: 10.1080/00015385.2021.1948206. Online ahead of print. PMID: 34233581 DOI: 10.1080/00015385.2021.1948206

Background: We have investigated the role of a cardiomyokine, follistatin-like 1 (FSTL1), and its single nucleotide polymorphism on acromegalic cardiomyopathy.

Methods: The study was performed as a cross-sectional case research in a Tertiary Referral Centre. Forty-six patients with acromegaly (29 F-17 M, mean age: 50.3 ± 12.1 years) were included. FSTL1 levels were measured and the rs1259293 region of the FSTL1 gene was subjected to polymorphism analysis. 1.5 Tesla MRI was used to obtain cardiac images.

Results: There were 15 active (6 F-9M) and 31 (22 F-9M) controlled patients. Active patients had a higher left ventricular mass (LVM) and left ventricular mass index (LVMi). GH levels were positively correlated with left ventricular end-diastolic volume index (LVEDVi), stroke volume index (SVi), cardiac index (Ci), LVM and LVMi; r = 0.35, 0.38, 0.34, 0.39 and 0.39, respectively. IGF-1 index was positively correlated with LVEDVi, left ventricular end-systolic volume index (LVESVi), SVi, Ci, LVM and LVMi; r = 0.36, 0.34, 0.32, 0.31, 0.42 and 0.42, respectively. Twenty out of 46 patients with acromegaly (43.5%) had myocardial fibrosis. FSTL1 levels were neither correlated with disease activity nor with any functional and structural cardiac parameter. Multivariate linear regression analysis revealed no association between FSTL1 and any study parameters. The rs1259293 variant genotype CC was significantly associated with low left ventricular mass.

Conclusions: Serum FSTL1 levels are not associated with functional and structural measures of myocardium in patients with acromegaly. However, the risk of left ventricular hypertrophy is reduced in CC genotyped individuals of FSTL1.

PANCREATIC MR IMAGING AND ENDOCRINE COMPLICATIONS IN PATIENTS WITH BETA-THALASSEMIA: A SINGLE-CENTER EXPERIENCE

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Clin Exp Med. 2022 Feb;22(1):95-101. doi: 10.1007/s10238-021-00735-7. Epub 2021 Jul 10. PMID: 34245399 DOI: 10.1007/s10238-021-00735-7

Iron deposition in various organs can cause endocrine complications in patients with transfusion-dependent beta-thalassemia. The aim was to investigate the relationship between endocrine complications and pancreatic iron overload using magnetic resonance imaging (MRI). Forty patients with transfusion-dependent thalassemia (TDT) were enrolled in the study. The magnetic resonance imagings of the patients were performed using a 1.5 Tesla Philips MRI scanner. Two out of three patients had at least one clinical endocrine complication. The rate of iron deposition was 62.5% in liver, and 45% in pancreas tissue, and was 12.5% in heart tissue. Pancreatic T2* and hepatic T2* values were significantly positively correlated (p = 0.006). Pancreatic T2* and ferritin were significantly

negatively correlated (p = 0.03). Cardiac T2* values were negatively correlated with fasting blood glucose (p = 0.03). Patients with short stature had significantly higher cardiac iron burden (22.3 vs. 36.6 T2*ms; p 0.01), and patients with hypothyroidism had higher liver iron concentrations (9.9 vs. 6.4 LIC mg/g; p = 0.05). The ferritin level of 841 ng/mL and liver iron concentration (LIC) value of 8.7 mg/g were detected as the threshold level for severe pancreatic iron burden (AUC 70%, p:0.04, AUC 80%, p = 0.002, respectively). Moreover, males were found to have decreased pancreas T2* values compared with the values in females (T2* 19.3 vs. 29.9, p = 0.05). Patients with higher ferritin levels over than 840 ng/mL should be closely monitored for pancreatic iron deposition, and patients with endocrine complications should be assessed in terms of cardiac iron burden.

A STUDY ON RELATIONSHIP BETWEEN ANDROGENETIC ALOPECIA AND CARDIOVASCULAR RISK USING HIGH SENSITIVITY C-REACTIVE PROTEIN AND GALECTIN-3 IN MEN WITH EARLY ONSET BALDNESS

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Biomarkers. 2022 Feb;27(1):71-78. doi: 10.1080/1354750X.2021.2013539. Epub 2021 Dec 7. PMID: 34852684 DOI: 10.1080/1354750X.2021.2013539

Objective: In this study, the objective was to evaluate the cardiovascular and metabolic effects in men with male pattern alopecia beginning before 30 years of age.

Methods: Total of 81 people (41 androgenetic alopecia (AGA) and 40 healthy individuals) were included in the study. Twenty-four-hour ambulatory blood pressure (ABP) measurement, high sensitive C-reactive protein (hsCRP), galectin-3 were studied. Hamilton-Norwood scale (HNS) was used to determine the AGA types of the cases.

Results: The mean age in the AGA and control groups was 30.3 ± 7.5 and 30.8 ± 6.0, respectively. Twenty-four-hour ABP measurements, hsCRP, and galectin-3 were similar in both groups. There was a positive correlation between HNS grade with age, BMI, triglyceride levels and fasting blood glucose levels in individuals with AGA. Similarly, there was a positive correlation between HNS grade with daytime pulse wave velocity and night-time reflection magnitude. A significant positive correlation was determined between hsCRP with BMI and waist circumference, and between galectin-3 with BMI, waist circumference, hip circumference, HOMA-IR in individuals with AGA.

Conclusions: This study shows that AGA patients are similar to the normal population in terms of insulin resistance or metabolic syndrome components. However, hsCRP and galectin-3 appear to be associated with cardiovascular disease risk factors in individuals with AGA.

MINI-LAPAROSCOPIC ADRENALECTOMY WITH TRANSGASTRIC SPECIMEN EXTRACTION

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Updates Surg. 2021 Aug;73(4):1487-1491. doi: 10.1007/s13304-020-00904-5. Epub 2020 Oct 29. PMID: 33119843 DOI: 10.1007/s13304-020-00904-5

We aimed to describe the initial experience of mini-laparoscopic adrenalectomy combined with transgastric specimen extraction and to assess its safety and feasibility. We used only 5-mm trocars, three ports for left adrenalectomy and four for right. Intraoperative gastroscopy was performed for specimen extraction through the mouth via an endoscopic snare. The gastrotomy was closed intracorporeally. Demographic, perioperative and pathological data were analyzed. There were 16 patients (12 females) with the mean age of 46.5 ± 11.3 years and half of them had previous abdominal surgeries. The median operative time was 150 (45-432) min with a median blood loss of 88 (0-350) ml. The median oral intake time was 2 (1-4) days and the median length of hospital stay was 2 (2-5) days. There was no mortality and extraction-related complication. Histopathological median tumor length, width and depth were 3 cm, 2.15 cm, and 1.9 cm, respectively. The median specimen length, width and depth were 6.25 cm, 4 cm, and 2.2 cm, respectively. Mini-laparoscopic adrenalectomy combined with transgastric specimen extraction is a safe and feasible surgical technique. It provides a less invasive surgery and may also have some benefits on wound-related complications and cosmesis.

DETERMINATION OF GENETIC CHANGES OF REV-ERB BETA AND REV-ERB ALPHA GENES IN TYPE 2 DIABETES MELLITUS BY NEXT-GENERATION SEQUENCING

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Gene. 2020 Dec 30;763:145058. doi: 10.1016/j.gene.2020.145058. Epub 2020 Aug 13. PMID: 32798635 DOI: 10.1016/j.gene.2020.145058

Background: The nuclear receptors Rev-erb alpha and Rev-erb beta are transcription factors that regulate the function of genes in glucose and lipid metabolism, and they also form a link between circadian rhythm and metabolism. We evaluated the variations in Rev-erb alpha and Rev-erb beta genes together with biochemical parameters as risk factors in type 2 diabetic (T2DM) patients.

Methods: Molecular analyses of Rev-erb alpha and Rev-erb beta genes were performed on genomic DNA by using next-generation sequencing in 42 T2DM patients (21 obese and 21 non-obese) and 66 healthy controls.

Results: We found 26 rare mutations in the study groups, including 13 missense mutations, 9 silent mutations, 3 5'UTR variations, and a 3'UTR variation, of which 9 were novel variations (5 missense and 3 silent and 1 5'UTR). Six common variations were also found in the Rev-erb genes; Rev-erb beta Chr3:24003765 A > G, Rev-erb beta rs924403442 (Chr3:24006717) G > T, Rev-erb alpha Chr17:38253751 T > C, Rev-erb alpha rs72836608 C > A, Rev-erb alpha rs2314339 C > T and Rev-erb alpha rs2102928 C > T. Of these, Rev-erb beta Chr3:24003765 A > G was a novel missense mutation (p.Q197R), while others were identified as intronic variants. T2DM patients with Rev-erb beta rs924403442 T allele had

lower body surface area (BSA) than noncarriers (GG genotype) (p = 0.039). Rev-erb alpha rs72836608 A allele and Rev-erb alpha rs2314339 CC genotype were associated with decreased serum HDL-cholesterol levels in T2DM patients (p = 0.025 and p = 0.027, respectively). In our study, different effects of Rev-erbs polymorphisms were found according to gender and presence of obesity. Rev-erb alpha rs72836608 (C > A) and rs2314339 (C > T) and Rev-erb alpha rs2102928 (C > T) were associated with low HDL-C levels in male T2DM patients. In female patients, Rev-erb alpha rs2102928 (C > T) was associated with high microalbuminuria and Rev-erb beta rs9244403442 G > T was associated with low HDL and high BSA values. In addition, Rev-erb alpha Chr17: 38,253,751 (T > C), rs72836608 (C > A), and rs2314339 (C > T) and Rev-erb beta Chr3:24003765 (A > G) were associated with increased serum GGT levels in obese T2DM patients. In non-obese patients, Rev-erbs SNPs had no effect on serum GGT levels.

Conclusion: Our findings indicate that variations in the Rev-erb alpha and Rev-erb beta genes can affect metabolic changes in T2DM and these effects may vary depending on gender and obesity.

THE SPECTRUM OF LOW-DENSITY LIPOPROTEIN RECEPTOR MUTATIONS IN A LARGE TURKISH COHORT OF PATIENTS WITH FAMILIAL HYPERCHOLESTEROLEMIA

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Metab Syndr Relat Disord. 2021 Aug;19(6):340-346. doi: 10.1089/met.2021.0004. Epub 2021 Apr 1. PMID: 33794673 DOI: 10.1089/met.2021.0004

Background: Monogenic hypercholesterolemia with Mendelian inheritance is a heterogeneous group of diseases that are characterized by elevated plasma low-density lipoprotein cholesterol (LDL-C) levels, and the most common form of this disorder is autosomal-dominant familial hypercholesterolemia (FH).

Methods: A total of 104 index cases with the clinical diagnosis of FH were included in this study. Low-density lipoprotein receptor (LDLR) was sequenced using the Sanger sequencing method.

Results: Pathogenic/likely pathogenic variants were detected in LDLR in 55 of the 104 cases (mutation detection rate = 52.8%). Thirty different variants were detected in LDLR, three of which were novel. The total cholesterol and LDL-C values of the patients in the group of premature termination codon (PTC) mutation carriers were significantly higher than those of the patients in the group of non-PTC mutation carriers. A total of 87 patients (17 pediatric and 70 adult cases) were diagnosed with cascade genetic screening. Statin treatment was recommended to all 87 patients and was accepted and initiated in 70 of these patients.

Conclusions: This study is the largest patient cohort that evaluated FH cases in the Turkish population. Herein, we revealed the LDLR mutation spectrum for a Turkish population and compared the cases in the context of genotype-phenotype correlation. Genetic screening of individuals with suspected FH not only helps to establish their diagnosis, but also facilitates early diagnosis and treatment initiation in other family members through cascade screening.

A SINGLE-CENTER EXPERIENCE OF TRANSSPHENOIDAL ENDOSCOPIC SURGERY FOR ACROMEGALY IN 73 PATIENTS: RESULTS AND PREDICTIVE FACTORS FOR REMISSION

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Br J Neurosurg. 2021 Jul 9;1-6. doi: 10.1080/02688697.2021.1947977. Online ahead of print. PMID: 34241568 DOI: 10.1080/02688697.2021.1947977

Background: Transsphenoidal endoscopic surgery is the first-line treatment for growth hormone-secreting adenomas.

Objective: To analyse the results of the transsphenoidal endoscopic approach for acromegaly and to determine the predictive factors of remission.

Methods: A single-centre retrospective review was performed in patients who underwent endoscopic transsphenoidal surgery for acromegaly between January 2009 and January 2019. Demographic features, clinical presentation, histopathology records, complications and pre- and postoperative radiologic and endocrinological assessments were evaluated. The factors that influenced the remission rates were investigated.

Results: A total of 73 patients underwent surgery via the transsphenoidal endoscopic approach. Cavernous sinus invasion was detected in 32 patients (43.8%); and macroadenoma, in 57 (78%). The pathology specimens of the 27 patients (36.9%) showed dual-staining adenomas with prolactin. A total of 51 patients (69.8%) attained biochemical remission 1 year after surgery. A second operation was performed in 10 patients (13.6%) with residual tumours without biochemical remission in the first year. Six (60%) of the patients attained remission at the last follow-up. Transient diabetes insipidus was observed in 18 patients (24.6%); and rhinorrhoea, which was resolved with conservative treatment, in 4 (5.4%). None of the patients developed panhypopituitarism. The presence of cavernous sinus invasion and preoperative IGF-1, immediate postoperative GH and third-month IGF-1 levels were predictive of remission.

Conclusion: Transsphenoidal endoscopic surgery is a safe and effective treatment for acromegaly. Reoperation should be considered in patients with residual tumours without remission.

COMPARISON OF A COMBINATION TEST (1 MG ACTH TEST PLUS GLUCAGON TEST) VERSUS 1 MG ACTH TEST AND GLUCAGON TEST IN THE EVALUATION OF THE HYPOTHALAMIC-PITUITARY-ADRENAL AXIS IN PATIENTS WITH PITUITARY DISORDERS

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Arch Endocrinol Metab. 2021 May 18;64(5):608-613. doi: 10.20945/2359-3997000000266. PMID: 34033302 DOI: 10.20945/2359-3997000000266

Objective: To investigate whether a combination of the low-dose (1 μg) adrenocorticotropin (ACTH) stimulation test and glucagon stimulation test (GST) could overcome the problem of equivocal results with the GST or ACTH test alone in patients with pituitary disorders.

Methods: The study included 41 adult patients with pituitary disorders and 20 healthy subjects who underwent evaluation of cortisol response to ACTH, GST, and a combination of both tests. Blood samples for cortisol measurement were obtained at baseline and 30, 60, 90, and 120 minutes after intravenous administration of ACTH 1 μg and 90, 120, 150, 180, 210, and 240 minutes after subcutaneous injection of glucagon 1 mg. The combination test was performed by injecting ACTH 1 μg at the 180-minute time point of the GST, with blood samples for cortisol measurement obtained at 210 and 240 minutes.

Results: Overall, 28 patients with normal cortisol response to both tests also had a normal cortisol response to the combination test. Ten patients with adrenal insufficiency in both tests also had adrenal insufficiency in the combination test, including a patient who had a peak cortisol value of 12.4 μg/dL (which is the cutoff value for the combination test). Two patients with adrenal insufficiency in the ACTH stimulation test and one patient with adrenal insufficiency in the GST had normal cortisol responses to the combination test.

Conclusion: By using an appropriate cutoff value, the combination test may offer additional information in patients with equivocal results in the GST and ACTH stimulation test.

EVALUATION OF NAFLD FIBROSIS, FIB-4 AND APRI SCORE IN DIABETIC PATIENTS RECEIVING EXENATIDE TREATMENT FOR NON-ALCOHOLIC FATTY LIVER DISEASE

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Sci Rep. 2022 Jan 7;12(1):283. doi: 10.1038/s41598-021-04361-x. PMID: 34997159 PMCID: PMC8741957 DOI: 10.1038/s41598-021-04361-x

There is a closely relationship between the development and progression of nonalcoholic fatty liver disease (NAFLD) or metabolic associated fatty liver disease (MAFLD) and obesity and diabetes. NAFLD fibrosis scores should be routinely used to rule out patients with advanced fibrosis. High scores may help identify patients at higher risk of all causes andliverrelated morbidity and mortality. The aim of this study was to investigate the association between exenatide and fibrosis scores. The effect of exenatide treatment on fibrosis scores was evaluated in type 2 diabetes mellitus (DM) patients with MAFLD. Evaluation was made of 50 patients with type 2 DM and MAFLD. The NFS, FIB4 and APRI scores were calculated before and after 6 months of treatment. After 6 months of exenatide treatment, the NFS and APRI scores were determined to have decreased significantly. Exenatide was observed to control blood glucose, reduce body weight and improve fibrosis scores in MAFLD patients with type 2 diabetes.

OBESITY PANDEMIC TRIGGERED BY THE COVID-19 PANDEMIC: EXPERIENCE FROM TURKEY

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Pol Arch Intern Med. 2021 Aug 30;131(7-8):766-768. doi: 10.20452/pamw.16037. Epub 2021 Jun 24. PMID: 34165269 DOI: 10.20452/pamw.16037

Introduction: The COVID-19 pandemic has significantly changed the lifestyle of people throughout the world.[1] In Turkey, the first case was diagnosed on March 11, 2020. After that, the Ministry of Health has taken several vital precautions to prevent the spread of the pandemic. Among these precautions were: curfew for older people and children, working from home, flexible working hours, temporary closure of public places, schools switching to the online mode of education, and curfew on weekends.

Minor body weight changes may become permanent in short periods, causing significant weight gain over time.[2] Concerns regarding weight gain were raised during the pandemic.[3] This study aimed to evaluate the effects of pandemic period-related lifestyle changes on body weight.

Methods: We included patients who presented at the Department of Endocrinology at the Faculty of Medicine of Aydin Adnan Menderes University between July and September 2020 and had their body weight measured within 3 months before April 2020. The weights were measured and recorded at baseline and after 3 months. Patients were also asked to fill out questionnaires inquiring about their lifestyles before and during the pandemic.

Statistical analysis: R software, version 4.1.0 (R Foundation for Statistical Computing, Vienna, Austria) was used for statistical analyses. The normality of continuous variables was assessed using the Kolmogorov–Smirnov test. Becasue not all continuous variables had normal distribution, paired samples and independent samples were compared by the Wilcoxon test and the Mann–Whitney test, respectively. The McNemar test was used to compare the working status variable with pre and post measurements. The Kendall τ-b test was used to compare body mass index (BMI) and exercise variables measurements before and during the pandemic. The relationship between independent qualitative variables was determined using the $\chi 2$ test. Descriptive statistics were shown as medians with interquartile ranges (IQRs) and frequencies. A P value of less than 0.05 was considered statistically significant. Approval was obtained from the Ethics Committee of the Faculty of Medicine of Aydin Adnan Menderes University.

Results and discussion: A total of 752 patients (74.2% were women) were included in the study. The median (IQR) age of the patients was 48 (37–59) years. The median (IQR) time since the last control examination before the pandemic was 5 (4–5) months. Of the patients, 28.9% had type 2 diabetes mellitus (T2DM), 40.69% had hypertension, 26.1% had thyroid disease, 20.1% had hypothyroidism, 8.1% had depression, and 3.19% had coronary artery disease. Of the presented patients, 68% were on long-term drug therapies (9.84% were on a psychiatric drug). While 3.7% were using weight-loss drugs (orlistat, liraglutide, exenatide) prepandemic, 1.3% continued to use them during the pandemic. Only a single patient had COVID-19. About 17.7% of patients were smokers, and 8.4% consumed alcohol. About 28.6% of patients were actively working, 50% were homemakers, 14.2% were retired, 3.7% were students, and 3.5% were unemployed. During the pandemic, 11.8% of patients were actively working, 5.7% were working from home, and 2.6% had flexible working hours, whereas 16.9% were unemployed. About 13% of patients experienced continuous curfew during the pandemic. About

73.14% of patients had children who participated in online education at home. About 64.76% of patients stated that they prepared high glycemic index foods (bread, flour, and sugary foods). About 18% stated that they stayed home more due to working from home, had flexible working hours, or because they were unemployed, and snacked at home during this period, whereas 41.5% stated that their food intake increased during the pandemic. The consumption of high glycemic index foods was determined to increase in 50.6% of the patients with increased food intake. About 54% of patients did not exercise before the pandemic while 35.4% exercised regularly and 10.6% irregularly. Among the people who exercised, 83.3% did so by walking and 8.1% attended a gym. It was determined that 75.9% did not exercise during the pandemic, and 16.6% exercised regularly and 7.4% irregularly. About 77.8% of the respondents who exercised during the pandemic did so by walking, while 15% exercised at home. All respondents who did not exercise during the pandemic expressed that they could not do so because they did not want to go out due to the curfew and fear of contagion. About 86.17% of patients expressed that they spent more time using social media than before the pandemic. The median (IQR) body weight was 75 (65–85) kg before and 78 (67–89) kg after the pandemic (P <0.001). The median (IQR) prepandemic BMI was 27.7 (24.2–31.5) kg/m2 and during the pandemic, 28.7 (24.8–32.7) kg/m2 (P <0.001). It was determined that patients gained a median (IQR) of 2 (0–5) kg (3.5%) weight and the median BMI increased by 0.7 (0–1.8) kg/m2. Weight gain was observed in 59.2% of the patients. Among patients who had gained weight, the median (IQR) weight gain was 4 (2–7) kg (6.42%). The median (IQR) age of patients that gained weight was 46 (36–57) years and 53 (40–62) years in other patients (P <0.001). The median (IQR) BMI of patients who gained weight was 28.1 (24.5–31.7) kg/m2 before the pandemic and 30 (26.2–33.7) kg/m2 during the pandemic (P <0.001). Analysis of postpandemic BMIs revealed that the percentage of obese patients increased from 31.5% to 37%, while the percentage of morbidly obese patients increased from 4% to 5.2% (Kendall τ-b coefficient = 0.868; P <0.001). Differences between the variables before and during the pandemic are shown in Table 1. During the pandemic, 36.4% of underweight patients, 53.4% of patients with normal weight, 60.4% of overweight patients, 62.9% of obese patients, and 70% of morbidly obese patients gained weight. The ratio of patients gaining weight during this period increased with increasing BMI. During the pandemic, 55.8% of patients with T2DM and 60.6% of those without diabetes gained weight (P = 0.222). Among the depressed patients, 63.9% gained weight. Loss of weight was observed in 4.2% of patients during this period (1.73% voluntarily). While the median (IQR) prepandemic HbA1c level of diabetic patients (n = 193) was 6.7% (6.2%–7.85%), it was found to be 7.3% (6.6%–8.6%) during the pandemic (P <0.001). Weight gain was observed in 65% of nonexercisers and 28% of regular exercisers during the pandemic (P <0.001). Weight gain was observed in 86% of patients who were actively working before the pandemic, working online from home during the pandemic, 70% of those working with flexible hours, and 59.1% of those unemployed during the pandemic. During that period, the daily consumption of cigarettes increased in 15.8% of the smokers, while alcohol consumption increased in 8.9% of the alcohol users. Weight gain was observed in 82.1% of patients with increased cigarette consumption and in 87.5% of those with increased alcohol consumption (P <0.001, P = 0.001, respectively). Weight gain was observed in 37.8% of the patients whose food intake did not increase from that in the prepandemic period, whereas 90.4% of patients with increased food intake during the pandemic showed weight gain (P <0.001).

LOW BONE DENSITY, VERTEBRAL FRACTURE AND FRAX SCORE IN KIDNEY TRANSPLANT RECIPIENTS: A CROSS-SECTIONAL COHORT STUDY

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PLoS One. 2021 Apr 30;16(4):e0251035. doi: 10.1371/journal.pone.0251035. eCollection 2021. PMID: 33930070 PMCID: PMC8087085 DOI: 10.1371/journal.pone.0251035

Background: Kidney transplantation (KT) recipients are at increased risk of low bone density (LBD) and fractures. In this retrospective study, we investigated bone mineral density (BMD), vertebral fractures, calculated risk for major osteoporotic fractures (MOF), and hip fractures in the KT recipients.

Patients-method: Patients who completed at least one year after KT were included in the analysis. Demographic, clinical, and laboratory data were recorded. Measurements of BMD were performed by dual-energy X-ray absorptiometry. Vertebral fractures were assessed using semi-quantitative criteria with conventional radiography. The ten-year risk for MOF and hip fracture were calculated using the FRAX@ tool with BMD.

Results: One hundred fifty-three KT recipients were included in the study. The population included 77 women. The mean age at evaluation was 46,5±11,9 years. Seventy-eight (50.9%) patients had normal femoral neck BMD while osteoporosis and osteopenia at the femoral neck were present in 12 (7.8%) and 63 (41.1%) of the patients, respectively. Age at evaluation was the risk factor for LBD (OR 1.057; 95% CI 1.024-1.091; p = 0.001). In female KT recipients, LBD was principally affected by menopausal status whereas in males, mammalian target of rapamycin (mTOR) inhibitor use and lower BMI levels were the risk factors. The prevalent vertebral fracture was found in 43.4% of patients. In multivariate analysis, only steroid use (OR 0.121; 95% CI 0.015-0.988; p = 0.049) was found to be associated with prevalent fracture. Among all KT recipients, 1.9% had a high MOF probability (≥20% risk of fracture), and 23.5% had high hip fracture probability (≥3% risk of hip fracture) according to FRAX.

Conclusion: Exploring the prevalence of LBD and vertebral fracture and the risk factors would help clinicians to modify long-term follow-up strategies. Furthermore, the high hip fracture risk probability in our cohort suggested that there is a need for longitudinal studies to confirm the validity of the FRAX tool in the transplant population.

SOLID VARIANT OF PAPILLARY THYROID CARCINOMA: AN ANALYSIS OF 28 CASES WITH CURRENT LITERATURE

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Ann Diagn Pathol. 2021 Jun;52:151737. doi: 10.1016/j.anndiagpath.2021.151737. Epub 2021 Mar 31. PMID: 33838489 DOI: 10.1016/j.anndiagpath.2021.151737

Introduction: Solid variant papillary thyroid cancer (SVPTC) is a rare variant of papillary thyroid carcinoma (PTC) and its prognostic value is still unclear. Therefore, we re-evaluate the histopathological and clinicopathological features of 28 patients with SVPTC in the light of current literature.

Material-methods: Of the 1308 cases were previously diagnosed with PTC and 28 (2,1%) of them which had been diagnosed with SVPTC were re-evaluated retrospectively.

Results: Of the 28 patients with SVPTC, 85.7% were female, mean age was 45.18 years and mean tumor diameter was 2.96 cm. Microscopically; tumors had a solid growth pattern amounting to at least 50.0% of the tumor volume. In all cases the tumor cells had characteristic nuclear features of conventional PTC. 11 patients had multifocal tumors, extrathyroidal extension was present in 4 patients and vascular invasion was observed in 7 cases. Regional lymph node metastases were noted in 2 (7.1%) cases at the time of diagnosis. One patient died because of locally advanced disease. Another patient is alive with lung metastases after 48 months from the initial surgery. There was no evidence of local recurrence in other patient.

Conclusions: SVPTC is a rare variant of PTC that should be considered in the differential diagnosis of tumors which show a solid/trabecular growth pattern in the thyroid. It has poor prognostic features such as widespread angioinvasion, extrathyroidal extention, lymph node metastasis, and distant organ metastasis. Multicenter studies involving large number of cases are needed to reveal the prognostic significance of SVPTC, with standardized diagnostic criteria.

SKIN AUTOFLUORESCENCE IS ASSOCIATED WITH LOW BONE MINERAL DENSITY IN TYPE 2 DIABETIC PATIENTS

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J Clin Densitom. 2021 Nov 24;S1094-6950(21)00101-3. doi: 10.1016/j.jocd.2021.11.010. Online ahead of print. PMID: 34933784 DOI: 10.1016/j.jocd.2021.11.010

Although the risk of bone fracture is increased in type 2 diabetes (T2DM), bone mineral density (BMD) is increased rather than decreased. Accumulation of advanced glycation end products (AGEs) adversely influences the fracture resistance of bone in T2DM. We hypothesized that SAF is also associated with BMD levels in type 2 diabetic patients and aimed to evaluate the association of SAF with BMD and the presence of osteoporosis. This cross-sectional case-control study included 237 patients with T2DM (F/M: 133/104, 56.2±11.9 yrs) and 100 age- and sex-matched controls (F/M: 70/30, 54.8±8.8 yrs). Skin autofluorescence, a validated non-invasive measure of tissue AGEs, is used to detect the accumulation of AGEs in skin collagen using AGE Reader (DiagnOptics B.V., Groningen, The Netherlands). In addition, BMD was measured with DEXA (Lunar DPX-L). Patients with T2DM had higher SAF values compared to control group (2.21±0.53 AU vs. 1.79±0.33 AU, $p < 0.001$). Male subjects had higher SAF compared to women (2.34±0.53 AU vs. 2.11±0.50 AU, $p < 0.001$). Subjects with below -2.5 femoral neck or lumbar T scores had higher SAF measurements compared to subjects with normal T scores (2.46±0.53 AU vs. 2.18±0.52 AU, $p = 0.006$). Femoral neck BMD was lower in subjects with T2DM (0.946±0.345 g/cm^2 vs. 1.005±0.298 g/cm^2, $p = 0.002$). There was a negative correlation between SAF and femoral neck BMD ($r=-0.24$, $p < 0.001$), femoral neck T scores ($r=-0.24$, $p < 0.001$), L1-4 BMD ($r=-0.10$, $p = 0.005$), L1-4 T score ($r=-0.16$, $p=0.001$) and a positive correlation between SAF and age ($r=0.44$, $p < 0.001$), body mass index ($r:0.16$, $p = 0.002$) and HbA1c ($r=0.37$, $p < 0.001$). Accumulation of skin AGEs was increased, and BMD levels were decreased in diabetic patients. A negative association between SAF and BMD was detected, indicating a relationship between higher AGE accumulation and low BMD and osteoporosis in diabetic patients. Long-term prospective studies are needed to identify the practical use of SAF measurement in diabetic bone disease.

THE ASSOCIATION OF THYROID HORMONE CHANGES WITH INFLAMMATORY STATUS AND PROGNOSIS IN COVID-19

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Int J Endocrinol. 2021 Aug 13;2021:2395212. doi: 10.1155/2021/2395212. eCollection 2021. PMID: 34422043 PMCID: PMC8371668 DOI: 10.1155/2021/2395212

Background: COVID-19 infection may have multiorgan effects in addition to effects on the lungs and immune system. Recently, studies have found thyroid function abnormalities in COVID-19 cases which were interpreted as euthyroid sick syndrome (ESS) or destructive thyroiditis. Therefore, in this study, we aimed to evaluate the thyroid function status and thyroid autoimmunity in COVID-19 patients. *Material and Method*. 205 patients were included. The medical history and laboratory parameters at admission were collected from medical records. Serum thyroid-stimulating hormone (TSH), free thyroxine (FT4), free triiodothyronine (FT3), thyroid peroxidase antibody, and thyroglobulin antibody were measured, and patients were classified according to thyroid function status.

Results: 34.1% of the patients were euthyroid. Length of hospitalization ($p < 0.001$), rate of oxygen demand ($p < 0.001$), and intensive care unit (ICU) admission ($p=0.022$) were lower, and none of the euthyroid patients died. 108 (52.6%) patients were classified to have ESS, 57 were classified as mild, and 51 were moderate. The inflammatory parameters were higher in patients with moderate ESS. In cluster analysis, a high-risk group with a lower median FT3 value (median = 2.34 ng/L; IQR = 0.86), a higher median FT4 value (median = 1.04 ng/dL; IQR = 0.33), and a lower median TSH value (median = 0.62 mIU/L; IQR = 0.59) included 8 of 9 died patients and 25 of the 31 patients that were admitted to ICU. *Discussion*. Length of hospitalization, oxygen demand, ICU admission, and mortality were lower in euthyroid patients. Moreover, none of the euthyroid patients died. In conclusion, evaluation of thyroid function tests during COVID-19 infection may give information about the prognosis of disease.

ASSESSMENT OF PLASMA-FREE CORTISOL CONCENTRATIONS BY LC-MS/MS IN PATIENTS WITH AUTONOMOUS CORTISOL SECRETION

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Horm Metab Res. 2021 Nov;53(11):752-758. doi: 10.1055/a-1661-4126. Epub 2021 Nov 5. PMID: 34740277 DOI: 10.1055/a-1661-4126

Autonomous cortisol secretion (ACS) of an adrenal incidentaloma (AI) is associated with mild cortisol excess that could result in poor metabolic and cardiovascular outcomes. The biological activity of glucocorticoids depends on the unbound, free fraction. We aimed to evaluate plasma free cortisol (FC) concentrations in patients with ACS in this cross-sectional study. One hundred and ten AI patients in 3 groups; non-functioning (NFA, n=33), possible ACS (n=65), ACS (n=12) were enrolled. Following measurements were conducted: Clinical data and total serum cortisol (TC), plasma corticotrophin (ACTH), serum dehydroepiandrosterone sulfate (DHEA-S), cortisol after 1 mg dexamethasone by both immunoassay and LC-MS/MS (DexF), serum corticosteroid binding globulin (CBG), plasma dexamethasone concentration [DEX] and plasma FC by LC-MS/MS. Patients with ACS featured an unfavorable metabolic profile. Plasma [DEX] and serum CBG levels were similar between groups. Plasma FC was significantly higher in ACS when compared to NFA and possible ACS groups $p<0.05$ and $p<0.01$, respectively. In multiple regression analysis DexF (beta=0.402, $p<0.001$) and CBG (beta=-0.257, $p=0.03$) remained as the independent predictors of plasma FC while age, sex, BMI, smoking habit, and existing cardiovascular disease did not make a significant contribution to the regression model. In conclusion, the magnitude of cortisol excess in ACS could lead to increased plasma FC concentrations. Further studies in AI patients are needed to demonstrate whether any alterations of cortisol affinity for CBG exist and to establish whether plasma FC concentrations predict the unfavorable metabolic profile in ACS.

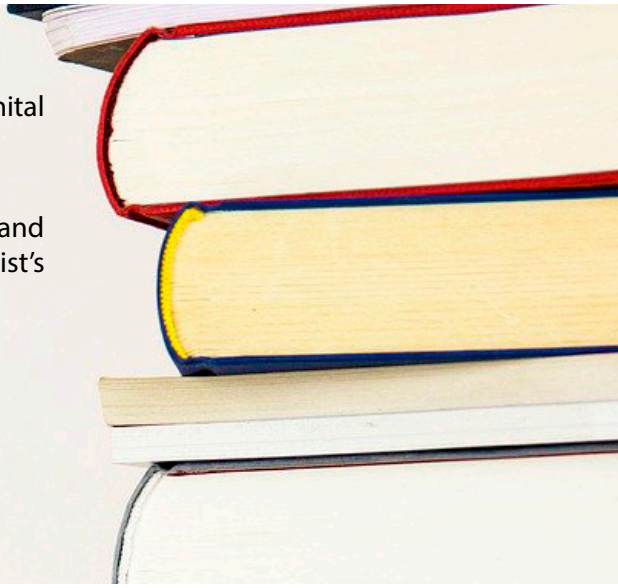
SONOELASTOGRAPHIC EVALUATION OF RECURRENT THYROID NODULES IN PATIENTS WITH OPERATED RECURRENT NODULAR GOITERS

Hakan Yilmaz[1], Canan Akkus[2], Nurullah Damburaci[3], Zelal Adibelli[2], Cevdet Duran[4]

Ultrasound Med Biol. 2022 Feb;48(2):209-216. doi: 10.1016/j. ultrasmedbio.2021.10.008. Epub 2021 Nov 12. PMID: 34782167 DOI: 10.1016/j. ultrasmedbio.2021.10.008

Alterations in neck anatomy after thyroid surgery and post-operative fibrosis may be misleading by causing sonoelastographic changes in recurrent tissues in patients with recurrent nodular goiter and so may result in unnecessary biopsies or surgical procedures. Here, the aim was to examine thyroid sonoelastography values in patients developing a recurrence and presenting with recurrent nodular goiter with benign cytology after total or near-total thyroidectomy (T/N-TT). Twenty-nine nodules from 22 patients with a recurrence after T/N-TT whose biopsies were found to be benign constituted the patients, and 23 nodules from 23 participants among the non-operated patients having solitary or multiple thyroid nodules and with age, gender and body mass index values similar to those of the patients constituted our controls. Shear-wave velocity (SWV) values were measured. Average elapsed time after T/N-TT was 11.82 (4:25) y. No difference was detected between the groups in terms of localization and sonographic structures of the nodules. Nodule SWV values were higher in the operated recurrent nodular goiter group than in the controls (2.93 ± 0.87 m/s vs. 2.43 ± 0.33 m/s, respectively, $p = 0.011$). Because SWV values are high in operated recurrent nodular goiter patients, the utilization of reference sonoelastography values in those with unoperated goiter may yield misleading results in the differentiation of benign and malignant lesions.

KİTAP BÖLÜMÜ



- Fertility and Reproductive Outcomes in Different Forms of Congenital Adrenal Hyperplasia

  Editör: M. Eda Ertörer

  Bölüm: Mechanisms of Reproductive Dusfunction in Classical and Nonclassical Congenital Adrenal Hyperplasia: From an Endocrinologist's Perspective

  İnan Anaforoğlu

  https://doi.org/10.1007/978-3-030-82591-1

AKADEMİK YÜKSELME

- Doç. Dr. Meral Mert ve Doç. Dr. Özlem Çelik profesörlüğe yükselmiştir.

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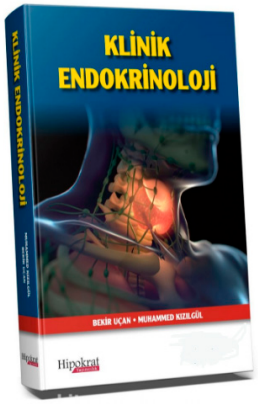

- Dışkapı Yıldırım Beyazıt Eğitim ve Araştırma Hastanesi Endokrinoloji ve Metabolizma Hastalıkları Kliniği'de görev yapan **Doç. Dr. Bekir Uçan** ve **Doç. Dr. Muhammed Kızılgül**'ün **"Klinik Endokrinoloji"** adlı kitabı "Hipokrat Yayıncılık" yayınevinden basılmıştır.

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