TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ BÜLTENİ

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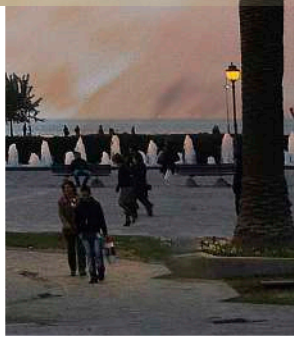
Sayı 69 • Ocak – Şubat – Mart - 2020

NADİR GÖRÜLEN METABOLİZMA HASTALIKLARI SEMPOZYUMU TAMAMLANDI

Nadir Görülen Metabolizma Hastalıkları Eğitim Sempozyumu 22-23 Şubat 2020 tarihlerinde İzmir Kaya Thermal Otel'de 100'ün üzerinde meslektaşımızın katılımı ile gerçekleştirilmiştir.

Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.



HİPOFİZİN ADENOM DIŞI VE SELLANIN HİPOFİZ DIŞI LEZYONLARI KURSU TAMAMLANDI

Hipofizin Adenom Dışı ve Sellanın Hipofiz Dışı Lezyonları Kursu 29 Şubat-01 Mart 2020 tarihlerinde Wyndham Grand Hotel, İzmir'de yaklaşık 90 meslektaşımızın katılımı ile gerçekleştirilmiştir.
Emeği geçen tüm üyelerimize teşekkür eder, saygılarımızı sunarız.


" Hayatın her döneminde ve her koşulda
özveriyle çalışan meslektaşlarımızın
14 Mart'ını kutlarız. "
TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ


18 MART ÇANAKKALE ZAFERİ
Çanakkale Şehitlerimizi Minnetle Anıyoruz.
TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ

OBEZİTE CERRAHİSİ HAKKINDA KAMUOYU DUYURUSU

- Obezite ülkemizin en önemli sağlık sorunudur. Ülkemizde obezite sıklığı giderek artmakta, bu artışla birlikte başta Tip2 Diyabet, Hipertansiyon, Kalp damar hastalıkları ve Kanserler olmak üzere, birçok önemli kronik hastalık daha fazla görülmektedir. Halen ülkemizde 20 milyon obezite hastası olduğu, bunlardan 2 milyonunun şiddetli obezite kategorisinde yer aldığı ve acilen tedavi beklediği düşünülmektedir. Obezite ile mücadele için öncelikle toplumun bütününü hedef alan, akılcı ve sürdürülebilir koruyucu hekimlik uygulamalarına ihtiyaç vardır.
- Obezite gelişimindeki en önemli faktörler sağlıksız beslenme alışkanlığı ve yetersiz fiziksel aktivitedir. Ancak, bazı endokrin hastalıkların, psikiyatrik bozuklukların, ilaçların veya nadir görülen genetik hastalıkların da obeziteye neden olabileceği unutulmamalıdır. Bu yüzden her obeziteli birey öncelikle kapsamlı olarak değerlendirilmeli, obeziteye neden olduğu tespit edilen faktörlerin ortadan kaldırılmasına çalışılmalıdır.
- Obezite tedavisi için öncelikle yaşam biçimi ve alışkanlıklar düzenlenmelidir. Sağlıklı beslenemeyen ve yeterli fiziksel aktivite yapamayan bireylerde her türlü tedavinin başarısı kısıtlı olacaktır. Yaşam biçimini düzelttiği halde yeterli kilo veremeyen olgulara tıbbi tedavi denenmeli, tıbbi tedaviden de yarar görmeyenler ise obezite cerrahisine yönlendirilmelidir. Cerrahi tedavi bugün için obezite ile mücadelede en etkin tedavi yöntemidir. Obezite cerrahisi ile hastaların hem kilo fazlalığı hem de eşlik eden metabolik hastalıklardan kurtulması mümkün olabilir. Ancak cerrahi yaklaşım obezite ile mücadelenin son basamağı olmalıdır.
- Obezite Cerrahisi deneyimli cerrahlar tarafından, donanımlı merkezlerde ve aşağıdaki koşullarda yapılmalıdır:
  - Beden Kitle İndeksi (BKI)> 40kg/m^2 olması veya
  - Beden Kitle İndeksi> 35kg/m^2 ve kontrol altında olmayan Tip 2 Diyabet, Hipertansiyon, Dislipidemi, Uyku-Apne Sendromu gibi obezite ile ilişkili hastalıkların olması.
  - Bu koşullar hastaların diyet, egzersiz ve tıbbi tedaviden oluşan konservatif yaklaşımları en az 6 ay süreyle denediği ve yeterli kilo veremediği tespit edildikten sonra geçerlidir.
- Obezite Cerrahisi öncesinde ve sonrasında hastalar deneyimli bir sağlık ekibi tarafından yönetilmelidir. Bu ekipte bir Endokrinolog (veya Obezite konusunda deneyimli bir İç Hastalıkları Uzmanı), Bariatrik Cerrah (bu konuya odaklanmış genel cerrahi uzmanı), Diyetisyen olmalı, ihtiyaç halinde, Psikiyatrist/Psikolog ve ilgili diğer branşlar da ekibe dahil edilebilmelidir. Hastalar sadece ameliyata hazırlık ve ameliyat aşamasında değil, ameliyat sonrasındaki yeni yaşamları boyunca da bu ekip tarafınca düzenli olarak izlenmelidir.
- "Obezite Cerrahisi", "Bariatrik Cerrahi" ve "Metabolik Cerrahi" benzer anlamda kullanılan terimlerdir. Hepsinde kullanılan temel cerrahi yöntemler aynıdır. Uluslararası Obezite rehberleri bu amaçla dört temel yöntemi önermektedir. Sleeve gastrektomi, gastrik bypasslar, gastrik bant, klasik BPD (Biliyo Pankreatik Diversiyon) ya da duodenal switch sık kullanılan obezite ve metabolik cerrahi ameliyatlarıdır ve her birinin kendi risk-yarar oranları vardır. Bunlar dışındaki diğer tüm cerrahi girişimler bu aşamada ancak araştırma amaçlı olarak nitelenir.
- Güncel rehberler tarafınca önerilmeyen cerrahi uygulamalar ancak klinik araştırma kapsamında, Etik kurul onayı ve hastalar bilgilendirilip onamları alınarak yapılabilir. Ne yazık ki, ülkemizde bazı merkezler bu yöntemleri kontrolsüz olarak uygulamakta, yaygın kabul edilmiş rutin teknikler gibi sunmaktadır. Son dönemde "Diyabet Cerrahisi" adıyla sıkça reklamı yapılan yöntem de bunlardan birisidir. Tip 2 Diyabeti ve obezitesi olan ve tüm çabalara karşın yeterli metabolik kontrolü sağlanamayan bireylerde, bariatrik cerrahi faydalı olabilir. Ancak bu kişilerde de yine yukarıda söz edilen cerrahi teknikler kullanılmalıdır.
- Bilinen yöntemler dışında kalan ve henüz hiçbir rehberde önerilmeyen uygulamaları "Diyabet Cerrahisi" adıyla insanımız üzerinde deneyen kişi, merkez ve kuruluşların mutlaka engellenmesi gereklidir. Henüz deneysel boyutta olan tüm yeni uygulamaların, tanımlanan özelliklere sahip merkezlerde, klinik araştırma kapsamında ve denetim altında yapılması sağlanmalıdır.
- Sonuç olarak Obezite cerrahisinin obezite ile mücadelenin son halkası olduğu ve ülkemizdeki tüm Obezite hastaları için çözüm olamayacağı bilinmelidir. Obezite ile mücadelede asıl önemli unsur hastalığın gelişmesinin önlenmesidir. Bu nedenle, ülkemizde sağlıklı beslenme alışkanlığını yerleştirecek ve fiziksel aktiviteyi arttıracak önlemlerin alınması esastır. Obezite ile mücadelede merkezi ve yerel yönetimlerin, Sivil toplum kuruluşlarının ve ulusal basınımızın da sorumluluğu olduğu unutulmamalıdır.

Türkiye Endokrinoloji ve Metabolizma Derneği (TEMD) ve Türk Cerrahi Derneği (TCD) tarafınca Kamuoyuna saygıyla duyurulur.

Kongre, Kurslar ve Sempozyumlar

Ulusal ve Uluslararası Bilimsel Kongre ve Sempozyumlar

- 08-22 Haziran 2020
  ENDO Online 2020
  https://www.endocrine.org/meetings-and-events/endo-online-2020

- 12-16 Haziran 2020
  80th Scientific Sessions ADA - a virtual experience
  https://professional.diabetes.org/scientific-session

- 20-23 Ağustos 2020
  IOF-WCO-IOF -ESCEO, WORLD CONGRESS ON OSTEOPOROSIS, OSTEOARTHRITIS AND MUSCULOSKELETAL DISEASES- Barcelona,Spain
  https://www.wco-iof-esceo.org/

- 05-09 Eylül 2020
  e-ECE 2020- 22nd European Congress of Endocrinology
  https://www.ese-hormones.org/events-deadlines/european-congress-of-endocrinology/ece-2020/

- 26-30 Eylül 2020
  56. Ulusal Diyabet Metabolizma ve Beslenme Hastalıkları Kongresi
  Susesi Hotel Kongre Merkezi, Antalya
  https://www.diyabetkongresi.org/

- 04-07 Ekim 2020
  19th International **Congress of Endocrinology, Buenos Aires, Argentina**
  https://ice-2020.com/

- 07-11 Ekim 2020
  22. İç Hastalıkları Kongresi, Belek, Antalya
  http://www.tihud.org.tr/

- 22-25 Ekim 2020
  EndoBridge 2020
  Regnum Carya Hotel, Belek, Antalya
  http://temd.org.tr/egitim/48-endobridge

- 18-22 Kasım 2020
  42. Türkiye Endokrinoloji ve Metabolizma Hastalıkları Kongresi
  Sueno Kongre Merkezi, Antalya
  http://www.temhk2020.org

- 29 Kasım-02 Aralık 2020
  ENEA 2020 - 19th Congress of the European Neuroendocrine Association, Porto, Portugal
  http://enea2020.com/

- 03-05 Aralık 2020
  IDF Diabetes Complications Congress 2020
  Portekiz, Lizbon
  https://www.idf.org/our-activities/congress/idf-complications-congress-2020.html

Üyelerimizden Literatür Seçmeleri

EFFECTS OF REGULAR KEFIR CONSUMPTION ON GUT MICROBIOTA IN PATIENTS WITH METABOLIC SYNDROME: A PARALLEL-GROUP, RANDOMIZED, CONTROLLED STUDY

Bellikci-Koyu E, Sarer-Yurekli BP, Akyon Y, Aydin-Kose F, Karagozlu C, Ozgen AG, Brinkmann A, Nitsche A, Ergunay K, Yilmaz E, Buyuktuncer Z.

Nutrients. 2019 Sep 4;11(9). pii: E2089. doi: 10.3390/nu11092089.

Several health-promoting effects of kefir have been suggested, however, there is limited evidence for its potential effect on gut microbiota in metabolic syndrome This study aimed to investigate the effects of regular kefir consumption on gut microbiota composition, and their relation with the components of metabolic syndrome. In a parallel-group, randomized, controlled clinical trial setting, patients with metabolic syndrome were randomized to receive 180 mL/day kefir (n = 12) or unfermented milk (n = 10) for 12 weeks. Anthropometrical measurements, blood samples, blood pressure measurements, and fecal samples were taken at the beginning and end of the study. Fasting insulin, HOMA-IR, TNF-α, IFN-γ, and systolic and diastolic blood pressure showed a significant decrease by the intervention of kefir ($p \leq 0.05$, for each). However, no significant difference was obtained between the kefir and unfermented milk groups ($p > 0.05$ for each). Gut microbiota analysis showed that regular kefir consumption resulted in a significant increase only in the relative abundance of Actinobacteria ($p = 0.023$). No significant change in the relative abundance of Bacteroidetes, Proteobacteria or Verrucomicrobia by kefir consumption was obtained. Furthermore, the changes in the relative abundance of sub-phylum bacterial populations did not differ significantly between the groups ($p > 0.05$, for each). Kefir supplementation had favorable effects on some of the metabolic syndrome parameters, however, further investigation is needed to understand its effect on gut microbiota composition.

KEYWORDS: gut microbiota; kefir; metabolic syndrome

ANTI-MULLERIAN HORMONE AS A DIAGNOSTIC TOOL FOR PCOS UNDER DIFFERENT DIAGNOSTIC CRITERIA IN AN UNSELECTED POPULATION

Bozdag G, Mumusoglu S, Coskun ZY, Yarali H, Yildiz BO.

Reprod Biomed Online. 2019 Sep;39(3):522-529. doi: 10.1016/j.rbmo.2019.04.002. Epub 2019 Apr 10.

RESEARCH QUESTION: Is anti-Müllerian hormone (AMH) a valid tool to diagnose polycystic ovary syndrome (PCOS) according to different subsets of criteria among an unselected group of women?

DESIGN: In this cross-sectional study, AMH concentrations were measured in an unselected group of women. The ability of AMH to diagnose PCOS according to National Institutes of Health (NIH), Rotterdam-2003 and Androgen Excess and PCOS Society (AE-PCOS) criteria was tested by using frozen serum aliquots (n = 392) that had been collected from a previous prevalence study of PCOS.

RESULTS: The respective age and body mass index adjusted area under the curve (aAUC, 95% confidence interval) values were 0.80 (0.71-0.89), 0.74 (0.67-0.81) and 0.71 (0.64-0.79). When the definition of polycystic ovary morphology (PCOM) was set to an antral follicle count (AFC) of 20 instead of 12, the prevalence of syndrome dropped from 19.9% to 10.2% and from 15.3% to 8.9% according to Rotterdam-2003 and AE-PCOS criteria, respectively. In patients with Phenotype A, who had hyperandrogenism, ovulatory dysfunction and PCOM, AMH had an aAUC of 0.85 (0.77-0.92) to diagnose the syndrome. In Phenotypes B (hyperandrogenism+ovulatory dysfunction), C (hyperandrogenism+PCOM) or D (ovulatory dysfunction+PCOM), AMH had poor to fair ability to diagnose the syndrome.

CONCLUSION: AMH has poor to fair validity to diagnose PCOS among an unselected group of women, except for patients bearing all features of the syndrome (Phenotype A). This finding is valid using the NIH, Rotterdam-2003 and AE-PCOS criteria and even after revising the definition of PCOM as AFC ≥20.

KEYWORDS: Anti-Müllerian hormone; Antral follicle count; Area under the curve; Polycystic ovary morphology; Polycystic ovary syndrome

THE PROGNOSTIC AND DIAGNOSTIC USE OF HEMATOLOGICAL PARAMETERS IN SUBACUTE THYROIDITIS PATIENTS

Calapkulu M, Sencar ME, Sakiz D, Duger H, Ozturk Unsal I, Ozbek M, Cakal E.

Endocrine. 2019 Dec 21. doi: 10.1007/s12020-019-02163-w. [Epub ahead of print]

BACKGROUND: Subacute thyroiditis (SAT) is an acute inflammatory disease of the thyroid. Mean platelet volume (MPV), neutrophil-to-lymphocyte ratio (NLR), and platelet-to-lymphocyte ratio (PLR) values determined from peripheral blood, are accepted as available and practical indicators of systemic inflammation. The purpose of this study was to evaluate the value of hematological parameters in the diagnosis and prognosis of subacute thyroiditis patients.

METHODS: This retrospective study included 306 SAT patients and 102 healthy control subjects. Retrospective analyses were made of age, gender, complete blood counts, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), thyroid function tests, NLR, PLR, and thyroid volume of the patients and the results were compared with the control group.

RESULTS: The mean follow-up time of patients was 29.5 ± 14 months. The ESR, CRP, white blood cell (WBC) count, neutrophil count, hemoglobin, platelet counts, NLR, and PLR were significantly higher in the SAT patients. MPV and lymphocyte count were significantly lower in the SAT patients. The rates of recurrence and permanent hypothyroidism were 15.4% and 9.8%, respectively. The values of ESR, CRP, NLR, PLR, and MPV at the time of diagnosis were not determined to have any effect on recurrence or the development of permanent hypothyroidism.

CONCLUSIONS: The results of this study showed higher PLR and NLR values in SAT patients compared with healthy control subjects, and a lower MPV value. These findings demonstrate that the assessment of hematological parameters in conjunction with radiological and clinical findings will assist in establishing an accurate diagnosis, especially in complicated SAT cases.

KEYWORDS: Hypothyroidism; Mean platelet volume; Neutrophil-to-lymphocyte ratio; Platelet-to-lymphocyte ratio; Recurrence; Subacute thyroiditis

IS MUSCLE MECHANICAL FUNCTION ALTERED IN POLYCYSTIC OVARY SYNDROME?

Caliskan Guzelce E, Eyupoglu D, Torgutalp S, Aktoz F, Portakal O, Demirel H, Yildiz BO,.

Arch Gynecol Obstet. 2019 Sep;300(3):771-776. doi: 10.1007/s00404-019-05229-2. Epub 2019 Jul 1.

PURPOSE: Polycystic ovary syndrome (PCOS) is the most common endocrine disorder of women of reproductive age. The aim of the current study was to assess muscle mechanical function in PCOS and its relationship with hormonal and metabolic features of the syndrome.

METHODS: The study included 44 women with PCOS, all having clinical or biochemical hyperandrogenism, chronic oligo-anovulation and PCOM, and 32 age- and BMI-matched healthy women. Anthropometric, hormonal and biochemical measurements were performed. Muscle mechanical function including lower limb explosive strength and average power (AvP) was measured using isokinetic dynamometry, a valid and reliable instrument for measuring muscle strength.

RESULTS: The mean age and BMI of the women with PCOS and controls were 21.8 ± 3.2 versus 22.8 ± 3 years and 26.1 ± 5.4 versus 25.5 ± 5.7 kg/m^2, respectively ($p = NS$ for both). PCOS patients had higher androgen levels, whereas total and regional fat and lean body mass and insulin resistance parameters were similar between the groups. The peak muscle force output defined as the peak torque of knee extensor and flexor muscles was higher in normal weight women compared to overweight and obese ($p < 0.05$ for both) but did not differ in patients and controls. AvP determined by the time-averaged integrated area under the curve at 60°/s angular velocity was higher in the PCOS group for extension and flexion (50.3 ± 21.2 vs 42.1 ± 11.6 and 35.3 ± 27 vs 22.2 ± 11.1, respectively, $p < 0.05$ for both). These measurements were correlated with bioavailable testosterone ($r = 0.29$, $p = 0.012$, $r = 0.36$, $p = 0.001$, respectively).

CONCLUSION: Muscle mechanical function is altered in PCOS. Women with PCOS have increased average lower limb power that is associated with hyperandrogenism.

KEYWORDS: Androgen excess; Insulin resistance; Muscle power; Muscle strength; PCOS

HEALTH LITERACY AND WEIGHT LOSS AFTER BARIATRIC SURGERY

Erdogdu UE, Cayci HM, Tardu A, Demirci H, Kisakol G, Guclu M.

Obes Surg. 2019 Dec;29(12):3948-3953. doi: 10.1007/s11695-019-04060-7.

BACKGROUND: There are many factors that affect weight loss after bariatric surgery. The present study evaluated the impact of health literacy on weight loss after bariatric surgery in morbidly obese patients.

METHODS: The data of 118 patients who underwent laparoscopic sleeve gastrectomy for morbid obesity (body mass index-BMI ≥ 40 kg/m^2) and completed a 1-year follow-up period were recorded and evaluated, prospectively. The Turkish version of the 47-item European Health Literacy Survey Questionnaire (HLS-EU-Q47) was used to evaluate the health literacy of these patients. Their demographic characteristics, preoperative and postoperative weight (at 6 and 12 months), BMI, the percentage of excess weight loss (% EWL), excess BMI loss (% EBL) and total weight loss (%TWL), comorbidities, socioeconomic characteristics (marital status, income level, educational status, and duration), and HLS-EU-Q47 results were recorded and compared.

RESULTS: A significant inverse relationship was identified between preoperative BMI and scores for health promotion health literacy and general health literacy indexes ($p = 0.024$ and $p = 0.032$, respectively). A significant positive relationship was noted between % EWL and % EBL at 6 and 12 months, and health promotion health literacy index scores (6 months: $p = 0.004$, $p = 0.006$; 12 months: $p < 0.001$ and $p < 0.001$, respectively). A similar significant positive relationship was recorded between the % EWL and % EBL at 12 months and the health care health literacy index scores ($p = 0.042$ and $p = 0.036$, respectively). There was also a significant positive relationship between general health literacy index scores and % EWL and % EBL at 12 months ($p = 0.022$ and $p = 0.021$, respectively). % EWL at 12 months increased by 0.39, with a 1-point increase in health promotion and health literacy index scores.

CONCLUSIONS: A high health literacy index score in morbidly obese patients is associated with successful weight loss after bariatric surgery.

KEYWORDS: Bariatric surgery; HLS-EU-Q47; Health literacy; Morbid obesity; Sleeve gastrectomy; Weight loss

CAN REPEAT BIOPSIES CHANGE THE PROGNOSES OF AUS/FLUS NODULE?

Evranos Ogmen B, Aydin C, Kilinc I, Aksoy Altinboga A, Ersoy R, Cakir B.
Eur Thyroid J. 2020 Feb;9(2):92-98. doi: 10.1159/000504705. Epub 2019 Dec 3.

OBJECTIVE: Experience with atypia of undetermined significance/follicular lesions of undetermined significance (AUS/FLUS) showed that this category exhibited a marked variability in incidence and malignant outcome in resection specimens. We aimed to determine the utility of repeated fine-needle aspiration biopsies (FNABs) and ultrasonography to determine the malignancy rate in AUS/FLUS nodules.

METHODS: 23,587 nodules were biopsied, and 1,288 had at least one AUS/FLUS cytology. Ultrasonographic features including solid hypoechoic status, irregular margins, microcalcifications, nodule taller than wider, or an extrathyroidal extension were also recorded. Nodules for which only 1 FNAB revealed AUS/FLUS cytology were termed Group 1; nodules that underwent 2, 3, and 4 FNABs were termed Groups 2, 3 and 4, respectively. We compared these groups according to malignancy rates.

RESULTS: 576 of nodules underwent only 1 FNAB (Group 1); 505, 174, and 33 underwent 2 (Group 2), 3 (Group 3), and 4 FNABs (Group 4), respectively. Fifty-six (30.6%), 45 (27.3%), 18 (30%), and 5 (33.3%) of Groups 1-4 were malignant, respectively. The risk of malignancy was similar in each group ($p > 0.05$). Suspicious ultrasonographic features were encountered in malignant nodules more than benign nodules ($p < 0.05$, for each).

CONCLUSION: Repeat biopsy of AUS/FLUS nodules did not enhance the identification of malignancy. Ultrasonographic features may be a better guide for the decision of either surveillance or diagnostic surgery.

KEYWORDS: Atypia of undetermined significance/follicular lesions of undetermined significance nodules; Malignancy rate; Repeat fine-needle aspiration biopsy; Ultrasonography

A CONSENSUS ON THE DIAGNOSIS AND TREATMENT OF ACROMEGALY COMORBIDITIES: AN UPDATE

Giustina A, Barkan A, Beckers A, Biermasz N, Biller BMK, Boguszewski C, Bolanowski M, Bonert V, Bronstein MD, Casanueva FF, Clemmons D, Colao A, Ferone D, Fleseriu M, Frara S, Gadelha MR, Ghigo E, Gurnell M, Heaney AP, Ho K, Ioachimescu A, Katznelson L, Kelestimur F, Kopchick J, Krsek M, Lamberts S, Losa M, Luger A, Maffei P, Marazuela M, Mazziotti G, Mercado M, Mortini P, Neggers S, Pereira AM, Petersenn S, Puig-Domingo M, Salvatori R, Shimon I, Strasburger C, Tsagarakis S, van der Lely AJ, Wass J, Zatelli MC, Melmed S.
J Clin Endocrinol Metab. 2020 Apr 1;105(4). pii: dgz096. doi: 10.1210/clinem/dgz096.

OBJECTIVE: The aim of the Acromegaly Consensus Group was to revise and update the consensus on diagnosis and treatment of acromegaly comorbidities last published in 2013.

PARTICIPANTS: The Consensus Group, convened by 11 Steering Committee members, consisted of 45 experts in the medical and surgical management of acromegaly. The authors received no corporate funding or remuneration.

EVIDENCE: This evidence-based consensus was developed using the Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) system to describe both the strength of recommendations and the quality of evidence following critical discussion of the current literature on the diagnosis and treatment of acromegaly comorbidities.

CONSENSUS PROCESS: Acromegaly Consensus Group participants conducted comprehensive literature searches for English-language papers on selected topics, reviewed brief presentations on each topic, and discussed current practice and recommendations in breakout groups. Consensus recommendations were developed based on all presentations and discussions. Members of the Scientific Committee graded the quality of the supporting evidence and the consensus recommendations using the GRADE system.

CONCLUSIONS: Evidence-based approach consensus recommendations address important clinical issues regarding multidisciplinary management of acromegaly-related cardiovascular, endocrine, metabolic, and oncologic comorbidities, sleep apnea, and bone and joint disorders and their sequelae, as well as their effects on quality of life and mortality.

KEYWORDS: acromegaly; comorbidities; consensus; diagnosis; treatment

STATIC AND DYNAMIC BALANCES OF PATIENTS WITH ACROMEGALY AND IMPACT OF EXERCISE ON BALANCE

Haliloglu O, Topsakal N, Camliguney F, Polat Korkmaz O, Sahin S, Cotuk B, Kadioglu P, Erkut O.
Pituitary. 2019 Oct;22(5):497-506. doi: 10.1007/s11102-019-00979-3.

PURPOSE: Patients with acromegaly may have balance abnormalities due to changes in body composition. We aim to compare static and dynamic balances in patients with acromegaly and healthy volunteers, and to evaluate the effects of exercise on balance in patients with acromegaly.

METHODS: This prospective study included 25 patients with acromegaly followed at endocrinology clinic of Cerrahpasa Medical Faculty and 13 healthy volunteers. The acromegalic patients were divided into 2 groups. Group A (n = 11) attended an exercise program 3 days/week for 3 months, whereas group B (n = 14) and healthy volunteers (Group C) were exercise-free. Bipedal and unipedal stance static and dynamic balance tests were performed using a Prokin 252N device.

RESULTS: The ages, demographic characteristics, and body compositions were similar. In acromegalic patients, the static balance parameters of displacement of center-of-pressure in anterior-posterior direction (C.o.P.Y) while eyes open ($p = 0.002$) and on left leg ($p = 0.001$), in left-right direction (C.o.P.X) on right leg ($p = 0.03$), eyes-closed average medio-lateral velocity (AMLV) ($p = 0.001$) and the dynamic parameter of forward/backward front/right standard deviation (FBFRSD) ($p = 0.02$) were significantly different from healthy controls. When the exercise effect on balance was evaluated between group A and B, there were significant improvements in most parameters of dynamic balance measurements of both forward-backward and medial-lateral sway (FBFRSD, FBDME, and RLBLSD) ($p = 0.02$, $p = 0.02$, and $p = 0.004$, respectively) after exercise in group A.

CONCLUSIONS: Patients with acromegaly had impairments at various static and dynamic balance parameters, especially in posterior direction. After a 3-month exercise program, the dynamic balance profoundly improved, but static balance was relatively preserved in patients with acromegaly.

KEYWORDS: Acromegaly; Dynamic balance; Exercise; Static balance

HIGHLIGHT ARTICLE: THERAPEUTIC EFFECTS OF STATINS ON CHROMOSOMAL DNA DAMAGE OF DYSLIPIDEMIC PATIENTS

Hamiyet Donmez-Altuntas, Fahri Bayram, Ayse N Coskun-Demirkalp, Osman Baspınar, Derya Kocer, Peter P Toth

Experimental Biology and Medicine 2019;244: 1989–1995.DOI:10.1177/1535370219871895

Statins are a group of cholesterol lowering drugs and frequently used in the therapy of dyslipidemia. Our knowledge of the impact of statin therapy on DNA damage is as yet rudimentary. In this study, we aimed to assess the possible (1) genotoxic, cytostatic, and cytotoxic effects of statins in peripheral blood lymphocytes by using the cytokinesis-block micronucleus cytome (CBMN-cyt) assay, and (2) oxidative DNA damage by measuring plasma 8-hydroxy-2′-deoxyguanosine (8-OHdG) levels in response to statin therapy. Thirty patients with dyslipidemia who had no chronic diseases and did not use any medicines that interfere lipid values and twenty control subjects were included in the study. Statin therapy was initiated at risk-stratified doses. Blood samples were taken before and after treatment with statins and from control subjects, and CBMN-cyt assay parameters and 8-OHdG levels were evaluated. The chromosomal DNA damage (micronuclei and nucleoplasmic bridges [NPBs]), cytostasis (nuclear division index [NDI]), and cytotoxicity (apoptotic and necrotic cell frequencies) were decreased in patients with dyslipidemia after statin treatment. No significant differences were found for 8-OHdG levels between patients with dyslipidemia before or after statin therapy. The total cholesterol and low-density lipoprotein-cholesterol levels showed positive correlations with NPB frequency in patients with dyslipidemia prior to statin treatment. The present study is the first to evaluate CBMN-cyt assay biomarkers and 8-OHdG levels in patients with dyslipidemia before and after treatment with statins. The observed reductions of chromosomal DNA damage and NDI values with statin treatment could represent an important and under-appreciated pleiotropic effect of these agents.

Keywords: Dyslipidemia, DNA damage, cytokinesis-block micronucleus cytome assay, micronucleus, statin therapy, 8-hydroxy-2′-deoxyguanosine levels

THYROID NODULES OVER 4 CM DO NOT HAVE HIGHER MALIGNANCY OR BENIGN CYTOLOGY FALSE-NEGATIVE RATES

Kizilgul M, Shrestha R, Radulescu A, Evasovich MR, Burmeister LA.

Endocrine. 2019 Nov;66(2):249–253. doi: 10.1007/s12020-019-01964-3. Epub 2019 May 29.

PURPOSE: Whether thyroid nodules 4 cm or larger with benign cytology carry a higher risk of malignancy, and should be managed differently than smaller nodules remains controversial. We aimed to evaluate the malignancy rate and benign cytology false-negative rate in thyroid nodules ≥4 cm compared with those <4 cm.

METHODS: All thyroidectomies between January 2010 and December 2014 were reviewed. Patient demographics, preoperative sonographic nodule size, fine needle aspiration cytology (FNAC), and final surgical pathology results were compared for index nodules ≥4 vs. <4 cm.

RESULTS: A total of 490 index nodules with preoperative FNAC were identified. A total of 137 nodules were ≥4 cm and 353 nodules were <4 cm. The prevalence of carcinoma was lower (23 vs. 53%) in nodules ≥4 vs. <4 cm ($p < 0.0001$). The false-negative rate of benign FNAC for ≥4 and <4 cm index nodule was 5.2% and 5.9%, respectively ($p = 1.000$).

CONCLUSIONS: This study shows that thyroid nodules ≥4 cm do not have a higher malignancy rate at surgery nor higher benign cytology false-negative rate than smaller nodules. Thyroid nodules over 4 cm do not require resection, to rule out malignancy, based on size alone.

KEYWORDS: False-negative rate; Size; Thyroid carcinoma; Thyroid nodule; ≥4 cm

PREDICTING RESPONSE TO SOMATOSTATIN ANALOGUES IN ACROMEGALY: MACHINE LEARNING-BASED HIGH-DIMENSIONAL QUANTITATIVE TEXTURE ANALYSIS ON T2-WEIGHTED MRI

Kocak B, Durmaz ES, Kadioglu P, Polat Korkmaz O, Comunoglu N, Tanriover N, Kocer N, Islak C, Kizilkilic O.

Eur Radiol. 2019 Jun;29(6):2731–2739. doi: 10.1007/s00330-018-5876-2. Epub 2018 Nov 30.

OBJECTIVE: To investigate the value of machine learning (ML)-based high-dimensional quantitative texture analysis (qTA) on T2-weighted magnetic resonance imaging (MRI) in predicting response to somatostatin analogues (SA) in acromegaly patients with growth hormone (GH)-secreting pituitary macroadenoma, and to compare the qTA with quantitative and qualitative T2-weighted relative signal intensity (rSI) and immunohistochemical evaluation.

METHODS: Forty-seven patients (24 responsive; 23 resistant patients to SA) were eligible for this retrospective study. Coronal T2-weighted images were used for qTA and rSI evaluation. The immunohistochemical evaluation was based on the granulation pattern of the adenomas. Dimension reduction was carried out by reproducibility analysis and wrapper-based algorithm. ML classifiers were k-nearest neighbours (k-NN) and C4.5 algorithm. The reference standard was the biochemical response status. Predictive performance of qTA was compared with those of the quantitative and qualitative rSI and immunohistochemical evaluation.

RESULTS: Five hundred thirty-five out of 828 texture features had excellent reproducibility. For the qTA, k-NN correctly classified 85.1% of the macroadenomas regarding response to SAs with an area under the receiver operating characteristic curve (AUC-ROC) of 0.847. The accuracy and AUC-ROC ranges of the other methods were 57.4-70.2% and 0.575-0.704, respectively. Differences in predictive performance between qTA-based classification and the other methods were significant ($p < 0.05$).

CONCLUSIONS: The ML-based qTA of T2-weighted MRI is a potential non-invasive tool in predicting response to SAs in patients with acromegaly and GH-secreting pituitary macroadenoma. The method performed better than the qualitative and quantitative rSI and immunohistochemical evaluation.

KEY POINTS: • Machine learning-based texture analysis of T2-weighted MRI can correctly classify response to somatostatin analogues in more than four fifths of the patients. • Machine learning-based texture analysis performs better than qualitative and quantitative evaluation of relative T2 signal intensity and immunohistochemical evaluation. • About one third of the texture features may not be excellently reproducible, indicating that a reliability analysis is necessary before model development.

KEYWORDS: Acromegaly; Growth hormone-secreting pituitary adenoma; Machine learning; Magnetic resonance imaging; Somatostatin

METABOLIC SYNDROME DURING MENOPAUSE

Mumusoglu S, Yildiz BO.

Curr Vasc Pharmacol. 2019;17(6):595-603. doi: 10.2174/1570161116666180904094149.

The metabolic syndrome (MetS) comprises individual components including central obesity, insulin resistance, dyslipidaemia and hypertension and it is associated with an increased risk of cardiovascular disease (CVD) and type 2 diabetes mellitus (T2DM). The menopause per se increases the incidence of MetS in aging women. The effect(s) of menopause on individual components of MetS include: i) increasing central obesity with changes in the fat tissue distribution, ii) potential increase in insulin resistance, iii) changes in serum lipid concentrations, which seem to be associated with increasing weight rather than menopause itself, and, iv) an association between menopause and hypertension, although available data are inconclusive. With regard to the consequences of MetS during menopause, there is no consistent data supporting a causal relationship between menopause and CVD. However, concomitant MetS during menopause appears to increase the risk of CVD. Furthermore, despite the data supporting the association between early menopause and increased risk of T2DM, the association between natural menopause itself and risk of T2DM is not evident. However, the presence and the severity of MetS appears to be associated with an increased risk of T2DM. Although the mechanism is not clear, surgical menopause is strongly linked with a higher incidence of MetS. Interestingly, women with polycystic ovary syndrome (PCOS) have an increased risk of MetS during their reproductive years; however, with menopausal transition, the risk of MetS becomes similar to that of non-PCOS women.

KEYWORDS: Metabolic syndrome; PCOS; androgens; insulin resistance; menopause; surgical menopause.

THE TENDENCY OF REDUCED PERIODONTAL DESTRUCTION IN ACROMEGALIC PATIENTS SHOWING SIMILAR INFLAMMATORY STATUS WITH PERIODONTITIS PATIENTS

Ozdemir Y, Keceli HG, Helvaci N, Erbas T, Nohutcu RM.

Endocrine. 2019 Dec;66(3):622-633. doi: 10.1007/s12020-019-02060-2. Epub 2019 Sep 2.

PURPOSE: Evaluate periodontal status of acromegalics through clinical and biochemical variables.

METHODS: Demographics, hormone and metabolic variables, periodontal variables, gingival crevicular fluid (GCF) volume, and content data were collected from 30 patients with acromegaly, 30 patients with periodontitis, and 20 healthy subjects and comparatively analyzed.

RESULTS: GH differences between acromegaly (2.56 ± 4.86) and periodontitis (0.53 ± 0.95) ($p < 0.001$) were statistically significant. IGF-1 was lowest at periodontitis (113.31 ± 45.01) and lower (152.11 ± 45.56) at healthy group compared with acromegalics (220.38 ± 167.62) ($p < 0.05$). GH and IGF-1 had positive correlation ($p < 0.05$). IGF-1 and CAL had negative ($p < 0.01$) correlation except healthy group that showed the same correlation at the opposite direction ($p < 0.05$). Besides similar plaque and gingival indices with periodontitis, acromegalics showed relatively less CAL and GCF volume but except CAL, all their periodontal variables were higher than healthy subjects. GCF GH and prolactin showed higher values in acromegalics while healthy subjects showed relatively high interleukin-1, -10 and carboxyterminal telopeptide of type I collagen compared with others.

CONCLUSION: Acromegalics have a tendency of slowed periodontal destruction with an influence of GH and IGF-1 to the inflammation- and collage metabolism-related mechanisms rather than bone-associated ones. However, this information must be confirmed with further studies exploring the mechanisms possibly bonded to others.

KEYWORDS: Acromegaly; Bone loss; Gingival crevicular fluid; Growth hormone; Insulin-like growth factor-1; Periodontal

PENTRAXIN-3: A NEW PARAMETER IN PREDICTING THE SEVERITY OF DIABETIC FOOT INFECTION?

Ozer Balin S, Sagmak Tartar A, Uğur K, Kilinç F, Telo S, Bal A, Balin M, Akbulut A.

Int Wound J. 2019 Jun;16(3):659-664. doi: 10.1111/iwj.13075. Epub 2019 Feb 15.

This study was undertaken to evaluate the diagnostic and prognostic values of pentraxin-3 (PTX-3) in patients with infected diabetic foot ulcers (IDFU) as well as to assess the association between PTX-3 levels and IDFU severity. This study included 60 IDFU patients (Group 1), 45 diabetic patients without DFU (Group 2), and 45 healthy controls. Patients with IDFU were divided into mild, moderate, and severe subgroups based on classification of clinical severity. Patients who underwent amputation were also documented. Blood samples were collected to determine PTX-3 levels. PTX-3 levels in healthy controls, Group 1, and Group 2 were 5.83 (3.41-20) ng/mL, 1.47 (0.61-15.13) ng/mL, and 3.26 (0.67-20) ng/mL, respectively. A negative correlation between plasma PTX-3 and glucose levels was found. There were significant differences in terms of procalcitonin (PCT) and PTX-3 levels in the subgroup analysis of Group 1. The PTX-3 level in patients who did or did not undergo amputation was 4.1 (0.8-13.7) and 1 (0.6-15.1) ng/mL, respectively. Results suggest that PTX-3 is a particularly effective marker in patients with IDFU, both in terms of predicting disease severity and assisting in the decision to perform amputation.

KEYWORDS: amputation; diabetic foot ulcers; infection; pentraxin-3

INVESTIGATION OF THE DIABETIC EFFECTS OF MATERNAL HIGH-GLUCOSE DIET ON RATS

Ozkan H, Topsakal S, Ozmen O.

Biomed Pharmacother. 2019 Feb;110:609-617. doi: 10.1016/j.biopha.2018.12.011. Epub 2018 Dec 8.

BACKGROUND: Diabetes mellitus become an epidemic problem throughout the world. Relation of the diabetes with diet is known. Some evidence is reported about mother died and risk of diabetes in babies during the life related with gestational diabetes. This study was conducted to examine the effects of the exposure of high-dose sucrose to rats and pups during pregnancy and lactation.

METHODS: The mother rats were categorized into four groups, during pregnancy and until the offspring were 1-month-old, as follows: Group 1, provided with normal drinking water; Group 2, provided with water containing 10%; Group 3, 20%; and Group 4, 30% table sugar. During the study, the weights and daily fluid consumption of the animals were recorded. At the end of the study, the changes in blood, urine, and pancreatic tissues of the rats were examined.

RESULTS: The pups in the groups supplemented with sugar had more weight gain than those of the control group. Although serum glucose levels of mothers and young rats in the groups fed with sugar-containing water did not reach the diabetic limits, it was observed that these animals had statistically significantly higher blood glucose levels than those in the control group. Insulin levels were also similarly increased by an increase in the amount of sugar. Immunohistochemical studies on the mother rats showed that insulin secreted cell numbers and insulin receptors significantly decreased in some pancreatic islets in the groups supplemented with sugar. Glucagon immunoreactivity examination showed that the number of glucagon-expressing cells decreased in the rat groups supplemented with sugar. Similar and more severe findings were observed in the offspring.

CONCLUSION: This study has experimentally demonstrated that high daily intake of sugar in healthy pregnancies causes adverse effects on the mother and offspring.

KEYWORDS: Diabetes; Insulin; Pancreas; Pregnancy; Table sugar

THE EFFECTS OF PRE-OPERATIVE SOMATOSTATIN ANALOGUE THERAPY ON TREATMENT COST AND REMISSION IN ACROMEGALY

Polat Korkmaz O, Gurcan M, Nuhoglu Kantarci FE, Haliloglu O, Ozkaya HM, Sahin S, Oren MM, Tanriover N, Gazioglu N, Kadioglu P.

Pituitary. 2019 Aug;22(4):387-396. doi: 10.1007/s11102-019-00968-6.

PURPOSE: To investigate the effects of preoperative somatostatin analogue (SSA) treatment on the annual cost of all acromegaly treatment modalities and on remission rates.

METHODS: The medical records of 135 patients with acromegaly who were followed at endocrinology clinic of Cerrahpasa Medical Faculty for at least 2 years after surgery between 2009 and 2016 were reviewed.

RESULTS: The mean follow-up time was 50.9 ± 25.7 months. Early remission was defined according to 3rd month values in patients who didn't achieve remission, and 6th month values in patients who achieved remission at the 3rd month after surgery. The early and late remission rates of the entire study population were 40% and 80.7%, respectively. The early remission of the preoperative SSA-treated group (61.5%) was significantly higher than SSA-untreated group (31.2%) ($p = 0.002$). The early remission of the preoperative SSA-treated patients with macroadenomas (52.2%) was also significantly higher than the SSA-untreated group (23.5%) ($p = 0.02$). In the subgroup analysis; this difference was much more pronounced in invasive macroadenomas ($p = 0.002$). There were no differences between the groups in terms of late remission.The median annual cost of all acromegaly treatment modalities in study population was €3788.4; the cost for macroadenomas was significantly higher than for microadenomas (€4125.0 vs. €3226.5, respectively; $p = 0.03$). Preoperative SSA use in both microadenomas and macroadenomas didn't alter the cost of treatment. The increase in the duration of preoperative medical treatment had no effect on early or late remissions ($p = 0.09$; $p = 0.8$).

CONCLUSIONS: Preoperative medical treatment had no effect on the costs of acromegaly treatment. There was a benefical effect of pre-operative SSA use on early remission in patients with macroadenomas; however, this effect didn't persist long term.

KEYWORDS: Acromegaly; Cost; Preoperative treatment; Somatostatin analogue

TIME TO DIAGNOSIS IN CUSHING'S SYNDROME: A META-ANALYSIS BASED ON 5367 PATIENTS

Rubinstein G, Osswald A, Hoster E, Losa M, Elenkova A, Zacharieva S, Machado MC, Hanzu FA, Zopp S, Ritzel K, Riester A, Braun LT, Kreitschmann-Andermahr I, Storr HL, Bansal P, Barahona MJ, Cosaro E, Dogansen SC, Johnston PC, Santos de Oliveira R, Raftopoulos C, Scaroni C, Valassi E, van der Werff SJA, Schopohl J, Beuschlein F, Reincke M.

J Clin Endocrinol Metab. 2020 Mar 1;105(3). pii: dgz136. doi: 10.1210/clinem/dgz136.

CONTEXT: Signs and symptoms of Cushing's syndrome (CS) overlap with common diseases, such as the metabolic syndrome, obesity, osteoporosis, and depression. Therefore, it can take years to finally diagnose CS, although early diagnosis is important for prevention of complications.

OBJECTIVE: The aim of this study was to assess the time span between first symptoms and diagnosis of CS in different populations to identify factors associated with an early diagnosis.

DATA SOURCES: A systematic literature search via PubMed was performed to identify studies reporting on time to diagnosis in CS. In addition, unpublished data from patients of our tertiary care center and 4 other centers were included.

STUDY SELECTION: Clinical studies reporting on the time to diagnosis of CS were eligible. Corresponding authors were contacted to obtain additional information relevant to the research question.

DATA EXTRACTION: Data were extracted from the text of the retrieved articles and from additional information provided by authors contacted successfully. From initially 3326 screened studies 44 were included.

DATA SYNTHESIS: Mean time to diagnosis for patients with CS was 34 months (ectopic CS: 14 months; adrenal CS: 30

months; and pituitary CS: 38 months; P < .001). No difference was found for gender, age (<18 and ≥18 years), and year of diagnosis (before and after 2000). Patients with pituitary CS had a longer time to diagnosis in Germany than elsewhere.

CONCLUSIONS: Time to diagnosis differs for subtypes of CS but not for gender and age. Time to diagnosis remains to be long and requires to be improved.

KEYWORDS: ACTH; cortisol; hypercortisolism; meta-analysis; symptoms

AN EVALUATION OF THE RESULTS OF THE STEROID AND NON-STEROIDAL ANTI-INFLAMMATORY DRUG TREATMENTS IN SUBACUTE THYROIDITIS IN RELATION TO PERSISTENT HYPOTHYROIDISM AND RECURRENCE

Sencar ME, Calapkulu M, Sakiz D, Hepsen S, Kus A, Akhanli P, Unsal IO, Kizilgul M, Ucan B, Ozbek M, Cakal E.

Sci Rep. 2019 Nov 15;9(1):16899. doi: 10.1038/s41598-019-53475-w.

Subacute thyroiditis (SAT) is an inflammatory thyroid disease. The main purpose of the treatment is to relieve pain and control the inflammatory process. The aim of the present study was to evaluate the therapeutic effects of steroid and non-steroidal anti-inflammatory drugs (NSAIDs) in SAT. Initial laboratory data, treatment response, and long-term results of 295 SAT patients treated with ibuprofen or methylprednisolone were evaluated. After the exclusion of 78 patients, evaluation was made of 126 patients treated with 1800 mg ibuprofen and 91 patients treated with 48 mg methylprednisolone. In 59.5% of 126 patients treated with ibuprofen, there was no adequate clinical response at the first control visit. In 54% of patients, the treatment was changed to steroids in mean 9.5 days. Symptomatic remission was achieved within two weeks in all patients treated with methylprednisolone. The total recurrence rate was 19.8%, and recurrences were observed more frequently in patients receiving only steroid therapy than in patients treated with NSAID only (23% vs. 10.5% p:0.04). Persistent hypothyroidism developed in 22.8% of patients treated only with ibuprofen and in 6.6% of patients treated with methylprednisolone only. Treatment with only ibuprofen (p:0.039) and positive thyroid peroxidase antibody (anti-TPO) (p:0.029) were determined as the main risk factors for permanent hypothyroidism. NSAID treatment is not as effective as steroid treatment in early clinical remission. Steroid treatment was detected as a protective factor against permanent hypothyroidism. Therefore, steroid therapy may be considered especially in anti-TPO positive SAT patients and patients with high-level acute phase reactants.

IMPACT OF MOLECULAR TESTING ON THYROID NODULE NEOPLASTIC DIAGNOSIS, STRATIFIED BY 4-CM SIZE, IN A SURGICAL SERIES

Shrestha RT, Kizilgul M, Shahi M, Amin K, Evasovich MR, Burmeister LA.

Sci Rep. 2019 Nov 28;9(1):17861. doi: 10.1038/s41598-019-52581-z.

Whether molecular testing adds diagnostic value to the evaluation of thyroid nodules 4-cm or larger is unknown. The impact of molecular testing on cytopathologic-histopathologic diagnosis of neoplasm (adenoma or malignant), stratified by nodule size <or≥ 4-cm, was analyzed from a surgical series. Of 490 index nodules, molecular testing was performed on 18% of 353 nodules <4-cm and 8.8% of 137 nodules ≥4-cm (p = 0.0118). Adenoma was higher (30% vs 14%) and malignancy lower in nodules ≥4-cm vs <4-cm (p < 0.0001). Molecular testing impacted the finding of malignancy in the <4-cm group. Molecular testing of the ≥4-cm AUS and FN cytology subcategory impacted neoplasm discovery (combining adenoma and malignancy), with mutation positive 100% (3/3), mutation negative 38% (3/8), no mutation testing 88% (21/24), p = 0.0122. In conclusion, more adenoma was found in nodules ≥4-cm, including those with benign cytology, which was not explained by available molecular testing results. Molecular testing impacted the finding of malignancy in thyroid nodules <4-cm. The overall number of ≥4-cm nodules with molecular testing in this study was too low to exclude its diagnostic value in this setting. Further study is recommended to include molecular testing in nodules ≥4-cm, including those with benign cytology, to identify follicular adenoma.

ENDOCRINE DISRUPTING CHEMICALS: EXPOSURE, EFFECTS ON HUMAN HEALTH, MECHANISM OF ACTION, MODELS FOR TESTING AND STRATEGIES FOR PREVENTION

Yilmaz B, Terekeci H, Sandal S, Kelestimur F.

Rev Endocr Metab Disord. 2020 Mar;21(1):127-147. doi: 10.1007/s11154-019-09521-z.

Endocrine Disrupting Chemicals (EDCs) are a global problem for environmental and human health. They are defined as "an exogenous chemical, or mixture of chemicals, that can interfere with any aspect of hormone action". It is estimated that there are about 1000 chemicals with endocrine-acting properties. EDCs comprise pesticides, fungicides, industrial chemicals, plasticizers, nonylphenols, metals, pharmaceutical agents and phytoestrogens. Human exposure to EDCs mainly occurs by ingestion and to some extent by inhalation and dermal uptake. Most EDCs are lipophilic and bioaccumulate in the adipose tissue, thus they have a very long half-life in the body. It is difficult to assess the full impact of human exposure to EDCs because adverse effects develop latently and manifest at later ages, and in some people do not present. Timing of exposure is of importance. Developing fetus and neonates are the most vulnerable to endocrine disruption. EDCs may interfere with synthesis, action and metabolism of sex steroid hormones that in turn cause developmental and fertility problems, infertility and hormone-sensitive cancers in women and men. Some EDCs exert obesogenic effects that result in disturbance in energy homeostasis. Interference with hypothalamo-pituitary-thyroid and adrenal axes has also been reported. In this review, potential EDCs, their effects and mechanisms of action, epidemiological studies to analyze their effects on human health, bio-detection and chemical identification methods, difficulties in extrapolating experimental findings and studying endocrine disruptors in humans and recommendations for endocrinologists, individuals and policy makers will be discussed in view of the relevant literature.

KEYWORDS: Endocrine disruptors; Environment; Estrogenic; Exposure; Human health; Pollutants

KİTAP BÖLÜMÜ

Thyroid and Parathyroid Diseases

A Case - Based Guide

Editors: *Tamer Özülker, Mine Adaş, Semra Günay*

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Part I: Benign Thyroid Diseases/ Case 1

Amiodarone-Induced Thyrotoxicosis in a Patient with Multinodular Goiter

Serpil Salman

Part III: Parathyroid Diseases /Case 72

Clinical Usefulness of an Intraoperative "Ouick Parathyroid Hormone" Measurement in Primary Hyperparathyroidism Management

Serpil Salman and Fatih Tunca

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DUYURULAR

İZİNSİZ LOGO KULLANIMI

11.06.2018 tarihinde Derneğimizin ismini ve logosunu izinsiz olarak internetten sattıkları içeceklerin üzerinde kullandığı tespit edilen Şirkete; 17.07.2018 tarihinde Ankara Fikri ve Sınai Haklar Mahkemesi'nde; markaya tecavüzün tespiti, önlenmesi, maddi ve manevi tazminat istemli dava açılmış; dava sonucunda 21.01.2020 tarihli gerekçeli kararda; izinsiz kullanımın Dernek markamıza tecavüz ettiği, marka haklarımızın ihlaline, derneğimiz aleyhine haksız rekabete yol açtığına, maddi ve manevi tazminata hükmedilmiştir. Belirtilen karar; sağlık derneklerine yönelik bazı firmalar tarafından kazanç sağlamak ve tüketicileri aldatmak amacıyla yapılan girişimlerin önüne geçecek, emsal teşkil edecek karar olması nedeni ile önem taşımaktadır. Bilgilerinize sunarız.

Saygılarımızla,

Türkiye Endokrinoloji ve Metabolizma Derneği Yönetim Kurulu

Türkiye Endokrinoloji ve Metabolizma Derneği Bülteni

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