

# TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ BÜLTENİ



Üç ayda bir yayımlanır • Üyelere ücretsiz olarak gönderilir

Sayı 48 • Ekim - Kasım - Aralık 2014

## 6. TÜRKİYE TİROİD HASTALIKLARI KONGRESİ, ULTRASON ve EUGOGO KURSU TAMAMLANDI

6. Türkiye Tiroid Hastalıkları Kongresi 28-29 Kasım 2014 tarihleri arasında Swiss Otel, Ankara'da başarılı bir şekilde tamamlanmıştır. Kongremiz kapsamında Ultrason ve EUGOGO kursu yapılmıştır. Kongremize 323, Ultrason kursuna 61, EUGOGO kursuna ise 105 meslektaşımız katılmıştır.

Kongremiz bilimsel programı kapsamında ise 5 konferans 3 sempozyum ve sözlü bildiri oturumu gerçekleşmiş ve kongremize 51 adet bildiri gönderilmiştir. Sözlü bildiriler arasından 3 tanesi ödül almıştır. Ödül alan arkadaşlarımızı tebrik ediyor, başarılarının devamını diliyoruz.



2015 yılının hepimize  
sağlık, mutluluk,  
başarı getirmesini dileriz..

## Sözlü Bildiri Ödülleri

## Sözlü Bildiri Birincilik Ödülü

**S 05- Diferansiye tiroid karsinomlu hastalarda lenf nodundan yapılan yıkama tiroglobulinin, tam kan ve serum yıkama tiroglobulinine oranı: ölçümlerin standardizasyonu ve artmış doğruluk yüzdesi için yeni bir yaklaşım**

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## Sözlü Bildiri İkincilik Ödülü

**S 03- Orta ciddi graves orbitopatisinin seyrinde erken total tiroidektominin medikal tedavi ile karşılaştırılması**

Murat Faik Erdoğan<sup>1</sup>, Özgür Demir<sup>1</sup>, Reyhan Ünlü Ersoy<sup>2</sup>, Kamile Gül<sup>2</sup>, Uğur Ünlütürk<sup>1</sup>, Berna İmge Aydoğan<sup>1</sup>, Ziyet Alphan Üç<sup>3</sup>, Türkan Mete<sup>4</sup>, Sibel Ertek<sup>5</sup>, Bekir Çakır<sup>2</sup>, Serdar Güler<sup>4</sup>, Demet Çorapçıoğlu<sup>1</sup>, Selçuk Dağdelen<sup>6</sup>, Gürbüz Erdoğan<sup>5</sup>

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<sup>5</sup>Ufuk Üniversitesi Tıp Fakültesi Endokrinoloji ve Metabolizma Hastalıkları Bilim Dalı, Ankara

<sup>6</sup>Hacettepe Üniversitesi Tıp Fakültesi Endokrinoloji ve Metabolizma Hastalıkları Bilim Dalı, Ankara



## Sözlü Bildiri Üçüncülük Ödülü

**S 01- Aşikar hipotiroidizmde vücut kompozisyonu, epikardiyal yağ doku kalınlığı, serum omentin-1 düzeyleri ve ateroskleroz belirteçleri arasındaki ilişkilerin değerlendirilmesi**

Ethem Turgay Cerit<sup>1</sup>, Müjde Aktürk<sup>1</sup>, Alev E. Altınova<sup>1</sup>, Yusuf Tavil<sup>2</sup>, Çiğdem Özkan<sup>1</sup>, Çağrı Yayla<sup>2</sup>, Mustafa Altay<sup>1</sup>, Canan Demirtaş<sup>3</sup>, Nuri Çakır<sup>1</sup>

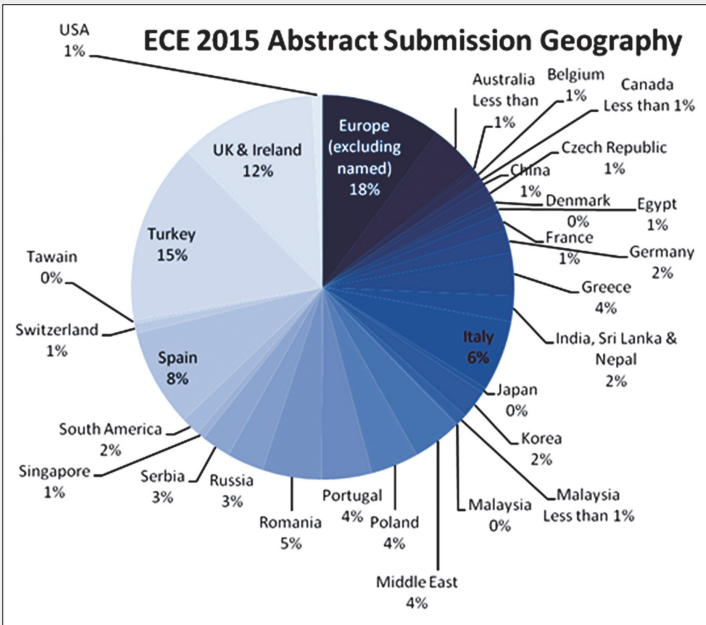
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<sup>2</sup>Gazi Üniversitesi Tıp Fakültesi, Kardiyoloji Anabilim Dalı, Ankara

<sup>3</sup>Gazi Üniversitesi Tıp Fakültesi, Tıbbi Biyokimya Anabilim Dalı, Ankara



## Avrupa Endokrinoloji Kongresi'nde bu yıl ülkemiz birinci sırada



16-20 Mayıs 2015 tarihlerinde İrlanda'nın Dublin şehrinde yapılacak olan 17. Avrupa Endokrinoloji Kongresi'ndeki bildirilerin ülkelere göre dağılımı aşağıda sunulmuştur. 2014 yılındaki kongrede evsahibi Polonya ile birlikte en fazla bildiri gönderen iki ülkeden biri olan Türkiye, bu yıl 255 bildiri (%15) ile birinci sırada yer almaktadır.



## Kongre, Kurslar ve Sempozyumlar



## Bilimsel Kongreler, Ulusal ve Uluslararası Sempozyumlar

Ayrıntılara ve 2015 yılına ait Bilimsel Toplantı Takvimine derneğimiz internet sayfasından ([www.temd.org.tr](http://www.temd.org.tr)) ulaşabilirsiniz.

**20 Şubat 2015**

1. Endokrinoloji Sempozyumu  
Merit Otel - Lefkoşa

**28 Şubat 2015**

Tiroid Hastalıkları Kursu (TİROKURS)  
Hiltonsa Otel, Mersin

**05-08 Mart 2015**

ENDO 2015  
San Diego, CA, USA  
[www.endocrinology.org](http://www.endocrinology.org)

**16-18 Mart 2015**

BES Clinical Update 2015  
Birmingham, UK  
[www.endocrinology.org](http://www.endocrinology.org)

**26-29 Mart 2015**

World Congress on Osteoporosis, Osteoarthritis and  
Musculoskeletal Diseases  
Milan, Italy  
[www.wco-iof-esceo.org](http://www.wco-iof-esceo.org)

**28 Mart 2015**

TEMD Obezite-Lipid Metabolizması-Hipertansiyon  
Çalışma Grubu, 3. Lipid Metabolizması ve Bozuklukları  
Eğitim Kursu  
Sheraton Otel, Bursa

**10-11 Nisan 2015**

Çanakkale'nin 100. Yılı Anısına TEMD Endokrinoloji  
Buluşması  
Kolin Otel, Çanakkale

**06-10 Mayıs 2015**

37. Türkiye Endokrinoloji ve Metabolizma Hastalıkları  
Kongresi, Antalya  
[www.temd.org.tr](http://www.temd.org.tr)

**06-09 Mayıs 2015**

22<sup>nd</sup> European Congress on Obesity  
Prague, Czech Republic  
[www.eco2015.easo.org](http://www.eco2015.easo.org)

**13-17 Mayıs 2015**

AACE 24<sup>th</sup> Annual Scientific and Clinical Congress  
Nashville, USA  
[www.am.aace.com](http://www.am.aace.com)

**16-20 Mayıs 2015**

17<sup>th</sup> European Congress of Endocrinology  
Dublin, Ireland  
[www.ece2015.org](http://www.ece2015.org)

**20-22 Mayıs 2015**

10<sup>th</sup> European Congress on Menopause and Andropause  
Madrid, Spain  
[www.asrm.org](http://www.asrm.org)

## Üyelerimizden Literatür Seçmeleri

### **Obesity with and without metabolic syndrome: Do vitamin D and thyroid autoimmunity have a role?**

Agbaht K<sup>1</sup>, Mercan Y<sup>2</sup>, Kutlu S<sup>3</sup>, Alpdemir M<sup>3</sup>, Sezgin T<sup>4</sup>.

*Diabetes Res Clin Pract.* 2014 Oct;106(1):27-34. doi: 10.1016/j.diabres.2014.08.001. Epub 2014 Aug 10.

#### **Abstract**

**Aims:** To investigate serum levels of thyroid stimulating hormone (TSH), anti-thyroid peroxidase antibody (TPO), and 25(OH)D in the presence or absence of metabolic syndrome in an obese population.

**Methods:** Data from a prospectively generated "Obesity Polyclinic" database that includes socio-demographic characteristics, anthropometric, and laboratory measurements of obese subjects were retrospectively analyzed. Subjects with body-mass index (BMI)  $\geq 30$  kg/m<sup>2</sup> were eligible. After detailed analysis and exclusion of unavailable cases, subjects diagnosed with and without metabolic syndrome were compared for TSH, anti-TPO, and 25(OH)D.

**Results:** Of the study participants (n=548; men/women, 64/484), 277 were diagnosed with metabolic syndrome [Met-S (+)]. Met-S (+) patients had a higher mean BMI (36.4 vs. 32.3 kg/m<sup>2</sup>,  $p < .001$ ) and percentage body fat (PBF) (39.2 vs. 35.3%,  $p < .001$ ), but similar TSH (2.1 vs. 2.2 mIU/mL,  $p = .759$ ), anti-TPO (12 vs. 13 IU/mL,  $p = .483$ ), 25(OH) D (13.2 vs. 12.6 ng/mL,  $p = .409$ ), and calcium-phosphorus product (28.7 vs. 29.5 mg/dL,  $p = 0.275$ ), compared to Met-S (-) subjects. When serum TSH, anti-TPO, and 25(OH) D levels were analyzed according to tertiles for comparisons of fasting plasma glucose, triglycerides, high-density lipoprotein cholesterol, BMI, and PBF, only 25(OH)D levels were negatively correlated with BMI and PBF.

**Conclusions:** Although decreased 25(OH)D levels were related to the degree of obesity in obese subjects, serum 25(OH)D levels per se did not seem to be associated with metabolic syndrome. The prevalence of thyroid autoimmunity and hypothyroidism were high in this obese sample; however, neither serum TSH nor anti-TPO levels correlated with metabolic syndrome. Our findings did not support the hypothesis that thyroid autoimmunity and/or vitamin D status have a role in the development of metabolic disturbances in the obese population.

### **Hyperglycemia is associated with lower levels of urokinase-type plasminogen activator and urokinase-type plasminogen activator receptor in wound fluid.**

Akinci B<sup>1</sup>, Terzi C<sup>2</sup>, Sevidindik G<sup>3</sup>, Yuksel F<sup>3</sup>, Tunc UA<sup>4</sup>, Tunalı S<sup>3</sup>, Yesil S<sup>4</sup>.

*J Diabetes Complications.* 2014 Nov-Dec;28(6):844-9. doi: 10.1016/j.jdiacomp.2014.07.013. Epub 2014 Aug 7.

#### **Abstract**

**Aims:** Wounds in patients with hyperglycemia show impaired healing. Plasminogen activation is crucial in several overlapping phases of wound healing process. In this study, we aimed i) to compare acute wound fluid in patients with hyperglycemia and normoglycemia, ii) to focus on the elements of plasminogen activation in the wound fluid, and iii) to determine if the acute wound fluid characteristics are associated with surgical site infections.

**Methods:** In a cohort of 54 patients, a closed suction drain was placed in the wound above the anterior abdominal wall fascia under the skin in order to collect postoperative acute wound fluid samples for 3 following days after colorectal surgery. Patients were classified as normoglycemic (n=25) or hyperglycemic (n=29; 17 with type 2 diabetes and 12 with stress induced hyperglycemia). Surgical site infection was defined according to the Centers for Disease Control criteria. The levels of urokinase-type plasminogen activator (uPA), urokinase-type plasminogen activator receptor (uPAR), plasminogen activator inhibitor-1 (PAI-1), interleukin-1 $\beta$  (IL-1 $\beta$ ), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ), and fibroblast growth factor-1 (FGF-1) were measured in the wound fluid.

**Results:** Compared to normoglycemic subjects, patients with hyperglycemia had significantly lower levels of uPA and uPAR in the wound fluid despite similar or even higher circulating levels. There was no significant difference in IL-1 $\beta$ , TNF- $\alpha$ , PAI-1 and FGF-1 levels. In the whole study population, the wound fluid levels of uPA and uPAR were negatively correlated with circulating glucose levels. No difference was detected in the wound fluid characteristics of patients with and without surgical site infection.

**Conclusion:** Patients with hyperglycemia exhibit decreased levels of uPA and uPAR in the wound fluid, suggesting a local failure in plasminogen activation at the wound site.

### **Prevalence of dyslipidemia and associated risk factors in Turkish adults.**

Bayram F<sup>1</sup>, Kocer D<sup>2</sup>, Gundogan K<sup>3</sup>, Kaya A<sup>4</sup>, Demir O<sup>5</sup>, Coskun R<sup>3</sup>, Sabuncu T<sup>6</sup>, Karaman A<sup>7</sup>, Cesur M<sup>8</sup>, Rizzo M<sup>9</sup>, Toth PP<sup>10</sup>, Gedik V<sup>5</sup>.

*J Clin Lipidol.* 2014 Mar-Apr;8(2):206-16. doi: 10.1016/j.jacl.2013.12.011. Epub 2014 Jan 19.

#### **Abstract**

**Background and Objectives:** Dyslipidemia is a modifiable major risk factor for coronary heart disease. The objective of this study was to determine the prevalence of dyslipidemia among Turkish adults and its associations with other cardiovascular risk factors.

**Methods:** This study included 4309 people ages 20 to 83 years old from 7 provinces of Turkey. People from the city centers, districts, and villages were selected by a stratified sampling method. Weight, height, and waist and hip circumferences were measured. Blood samples were obtained to determine glucose, total cholesterol (TC), high-density lipoprotein cholesterol (HDL-C), low-density lipoprotein cholesterol (LDL-C), and triglycerides (TG); these parameters were measured with an autoanalyzer. Dyslipidemia was defined according to National Cholesterol Education Program Adult Treatment Panel III diagnostic criteria.

**Results:** Of 4309 subjects, 43% had high TC, 41.5% had low HDL-C, 36.2% had high LDL-C, and 35.7% had high TG. Of these measures, at least 1 lipid abnormality was diagnosed in 78.7% of men and 80.4% of women. The prevalence of high TC, LDL-C, and TG increased with age, with the highest prevalence in the 46-to-65-year-old age group. The mean values (mg/dL) of TC, LDL-C, HDL-C, and TG were  $194.2 \pm 47.7$ ,  $117.7 \pm 41.1$ ,  $50.3 \pm 16.3$ , and  $145.4 \pm 96.3$ , respectively. Dyslipidemia was positively associated with age, body mass index, waist circumference, fasting blood glucose, and blood pressure, and negatively associated with altitude.

**Conclusions:** The high prevalence of dyslipidemia in Turkey is an important public health problem. Enhanced public health preventive measures should be implemented to better diagnose and comprehensively treat dyslipidemia in Turkey.

### **The polycystic ovary syndrome: a position statement from the European Society of Endocrinology.**

Conway G<sup>1</sup>, Dewailly D<sup>1</sup>, Diamanti-Kandarakis E<sup>1</sup>, Escobar-Morreale HF<sup>1</sup>, Franks S<sup>1</sup>, Gambineri A<sup>1</sup>, Kelestimur F<sup>1</sup>, Macut D<sup>1</sup>, Micic D<sup>1</sup>, Pasquali R<sup>2</sup>, Pfeifer M<sup>1</sup>, Pignatelli D<sup>1</sup>, Pugeat M<sup>1</sup>, Yildiz BO<sup>1</sup>.

*ESE PCOS Special Interest Group. Eur J Endocrinol.* 2014 Oct;171(4):P1-29. doi: 10.1530/EJE-14-0253. Epub 2014 May 21.

#### **Abstract**

Polycystic ovary syndrome (PCOS) is the most common ovarian disorder associated with androgen excess in women, which justifies the growing interest of endocrinologists. Great efforts have been made in the last 2 decades to define the syndrome. The presence of three different definitions for the diagnosis of PCOS

reflects the phenotypic heterogeneity of the syndrome. Major criteria are required for the diagnosis, which in turn identifies different phenotypes according to the combination of different criteria. In addition, the relevant impact of metabolic issues, specifically insulin resistance and obesity, on the pathogenesis of PCOS, and the susceptibility to develop earlier than expected glucose intolerance states, including type 2 diabetes, has supported the notion that these aspects should be considered when defining the PCOS phenotype and planning potential therapeutic strategies in an affected subject. This paper offers a critical endocrine and European perspective on the debate on the definition of PCOS and summarises all major aspects related to aetiological factors, including early life events, potentially involved in the development of the disorder. Diagnostic tools of PCOS are also discussed, with emphasis on the laboratory evaluation of androgens and other potential biomarkers of ovarian and metabolic dysfunctions. We have also paid specific attention to the role of obesity, sleep disorders and neuropsychological aspects of PCOS and on the relevant pathogenetic aspects of cardiovascular risk factors. In addition, we have discussed how to target treatment choices based according to the phenotype and individual patient's needs. Finally, we have suggested potential areas of translational and clinical research for the future with specific emphasis on hormonal and metabolic aspects of PCOS.

#### European survey of diagnosis and management of the polycystic ovary syndrome: results of the ESE PCOS Special Interest Group's Questionnaire.

Conway G<sup>1</sup>, Dewailly D<sup>1</sup>, Diamanti-Kandarakis E<sup>1</sup>, Escobar-Morreale HF<sup>1</sup>, Franks S<sup>1</sup>, Gambineri A<sup>1</sup>, Kelestimur F<sup>1</sup>, Macut D<sup>1</sup>, Micic D<sup>1</sup>, Pasquali R<sup>2</sup>, Pfeifer M<sup>1</sup>, Pignatelli D<sup>1</sup>, Pugeat M<sup>1</sup>, Yildiz B<sup>1</sup>

*ESE PCOS Special Interest Group. Eur J Endocrinol. 2014 Oct;171(4):489-98. doi: 10.1530/EJE-14-0252. Epub 2014 Jul 21.*

#### Abstract

**Background:** There is evidence for differences between endocrinologists and other specialists in their approach to diagnosis and management of the polycystic ovary syndrome (PCOS).

**Objective:** A mailed survey consisting of a simple questionnaire aiming to understand current practice for diagnosis and management of the PCOS by specialists across Europe.

**Methods:** The questionnaire consisted of 23 questions grouped to achieve information on i) the general characteristics of the respondents, ii) patients with PCOS seen by endocrinologists, iii) the main diagnostic criteria, iv) biochemical parameters used in the differential diagnosis of hyperandrogenism, v) long-term concerns, and, finally vi) treatment choices. A total of 357 questionnaires representing 13.3% of the members of European Society of Endocrinology (ESE) were available for final analysis; 93% of the respondents were endocrinologists

**Results:** In relation to the diagnostic criteria, respondents were most likely to select menstrual irregularity as the most frequent criteria used for the diagnosis of PCOS although very high rates were achieved for the use of hirsutism and biochemical hyperandrogenism. It therefore appears that the NIH criteria were followed by the majority of respondents. The most frequent biochemical parameters in the differential diagnosis of hyperandrogenism were total testosterone or free androgen index. Obesity and type 2 diabetes were regarded as the principal long-term concerns for PCOS. The most common treatments for patients with PCOS were metformin (33%), lifestyle modification (25%), and oral contraceptives (22%). More direct treatments of infertility include clomiphene citrate alone or in combination with metformin, prescribed by 9 and 23%, respectively, whereas only 6% used other methods for induction of ovulation. **Conclusion:** The survey produced by ESE is a good start for evaluating the perspective in the diagnosis and treatment of PCOS by endocrinologists in Europe.

#### Extensive investigation of 114 patients with Sheehan's syndrome: a continuing disorder.

Diri H<sup>1</sup>, Tanriverdi F<sup>1</sup>, Karaca Z<sup>1</sup>, Senol S<sup>1</sup>, Unluhizarci K<sup>1</sup>, Durak AC<sup>1</sup>, Atmaca H<sup>1</sup>, Kelestimur F<sup>2</sup>.

*Eur J Endocrinol. 2014 Sep;171(3):311-8. doi: 10.1530/EJE-14-0244. Epub 2014 Jun 10.*

#### Abstract

**Objective:** Sheehan's syndrome (SS) is a well-known cause of hypopituitarism resulting from postpartum pituitary necrosis. Because of its rarity in Western society, its diagnosis is often overlooked. We aimed to investigate the clinical, laboratory, and radiological aspects of SS in a large number of patients.

**Study Design:** A retrospective assessment of the medical records of 114 patients with SS was conducted. In addition, sella turcica volumes of 29 healthy women were compared with those of patients by magnetic resonance imaging examinations.

**Results:** The mean period of diagnostic delay was 19.7 years in patients with SS. It was found that 52.6% of patients had nonspecific complaints, 30.7% had complaints related to adrenal insufficiency, and 9.6% had complaints related to hypogonadism when diagnosed. At the time of diagnosis, 55.3% of the patients had panhypopituitarism, while 44.7% had partial hypopituitarism. The number of deficient hormones was found to be increased over the years. None of the patients whose basal prolactin was below 4.0ng/ml had adequate prolactin responses to TRH test, while all patients whose basal prolactin was above 7.8ng/ml had adequate responses. Mean sella volume was found to be significantly lower in the SS group (340.5±214mm(3)) than that in the healthy group (602.5±192mm(3)).

**Conclusions:** SS is a common cause of hypopituitarism in underdeveloped and developing countries. The main reasons for diagnostic delay seem to be the high frequency of patients with nonspecific complaints and neglect of SS. In addition, the TRH stimulation test was found to have a high sensitivity and specificity to recognize PRL deficiency. Furthermore, small sella size may have an important contributing role in the etiopathogenesis of SS.

#### Evaluation of chromosomal damage, cytostasis, cytotoxicity, oxidative DNA damage and their association with body-mass index in obese subjects.

Donmez-Altuntas H<sup>1</sup>, Sahin F<sup>2</sup>, Bayram F<sup>3</sup>, Bitgen N<sup>2</sup>, Mert M<sup>4</sup>, Guclu K<sup>5</sup>, Hamurcu Z<sup>2</sup>, Aribas S<sup>3</sup>, Gundogan K<sup>6</sup>, Diri H<sup>3</sup>.

*Mutat Res Genet Toxicol Environ Mutagen. 2014 Sep 1;771:30-6. doi: 10.1016/j.mrgentox.2014.06.006. Epub 2014 Jun 28.*

#### Abstract

Over-weight and obesity are serious problems that increase the risk not only for chronic diseases like diabetes and heart disease but also of various types of cancer. This study was conducted to evaluate cytokinesis-block micronucleus cytome (CBMN-cyt) assay parameters and plasma concentrations of 8-hydroxy-2'-deoxyguanosine (8-OHdG), and their relationship with age, body-mass index (BMI) and waist-to-hip ratio (WHR) in 83 obese, 21 over-weight and 21 normal-weight subjects. Frequencies of micronuclei (MN), nucleoplasmic bridges (NPB), nuclear buds (NBUD), and apoptotic and necrotic cells in lymphocytes of obese subjects were found to be significantly higher than those found in normal-weight and over-weight subjects ( $p<0.01$  and  $p<0.05$ ), whereas plasma concentrations of 8-OHdG in obese subjects were lower than those observed in normal-weight and over-weight subjects ( $p<0.05$  and  $p<0.01$ , respectively). There was a negative correlation between age and frequency of necrotic cells and NDI ( $p<0.05$ ), whereas there was no correlation between BMI, WHR, CBMN cyt assay parameters and plasma 8-OHdG in normal-weight subjects. In over-weight subjects, a negative correlation was observed between age and NDI ( $p<0.01$ ) and a positive correlation between age and frequency of NPB ( $p<0.01$ ) and between BMI and frequency of NBUD ( $p<0.05$ ). In obese subjects, a negative correlation was observed between age and NDI ( $p<0.01$ ) and between BMI and NDI ( $p<0.05$ ), whereas no correlation was observed between WHR and CBMN-cyt assay parameters and plasma 8-OHdG. However, frequencies of



MN, NPB, NBUD, apoptotic and necrotic cells in total over-weight/obese ( $p < 0.01$ / $p < 0.05$ ) and all subjects ( $p < 0.01$ ) increased with increasing BMI. The increase in genomic damage (MN, NPB and NBUD) in obese subjects and the positive correlation between genomic damage and BMI in total over-weight/obese subjects indicate that obesity increases genomic damage and may be associated with an increased risk of cancer, because an increase in MN frequency is a predictor of cancer risk.

### Intraoperative ultrasonography is useful in surgical management of neck metastases in differentiated thyroid cancers.

Ertas B<sup>1</sup>, Kaya H, Kurtulmus N, Yakupoglu A, Giray S, Unal OF, Duren M.  
*Endocrine. 2014 May 27. [Epub ahead of print]*

#### Abstract

Differentiated thyroid carcinomas are the most common malignancies of endocrine organs. Metastases to cervical lymph nodes occur in 20-50 % of cases. Recurrence and survival rates are closely related to the type of surgery performed. High-resolution ultrasonography (USG) is a sensitive imaging method used to detect occult lymph node metastases in patients with thyroid cancer. We evaluated how intraoperative USG affected surgical success. This was a retrospective study comparing two groups of patients with thyroid carcinoma who underwent cervical lymph node dissection. A total of 101 patients (33 males and 68 females) were included. Group 1 included 53 patients who underwent surgery with intraoperative USG guidance. Group 2 included 48 patients who underwent surgery without the use of USG. All patients were followed up (mean 23 months; range 5-44 months) with thyroglobulin measurements and USG evaluations. Group 1 (intraoperative USG) had a residual/recurrent tumor rate of 1.9 % (1/53 patients). Group 2 had a residual/recurrent tumor rate of 12.5 % (6/48 patients). A statistically significant difference appeared between the residual/recurrent tumor rates in Groups 1 and 2 ( $p < 0.05$ ). In addition to its classical use in diagnosis and follow-up, intraoperative use of high-resolution USG can improve surgical success and may decrease the number of residual/recurrent tumors encountered during follow-up.

### Current prevalence of goiter determined by ultrasonography and associated risk factors in a formerly iodine-deficient area of Turkey.

Kocak M, Erem C, Deger O, Topbas M, Ersoz HO, Can E.  
*Endocrine. 2014 Sep;47(1):290-8. doi: 10.1007/s12020-013-0153-2. Epub 2014 Jan 11*

#### Abstract

The aim of this study was to determine the prevalence of goiter and related risk factors in an adult population in a formerly iodine-deficient area of Turkey. In this cross-sectional study, we enrolled 2,500 subjects (1,270 women and 1,230 men, aged over 20 years) by multistage sampling. Blood and urine specimens were collected for the assessment of thyroid function. Thyroid ultrasonography (USG) was performed to measure thyroid volume and evaluate nodules. The overall goiter prevalence was 26.5 % (28.4 % in women, 24.5 % in men,  $P < 0.05$ ). Median thyroid volume was 15.59 mL (13.65 mL in women, 17.96 mL in men,  $P < 0.0001$ ). Median urinary iodine was 122.79 µg/L. USG revealed thyroid nodules in 35.2 % of the subjects (38.4 % in women, 31.8 % in men,  $P < 0.005$ ). Age group analysis revealed the lowest rate in the 20-29-year age group (12.5 %), which increased with age, reaching the highest level (38.4 %) in the 70+ years age group. The prevalence of goiter was negatively correlated with education level and positively correlated with body mass index (BMI) and positive family history. According to occupation, goiter prevalence was highest in farmers (35.3 %) and housewives (32.2 %). Despite a normal range of current urinary iodine excretion levels, prevalence of goiter in this adult population in a formerly iodine-deficient province of Turkey remained high, even about 10 years after salt iodine supplementation program introduction. In addition, the goiter prevalence was higher for female gender, advanced age, positive family history of goiter, low education level, and high BMI.

### A potential link between endothelial function, cardiovascular risk, and metabolic syndrome in patients with Non-alcoholic fatty liver disease

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*Diabetology & Metabolic Syndrome 2014, 6:109. doi:10.1186/1758-5996-6-109*

#### Abstract

**Background:** Asymmetric dimethylarginine (ADMA) is an endogenous competitive inhibitor of nitric oxide (NO) synthetase. Elevated ADMA reduces NO formation and is associated with endothelial dysfunction. The aims of this study were to evaluate endothelial function and the cardiovascular risk (CVR) profile in patients with non-alcoholic fatty liver disease (NAFLD), and to determine whether or not an association with metabolic syndrome (MS) increases these parameters.

**Methods:** A total of 100 consecutive patients with NAFLD, who were seen in Liver Disease Outpatient clinic and 45 age- and sex-matched controls were included. Endothelial function was evaluated based on the serum ADMA level measured using a validated ELISA kit (DLD Diagnostika GMBH, Hamburg, Germany) and flow-mediated vasodilatation (FMV) measured via high-resolution external ultrasonography. The CVR profile was calculated according to the Framingham equation.

**Results:** At baseline there weren't any significant differences in brachial artery diameter between the NAFLD and control groups ( $3.7 \pm 0.6$  mm vs.  $3.6 \pm 0.6$  mm, respectively). FMV and flow-independent vasodilatation in response to sublingual nitroglycerin did not differ between the NAFLD and control groups (mean:  $16\% \pm 9.4\%$  vs.  $17.9\% \pm 12.4\%$ , and  $21.4\% \pm 14\%$  vs.  $17.8\% \pm 11.3\%$ , respectively,  $p > 0.05$ ). No significant difference in the serum ADMA concentration between the NAFLD and control groups was observed (mean:  $0.8 \pm 0.07$  µmol L<sup>-1</sup> vs.  $0.74 \pm 0.2$  µmol L<sup>-1</sup>, respectively). The CVR profile was significantly higher in the NAFLD group than in the control group (mean:  $9\% \pm 6.9\%$  vs.  $4.6\% \pm 3.8\%$ ,  $P = 0.000$ ). MS associated with NAFLD significantly increased the CVR profile (mean:  $11.2\% \pm 7.4\%$ ,  $P = 0.000$ ). An abnormal serum alanine aminotransferase level ( $> 37$  IU L<sup>-1</sup>) and the presence of fibrosis did not increase the CVR profile ( $p > 0.05$ ). **Conclusions:** The risk of cardiovascular events is increased in patients with NAFLD. The association with MS is further increased such risk.

### Evaluation of left ventricle functions by tissue Doppler, strain, and strain rate echocardiography in patients with primary hyperparathyroidism.

Ozdemir D<sup>1</sup>, Kalkan GY, Bayram NA, Onal ED, Ersoy R, Bozkurt E, Cakir B.  
*Endocrine. 2014 Nov;47(2):609-17. doi: 10.1007/s12020-014-0245-7. Epub 2014 Mar 28.*

#### Abstract

Cardiovascular morbidity and mortality are increased in patients with primary hyperparathyroidism (PHPT). We aimed to evaluate left ventricle systolic and diastolic functions with tissue Doppler imaging (TDI) and strain and strain rate echocardiography in patients with PHPT. Thirty-one patients with PHPT and 29 healthy controls were evaluated with conventional and pulse Doppler echocardiography, TDI and strain and strain rate echocardiography. Myocardial performance index (MPI) was calculated. Strain and peak systolic strain rate in mid and basal segments of lateral, anterior, inferior, and septal walls of left ventricle were determined. TDI showed similar late diastolic myocardial peak velocity in two groups. Peak systolic mitral annular velocity, early diastolic myocardial peak velocity, and ratio of early to late diastolic myocardial peak velocity were lower in PHPT patients ( $p = 0.01$ ,  $p < 0.001$  and  $p < 0.001$ , respectively). MPI calculated by TDI was  $0.53 \pm 0.15$  in PHPT group and  $0.44 \pm 0.09$  in control group ( $p = 0.013$ ). Strain values were lower in mid and basal segments of septum, lateral and anterior walls, and basal segment of inferior wall in PHPT patients. Mean systolic strain was  $-20.88 \pm 2.30$  and  $-24.25 \pm 2.13$  in PHPT patients and control group, respectively ( $p < 0.001$ ). Mean strain rate was lower in PHPT patients compared to control group ( $-1.38 \pm 0.19$  vs  $-1.57 \pm 0.25$ ) ( $p = 0.002$ ). Patients with PHPT, but no cardiac

symptoms or documented cardiovascular disease, have subclinical systolic and diastolic myocardial dysfunction. Evaluation of these patients with TDI and S and Sr echocardiography in addition to conventional echocardiography might be valuable to detect subclinical cardiac involvement.

### The relationship between retinal nerve fiber layer thickness and carotid intima media thickness in patients with type 2 diabetes mellitus.

Sahin SB<sup>1</sup>, Sahin OZ<sup>2</sup>, Ayaz T<sup>3</sup>, Karadag Z<sup>4</sup>, Türkyılmaz K<sup>5</sup>, Aktas E<sup>6</sup>, Bostan M<sup>4</sup>. *Diabetes Res Clin Pract.* 2014 Dec;106(3):583-9. doi: 10.1016/j.diabres.2014.09.010. Epub 2014 Oct 2.

#### Abstract

**Aims:** The aim of the present study was to investigate retinal nerve fiber layer (RNFL) thickness in patients with type 2 diabetes mellitus (T2D) using spectral-domain optical coherence tomography and to evaluate the relationship between RNFL thickness and carotid intima media thickness (CMT).

**Methods:** This study included 171 patients with T2D (53.2±8.8 years) and age matched 61 healthy controls (51.9±8.1 years). We evaluated anthropometric and metabolic parameters as well as RNFL and CMT measurements in patients with T2D and controls. The Mann-Whitney U test was used to compare the continuous variables and the Chi-square test was used to compare categorical variables. Spearman's rank correlation test was used for calculation of associations between variables.

**Results:** The average RNFL thickness was 84.82±11.22µm in patients with T2D and 92.35±8.45µm in healthy controls (p<0.001). Mean CMT values were higher in patients with T2D (0.80±0.1mm) than the healthy subjects (0.72±0.1mm) (p<0.001). A significant negative correlation was found between age and all quadrants of RNFL. There was a negative correlation between average RNFL thickness and HbA1c (r=-0.176), uric acid (r=-0.145), CMT (r=-0.190) and presence of carotid plaque (r=-0.193). The superior RNFL thickness was negatively associated with HbA1c (r=-0.175), CMT (r=-0.207) and carotid plaque (r=-0.176). There was also an inverse correlation between the inferior RNFL thickness and HbA1c (r=-0.187) and carotid plaque (r=-0.157).

**Conclusion:** Thinning of RNFL might be associated with atherosclerosis in patients with T2D.

### Alterations of thyroid volume and nodular size during and after pregnancy in a severe iodine-deficient area.

Sahin SB<sup>1</sup>, Ogullar S, Ural UM, Ilkkilic K, Metin Y, Ayaz T. *Clin Endocrinol (Oxf).* 2014 Nov;81(5):762-8. doi: 10.1111/cen.12490. Epub 2014 Jun 2.

#### Abstract

**Objective:** The effects of pregnancy on thyroid nodules were investigated in a few number of studies. We aimed to evaluate the prevalence of thyroid nodules, the changes in size, volume and number of nodules during pregnancy and after delivery in pregnant women. **Design and Methods:** This prospective study was performed in a severe iodine-deficient area and included 83 pregnant women (mean age 30.4 ± 5.5 years). We evaluated thyroid hormone levels, ultrasound examination of thyroid and urine iodine concentration (UIE) at each trimester and at 3-month post-partum period (PP). All patients with thyroid nodules >1 cm underwent fine-needle aspiration biopsy (FNAB) after the last visit at the PP.

**Results:** Twenty-six women had thyroid nodules on thyroid ultrasonography at the first trimester. The volume of single/dominant nodule showed enlargement during pregnancy and remained at the PP; however, it was not significant (first trimester: 0.83 ± 0.8 ml; second trimester: 0.92 ± 1 ml; third trimester: 0.99 ± 1.2 ml; PP: 0.92 ± 1.2 ml). The maximum diameter of single/dominant nodule in the third trimester of pregnancy (12.6 ± 5.4 mm) was greater than the first trimester (11.9 ± 4.8 mm) (P = 0.002). The number of nodules did not change during pregnancy. The mean TV increased during pregnancy and remained 3 months after delivery (P < 0.001), and the maximum value of TV was reached in the third trimester (14.2 ± 7.9 ml). FNAB results revealed a 6.6% prevalence of malignancy among the nodules.

**Conclusions:** Thyroid nodules were present in 30.1% of pregnant women. While size of the single/dominant thyroid nodule increased significantly during pregnancy, the number of nodules did not change.

### A comparison of low-dose ACTH, glucagon stimulation and insulin tolerance test in patients with pituitary disorders.

Simsek Y<sup>1</sup>, Karaca Z, Tanriverdi F, Unluhizarci K, Selcuklu A, Kelestimur F. *Clin Endocrinol (Oxf).* 2015 Jan;82(1):45-52. doi: 10.1111/cen.12528. Epub 2014 Jul 14.

#### Abstract

**Context:** Diagnosis of secondary adrenal insufficiency and GH deficiency requires evaluation by dynamic stimulation tests in most cases. Although insulin tolerance test (ITT) is accepted as the gold-standard test for the evaluation of both hypothalamo-pituitary-adrenal (HPA) and (GH)-IGF-1 axes, the test is cumbersome. In clinical practice, low-dose adrenocorticotrophic hormone (ACTH) stimulation test is a sensitive, safe and easily applicable alternative to ITT. Although it takes more time, glucagon stimulation test (GST) is also a good alternative to ITT and can evaluate both axes.

**Objective:** The primary aim of this study was to compare the ITT, low-dose ACTH and GSTs in the evaluation of HPA and GH-IGF-1 axes in patients with pituitary disorders and to evaluate the repeatability of all three tests.

**DESIGN:** ITT, low-dose ACTH and GSTs were performed in all 129 patients, and the tests were repeated in 66 of these patients.

**Setting:** Erciyes University Medical School, Department of Endocrinology.

**Patients or other Participants:** One hundred and twenty-nine adult patients (76 women, 53 men) with pituitary disorder were included in the study.

**Main Outcome Measure(S):** The cortisol and GH responses of patients to dynamic tests.

**Results:** Peak cortisol levels obtained during ITT were significantly lower than the values obtained during both low-dose ACTH and GSTs. Peak cortisol levels obtained during the GST were lower than those found during the low dose ACTH stimulation test. Peak GH responses were found to be higher in GST than in ITT. All three tests had good reproducibility.

**Conclusions:** Any of 3 tests can be used in the evaluation of the HPA axis and either GST or the ITT can be used in the evaluation of the GH-IGF-1 axis but cut-off levels for the insufficiency of HPA or GH-IGF-1 axis should be individualized for each test.

### DHEAS for the prediction of subclinical Cushing's syndrome: perplexing or advantageous?

Yener S<sup>1</sup>, Yilmaz H, Demir T, Secil M, Comlekci A. *Endocrine.* 2014 Aug 22. [Epub ahead of print]

#### Abstract

The diagnostic accuracy of dehydroepiandrosterone sulfate (DHEAS) to predict subclinical Cushing's syndrome (sCS) has been a matter of debate. The primary objective of this study was to assess the diagnostic power of DHEAS in predicting sCS. This retrospective study was conducted in a tertiary referral center and based on subjects referred between 2004 and 2014. Data of 249 subjects with adrenal incidentalomas were evaluated. We also reviewed 604 DHEAS measurements from adults, which were performed during the same period in our laboratory (LB group). Adrenocortical function, tumor size, and clinical characteristics were assessed. We diagnosed sCS in 15.2 % of the participants in the presence of ≥2 of the following; 1 mg dexamethasone suppression test >3.0 µg/dl, urinary free cortisol >70 µg/24 h, and corticotrophin (ACTH) <10 pg/ml. DHEAS levels were significantly reduced in patients with sCS (n = 38) compared to sCS (-) (n = 141) and LB groups (n = 604) (27.95, 65.90, and 66.80 µg/dl, respectively, p < 0.001) while age was comparable. The ROC curve analysis showed that the cut-off of the DHEAS with the best diagnostic accuracy for detecting sCS was 40.0 µg/dl (SN, 68 %; SP, 75; PPV, 43 %; NPV, 90 %, AUC: 0.788, p < 0.001). Logistic regression assessed the impact of age, BMI, low DHEAS (<40 µg/dl), bilateral tumors, and tumor size on the likelihood of having sCS. The strongest predictor was low DHEAS, recording an OR of 9.41. DHEAS levels are inversely associated with the extent of cortisol excess. In subjects with intermediate laboratory findings, detection of low DHEAS could be advantageous for distinguishing sCS.

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