

TÜRKİYE ENDOKRİNOLOJİ VE METABOLİZMA DERNEĞİ BÜLTENİ



Üç ayda bir yayımlanır • Üyelere ücretsiz olarak gönderilir

Sayı 67 • Temmuz – Ağustos – Eylül - 2019

DİYABETTE GÜNCELLEME ve OLGU TARTIŞMA TOPLANTISI - 25 YAPILDI

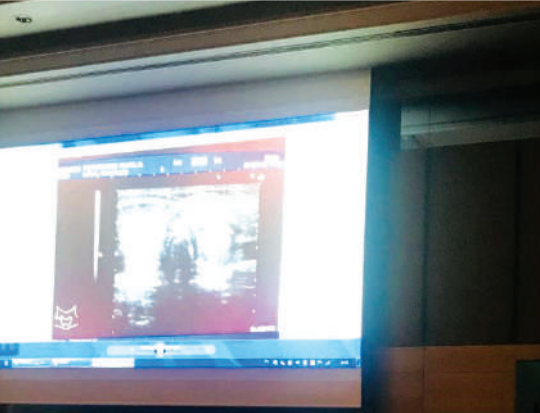
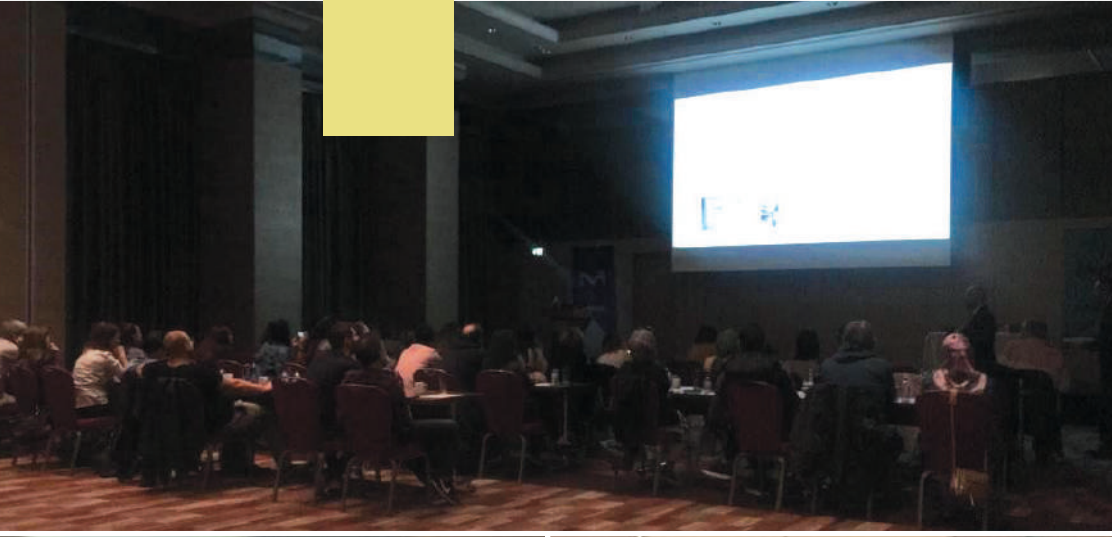
TEMDS Diyabet Çalışma Grubu “Diyabette Güncelleme ve Olgu Tartışma Toplantıları – 25”, 14 Eylül 2019 tarihinde Yüzüncü Yıl Üniversitesi Tıp Fakültesi ev sahipliğinde Van’da gerçekleştirilmiştir. Toplantıya bölgedeki endokrinoloji uzmanları, iç hastalıkları uzmanları ve aile hekimlerinden toplam 66 meslektaşımız katılmıştır. Emeği geçen üyelerimize teşekkür eder, başarılarının devamını dileriz.



ENDOKRİNOLOGLAR İÇİN İLERİ TİROİD VE BOYUN ULTRASONOGRAFİSİ KURSU TAMAMLANDI

Endokrinologlar İçin İleri Tiroid ve Boyun Ultrasonografisi Kursu, 23 Eylül 2019 tarihinde Movenpick Otel-Ankara'da yaklaşık 40 meslektaşımızın katılımı ile başarılı bir şekilde tamamlanmıştır.

Emeği geçen üyelerimize teşekkür eder, başarılarının devamını dileriz.





SAĞLIKTA ŞİDDETE HAYIR KAMUOYU DUYURUSU

Derneğimiz Yönetim Kurulunun üç ayrı gazetede tam sayfa yayınlattığı “SAĞLIKTA ŞİDDETE HAYIR” kamuoyu duyurusu bilgilerinize sunulur.

Sağlıkta şiddet, sağlık hizmet sunumunun hemen her aşamasında yaygın ve ciddi bir sorun haline dönüşmüştür. Sağlık kuruluşlarında her gün onlarca doktor ve sağlık personeli sözlü ve fiziksel şiddete uğramaktadır. Bu sorun, bir yandan hekimlerin ve sağlık çalışanlarının can güvenliğini tehdit etmekte, diğer yandan sağlık hizmetinin sunumunu engellemektedir.

Sağlıkta şiddetin son kurbanı Mardin Devlet Hastanesinde görevli, **Endokrinoloji ve Metabolizma Hastalıkları Uzmanı Dr. Davut SAKIZ** ve **Enfeksiyon Hastalıkları Uzmanı Dr. Ayşe SAKIZ** olmuştur.

Türkiye Endokrinoloji ve Metabolizma Derneği olarak meslektaşlarımıza ve sağlık mensuplarına yapılan her türlü saldırıyı kınıyoruz. Sağlık çalışanlarının güvenliğinin sağlanması için caydırıcı ve önleyici gerçekçi önlemlerin en kısa sürede hayata geçirilmesi gerektiğine dikkat çekiyoruz.

Kamuoyuna saygıyla duyurulur.

Türkiye Endokrinoloji ve Metabolizma Derneği Yönetim Kurulu



TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
DERNEĞİ

Kongre, Kurslar ve Sempozyumlar



Bilimsel Kongreler, Ulusal ve Uluslararası Sempozyumlar

- 04-06 Ekim 2019
Mezuniyet Sonrası Eğitim Kursu – ENDOKURS 4
(Atatürk'ün Samsun'a çıkışının 100. yılı onuruna)
Anemon Hotel, Samsun
<http://endokurs.org/>
- 18-19 Ekim 2019
5. Metabolik Kemik Hastalıkları Sempozyumu,
Prof. Dr. Miyase Bayraktar Onuruna
Hacettepe Kongre Merkezi, Ankara
- 19 Ekim 2019
İç Hastalıkları Uzmanları İçin Pratik Tiroidoloji
Kursu - TİROKURS - 25
Hatay
- 24-27 Ekim 2019
EndoBridge 2019
Antalya
<http://www.endobridge.org/>
- 30 Ekim - 3 Kasım 2019
89th Annual Meeting of the ATA
Chicago, IL
<https://www.thyroid.org/89th-annual-meeting-ata/>
- 08-09 Kasım 2019
15. Hipofiz Hastalıkları Sempozyumu ve 2. Hipofiz Görüntüleme
Kursu
Sheraton Otel, Ankara
<http://www.hipofiz2019.org/>
- 15-16 Kasım 2019
1st International Meeting on Thyroid Ultrasoundguided,
Minimally Invasive Therapies
Reggio Emilia, Italy
<http://www.nordestcongressi.it/site/event/1st-tntmeeting-thyroid-nodule-therapies/?lang=en>
- 23 Kasım 2019
Metabolik Kemik Hastalıkları Kursu - OSTEOKURS
Bursa
- 2-6 Aralık 2019
IDF 2019 Congress
Busan Korea
<https://www.idf2019busan.org/>
- 7-8 Aralık 2019
Tiroide Klinik Yaklaşım
Tiroid Disfonksiyonuna Multidisipliner Yaklaşım Sempozyumu
Kaya Otel, İzmir
- 7-8 Aralık 2019
TEMĐ 18. Hipertansiyon, Dislipidemi ve Obezite Eğitim
Sempozyumu
Harran Üniversitesi Tıp Fakültesi Dekanlığı
Konferans Salonu, Şanlıurfa
www.temd.org.tr
- 13-14 Aralık 2019
9. Adrenal Gonad ve Nöroendokrin Tümörler Sempozyumu
Divan Express Otel, Eskişehir
<http://www.adrenalgonad.org/>
- 28-31 Mart 2020
ENDO 2020
San Francisco, ABD
<http://endo.officialcongress.org/>
- 15-19 Nisan 2020
42. Türkiye Endokrinoloji ve Metabolizma Hastalıkları Kongresi
Sueno Kongre Merkezi, Antalya
<http://www.temhk2020.org>
- 23-26 Mayıs 2020
ECE 2020
Prag, Çek Cumhuriyeti
<https://www.ece-hormones.org/>

Üyelerimizden Literatür Seçmeleri

THE POSSIBLE EFFECTS OF DAPAGLIFLOZIN ON 12-DERIVED ELECTROCARDIOGRAM IN PATIENTS WITH TYPE 2 DIABETES MELLITUS.

Akkuş O¹, Akkuş G², Kaypaklı O¹.

Endocr Metab Immune Disord Drug Targets. 2019;19(2):207-213. doi: 10.2174/1871530319666181218121508.

BACKGROUND: Dapagliflozin, sodium glucose cotransporter 2 inhibitor, has potential side effects on electrolyte imbalance as it has diuretic effects which include decreasing glucose reabsorption, increasing glucosuria and natriuresis. We aimed to determine the possible effects of dapagliflozin on electrocardiogram (ECG) in patients with type 2 DM.

MATERIAL AND METHODS: This retrospective study consisted of 49 patients (25 female, 24 male). Patients who had inadequate glycemic control besides using several oral antidiabetics, subsequently endorsed with dapagliflozin, were included in the current study.

RESULTS: Meantime interval from treatment initiation to control was 10.5 ± 5.03 weeks. Body mass index, glucose, HbA1C, eGFR, LDL-C, heart rate, systolic and diastolic blood pressures were found to be significantly lower at control admission (p<0.05). Creatinine and QT interval were significantly higher at control admission (p<0.05). Baseline Tpe duration and baseline Tpe/QT ratio were found to be significantly correlated with Tpe/QT difference (p<0.05). In linear regression analysis, baseline Tpe/QT ratio was found to be the sole independent predictor of Tpe/QT difference (p<0.05).

CONCLUSION: Initiation of dapagliflozin treatment seems to be safe, up to several months, in terms of serum electrolytes and ECG findings in patients with type 2 DM with a probable improvement.

ADIPOCYTOKINES IN NON-FUNCTIONAL ADRENAL INCIDENTALOMAS AND RELATION WITH INSULIN RESISTANCE PARAMETERS.

Akkus G¹, Evran M¹, Sert M¹, Tetiker T¹.

Endocr Metab Immune Disord Drug Targets. 2019;19(3):326-332. doi: 10.2174/1871530318666181009112042.

OBJECTIVE: Adrenal incidentalomas are diagnosed incidentally during radiological screenings and require endocrinological investigations for hormonal activity and malignancy. In certain studies, it has been reported that non-functional incidentalomas can be associated with high adipocytokines levels affecting the insulin resistance just like the adipose tissue with metabolic syndrome. Here, we studied serum adipocytokine levels including leptin, resistin, visfatin, omentin 1 and adiponectin in subjects with non-functional adrenal incidentaloma.

METHODS: Seventy-seven (77) patients (Female 57; Male 20) with non-functional adrenal incidentaloma (NFAI) were enrolled in the study. All patients' past medical history, physical examination including Body Mass Index (BMI) and waist circumference were performed. The patients' demographic, radiologic, hormonal and biochemical parameters were recorded. To compare the parameters, a control group (CG) (n=30) was formed from healthy volunteers. Both groups were matched for age, gender, waist circumference and BMI. Serum adipocytokines including leptin, resistin, visfatin, omentin 1 and adiponectin were measured quantitatively by ELISA. Fasting plasma glucose, insulin, sodium, potassium, cortisol, adrenocorticotropic hormone (ACTH), lipid profiles, and dehydroepiandrosterone sulphate (DHEAS) were measured.

RESULTS: Mean age of the patients was 52.2±10.4 years. BMI and waist circumference of NFAI patients were 26.2±3.28 kg/m² and 90.2 ±7.5cm, respectively. The mean age of the control group was 48.0±8.16. BMI and waist circumference values for the control group were 25.3±3.5 kg/m² and 88.3±9.6 cm, respectively. When both groups were compared for age, gender, BMI and waist circumference were non-significant (p>0.05). Serum fasting insulin, total cholesterol, LDL, triglyceride levels of the NFAI group were significantly higher than CG (p<0.05). The insulin resistance index (HOMAIR) values of the NFAI subjects were found to be higher than CG (2.5±1.37, 1.1±0.3 p=0.00). Resistin level of NFAI group was also found to be higher than CG [286.6 ng/L vs. 197 ng/L; (P=0.00)], respectively. Leptin levels of NFAI were significantly higher than CG [441.1 ng/mL vs. 186.5 ng/mL; (P=0.00)] respectively. Adiponectin levels were significantly reduced in the NFAI group than in the CG [10.7 mg/L vs. 30.8 mg/L; (P=0.00)]. Comparison of visfatin and omentin levels was nonsignificant.

CONCLUSION: In this study on subjects with non-functional adrenal

incidentaloma, we found not only significantly decreased serum adiponectin levels but also increased leptin, resistin levels as well as dyslipidemia, hypertension and high insulin resistance index. All of which could affect insulin resistance and cardiovascular risk factors. The underlying mechanisms of these findings are unknown, hence further studies are needed.

DIAGNOSTIC EFFICACY OF 18F-FDG PET/CT IN PATIENTS WITH ADRENAL INCIDENTALOMA.

Akkus G¹, Güney IB², Ok F³, Evran M⁴, İzol V⁵, Erdoğan S⁶, Bayazit Y⁷, Sert M⁸, Tetiker T⁹. *Endocr Connect.* 2019 May 1. pii: EC-19-0204.R1. doi: 10.1530/EC-19-0204. [Epub ahead of print]

BACKGROUND: We performed 18F-FDG PET/CT scan to assess the SUVmax values in the different adrenal masses including Cushing syndrome, pheochromocytoma, primary hyperaldosteronism and nonfunctional adrenal adenomas.

METHODS: A total of 109 (73 F, 36 M) patients with adrenal mass (incidentaloma), mean age of 53.3±10.2 year (range, 24 to 70) were screened by 18F-FDG PET/CT. Adrenal masses were identified according to the calculated standardized uptake values (SUV). Clinical examination, 24-h urine cortisol, catecholamine metabolites, 1-mg dexamethasone suppression test, aldosterone/renin ratio, and serum electrolytes were studied.

RESULTS: Based on the clinical and hormonal evaluations, there were 96 patients with non-functional adrenal mass, 4 with cortisol secreting, 4 with pheochromocytomas and 1 with aldosterone secreting adenoma. Mean adrenal mass diameter of 109 patients was 2.1±4.3 (range, 1 to 6.5 cm). 18F-FDG PET/CT imaging of the patients revealed that lower SUVmax values were found in non-functional adrenal masses (SUVmax 3.2) when compared to the functional adrenal masses including 4 with cortisol secreting adenoma (SUVmax 10.1); 4 with pheochromocytomas (SUVmax 8.7) and 1 with aldosterone secreting adenomas (SUVmax 3.30). Cortisol secreting (Cushing syndrome) adrenal masses showed the highest SUVmax value (10.1), and a cut-off SUVmax of 4.135 was found with a 84.6% a sensitivity and 75.6% specificity cortisol-secreting adrenal adenoma.

CONCLUSIONS: Consistent with previous limited studies, 18F-FDG PET/CT scan SUVmax values did not show increased FDG uptake, and certain forms of functional adrenal adenomas could present with mild FDG uptake. Functional adrenal adenomas (cortisol secreting was the most common) showed increased FDG uptake in comparison to non-functional adrenal masses.

ASSESSMENT OF SERUM GALECTIN-3, METHYLATED ARGININE AND HS-CRP LEVELS IN TYPE 2 DIABETES AND PREDIABETES.

Atalar MN¹, Abuşoğlu S², Ünlü A², Tok O², İpekçi SH³, Baldane S³, Kebapçılar L³ *Life Sci.* 2019 Aug 15;231:116577. doi: 10.016/j.lfs.2019.116577. Epub 2019 Jun 15.

PURPOSE: Galectin-3 is associated with the process of inflammation and fibrosis. The aim of this study was both to evaluate of galectin-3, methylated arginines and hs-CRP in subjects with type 2 diabetes and prediabetes and to investigate a relation between serum galectin-3, methylated arginines and hs-CRP levels.

METHODS: In this study, all subjects were defined as the control group, type 2 diabetes (n = 84) by fasting plasma glucose and prediabetes (n = 34) by 75-g oral glucose tolerance test. Also, participants with type 2 diabetes were divided into as group I (HbA1c ≤7%, n = 40) and group II (HbA1c ≥7%, n = 44). The analysis of serum methylated arginines levels was analyzed by tandem mass spectrometry. Galectin-3 levels were determined via chemiluminescent microparticle immunoassay (CMIA).

RESULTS: Serum galectin-3, ADMA, L-NMMA and SDMA levels were significantly lower in the control group (13.3 ± 3.42; 0.630 (0.13-1.36); 0.176 (0.02-0.53); 0.115 (0.04-0.26), respectively) compared to diabetic subjects (15.71 ± 4.22; 0.825 (0.23-2.80); 0.366 (0.08-1.41); 0.1645 (0.06-0.47), p = 0.002, p = 0.01, p = 0.001 and p = 0.006, respectively). Galectin-3 was positively correlated with hs-CRP (r = 0.295 p = 0.001), L-NMMA (r = 0.181 p = 0.022), HbA1c (r = 0.247 p = 0.002), neopterin (r = 0.160 p = 0.045) and FPG (r = 0.207 p = 0.001) respectively. Also, there was positively correlated ADMA with FPG (r = 0.192 p = 0.016) and eAG (r = 0.235 p = 0.003).

CONCLUSIONS: Thus, galectin-3 might be a useful prognostic marker in the population with prediabetes and diabetes. Moreover, it can be a marker showing the condition of developing complications in diabetic patients.

THE PROGNOSTIC ROLES OF THE KI-67 PROLIFERATION INDEX, P53 EXPRESSION, MITOTIC INDEX, AND RADIOLOGICAL TUMOR INVASION IN PITUITARY ADENOMAS.Hasanov R¹, Aydoğan B², Kiremitçi S³, Erden E³, Güllü S¹.*Endocr Pathol.* 2019 Mar;30(1):49-55. doi: 10.1007/s12022-018-9563-2.

The fourth edition of the World Health Organization (WHO) classification of pituitary tumors recommended evaluation of tumor proliferation and invasion to identify aggressiveness. We aimed to assess the prognostic roles of the Ki-67 proliferation index, mitotic index, P53 expression, and cavernous sinus invasion in pituitary adenomas (PAs). Among the 601 patients who underwent transnasal/transsphenoidal adenectomy from 2001 to 2016, 101 patients (16.8%) who had tumors with a high ($\geq 3\%$) Ki-67 index (group A) and a control group consisting of 43 patients with a low ($< 3\%$) Ki 67 index who were matched for age, gender, and tumor type were included. Mitotic index and P53 expressions were evaluated. Patient characteristics, histopathology reports, pre/postoperative magnetic resonance imaging (MRI), and follow-up data were assessed retrospectively. The frequency of macroadenomas and mean tumor size were greater in group A when compared to group B (67.4 vs. 94.1%, $p < 0.01$ and 25 ± 10.6 vs. 18 ± 11 mm, $p < 0.01$, respectively). Invasion to cavernous sinus was found in 53 (36.8%) patients and was more frequent in group A ($p < 0.01$). The mean number of surgery was higher in group A than group B ($p < 0.05$). The mean follow-up period was 46.6 ± 34 months. The postoperative MRIs and follow-up data for at least 24 months were available in 117 patients. Recurrence risk was higher in group A than group B ($p = 0.03$). Tumors with high Ki-67 proliferation index were grouped as 3-5, 6-10, 11-15, and $> 15\%$. The risk of recurrence was not different between groups of high Ki-67 index. The optimal cutoff point of the Ki-67 proliferation index that predicted recurrence was 2.5% with 84.6% sensitivity and 47.4% specificity. The cavernous sinus invasion on MRI was associated with recurrence ($p = 0.03$). Tumor size and recurrence risk were not associated with P53 expression. High P53 expression was related with cavernous sinus invasion ($p = 0.03$). The mitotic index was not associated with recurrence risk and tumor invasion. Recurrence risk was higher in tumors with ≥ 2 histopathological atypia criteria ($p = 0.01$). High Ki-67 index with a 2.5% cutoff point and cavernous sinus invasion on MRI are reliable markers for predicting recurrence in PAs. Recurrence risk is also higher in tumors with two histopathological aggressiveness criteria. Strict follow-up and more aggressive treatment approaches may be necessary for invasive-proliferative PAs.

NEUROENDOCRINE CHANGES AFTER ANEURYSMAL SUBARACHNOID HAEMORRHAGE.Karaca Z¹, Hacıoglu A², Kelestimur F³.*Pituitary.* 2019 Jun; 22(3): 305-321. doi: 10.1007/s11102-018-00932 w.

INTRODUCTION: The prevalence of pituitary dysfunction is high following aneurysmal subarachnoid hemorrhage (aSAH) and when occurs it may contribute to residual symptoms of aSAH such as decreased cognition and quality of life. Hypopituitarism following aSAH may have non-specific, subtle symptoms and potentially serious consequences if remained undiagnosed.

METHODS: We reviewed the literature on epidemiology, pathophysiology, diagnostic methods and management of neuroendocrine changes after aSAH as well as on the impact of pituitary dysfunction on outcome of the patient.

RESULTS: The prevalence rates of pituitary dysfunction after aSAH varies greatly across studies due to different diagnostic methods, though growth hormone deficiency is generally the most frequently reported followed by adrenocorticotrophic hormone, gonadotropin and thyroid stimulating hormone deficiencies. Pituitary deficiency tends to improve over time after aSAH but new onset deficiencies in chronic phase may also occur. There are no clinical parameters to predict the presence of hypopituitarism after aSAH. Age of the patient and surgical procedures are risk factors associated with development of hypopituitarism but the effect of pituitary dysfunction on outcome of the patient is not clear. Replacement of hypocortisolemia and hypothyroidism is essential but treatment of other hormonal insufficiencies should be individualized.

CONCLUSIONS: Hypopituitarism following aSAH necessitates screening despite lack of gold standard evaluation tests and cut-off values in the follow up, because missed diagnosis may lead to untoward consequences.

CLINICAL IMPACT OF P27KIP1 AND CASR EXPRESSION ON PRIMARY HYPERPARATHYROIDISM.Sengul Aycicek G¹, Aydoğan B², Sahin M², Cansız Ersoz C³, Sak SD³, Baskal N².
Endocr Pathol. 2018 Sep;29(3):250-258. doi: 10.1007/s12022-018-9524-9.

We aimed to investigate the expressions of p27 kinase inhibitory protein 1 (p27Kip1) and calcium sensing receptor (CaSR) in adenomas and normal parathyroid tissue and to evaluate the relationship of these molecules with clinical and biochemical parameters in primary hyperparathyroidism (PHPT). Fifty-one patients with histopathologically confirmed parathyroid adenomas and 20 patients with normal parathyroid glands (which were removed incidentally during thyroid resection) were included. Immunohistochemical stainings of CaSR and p27Kip1 were performed in surgical specimens. Clinical features, biochemical parameters, and BMD measurements of patients with PHPT were evaluated retrospectively. Expressions of p27Kip1 and CaSR were decreased in parathyroid adenomas, compared to normal glands ($p < 0.05$). High intensity of CaSR staining (3+) was more frequent in normal parathyroid tissue (75%) than adenomas (12%) ($p < 0.01$). Hypertension was not observed in patients with high staining intensity of CaSR ($p = 0.032$). There was a negative association between CaSR expression and body mass index (BMI) ($p = 0.027$, $r = -0.313$). There was no significant relationship between p27Kip1 and CaSR expressions, serum calcium, plasma parathormone, 25-hydroxy vitamin D levels, and bone density ($p > 0.05$). The expressions of p27Kip1 and CaSR were decreased in PHPT patients. This reduction may play an important role in the pathogenesis of PHPT. However, neither p27Kip1 nor CaSR expression was found to be useful in predicting prognosis or severity of disease.

SPORTS-RELATED REPETITIVE TRAUMATIC BRAIN INJURY: A NOVEL CAUSE OF PITUITARY DYSFUNCTION.Sezgin Caglar A¹, Tanriverdi F¹, Karaca Z¹, Unluhizarci K¹, Kelestimur F¹.*J Neurotrauma.* 2019 Apr 15;36(8):1195-1202. doi: 10.1089/neu.2018.5751. Epub 2018 Nov 20.

Traumatic brain injury (TBI) is one of the major causes of disability and death, particularly in the young population. Recent clinical studies have demonstrated that TBI-induced pituitary dysfunction occurs more frequently than previously estimated, and this may contribute to delayed diagnosis and treatment of hormonal abnormalities. Today, the popularity of combative sports increases, and athletes who deal with these sports have risks of developing hypopituitarism attributed to repetitive TBIs. Pathogenesis and molecular mechanisms are not completely understood yet. Current studies suggest that athletes who had retired, especially from combative sports, should be screened for hypopituitarism. In this review, we aim to increase the awareness of medical communities, athletes, coaches, and athletic trainers about this issue by sharing the current studies regarding the pituitary dysfunction attributed to repetitive TBI associated with sports.

SALIVA AND BLOOD ASPROIN HORMONE CONCENTRATION ASSOCIATED WITH OBESITY.Ugur K¹, Aydin S².*Int J Endocrinol.* 2019 Mar 27;2019:2521096. doi: 10.1155/2019/2521096. eCollection 2019.

BACKGROUND: The aim was to investigate the amounts of saliva and serum asprosin in order to determine whether it is related to obesity and whether salivary glands synthesize asprosin or not.

METHODS: A total of 116 underweight, normal weight, overweight, and obese (class I, class II, and class III) volunteers participated in the study. Saliva and blood samples were collected simultaneously from the participants. The amounts of asprosin in saliva, salivary gland tissue supernatants, and bloods were determined by ELISA, whereas asprosin synthesis sites of salivary gland tissues were determined immunohistochemically.

RESULTS: The amount of asprosin from the lowest to the highest was in the order as follows: underweight, normal weight (control), overweight, and obese classes I and III. The lowest level of asprosin was detected in underweight individuals. It was also found that the interlobular striated ducts and the interlobular ducts of the submandibular and parotid salivary glands produce asprosin. According to these data, the asprosin level is related with obesity as the amount increases in accordance with increasing body mass index (BMI). On the other hand, there is also a relationship between the underweight and asprosin because the amount decreases with BMI decrease.

CONCLUSIONS: Asprosin, a new adipokine, may be a novel indicator of adipose tissue mass. Therefore, we anticipate that anti-asprosin preparations may be an alternative in the treatment of obesity in the future.

KİTAP BÖLÜMÜ

Oncologic Critical Care

Editors: Joseph L. Nates, Kristen J. Price

Hypoglycemia and Hyperglycemia in Critically Ill Cancer Patients

Seda Hanife Oğuz, Uğur Ünlütürk, Şahin Laçın, Alper Gürlek, Suayib Yalçın

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Online ISBN: 978-3-319-74698-2

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YENİ PROFESÖRLERİMİZ



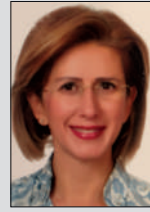
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TÜRKİYE
ENDOKRİNOLOJİ VE
METABOLİZMA
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3. ÖDÜLLÜ MAKALE YARIŞMASI

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I. Yarışma Kapsamı
Klinik ve deneysel Endokrinoloji ve Metabolizma Hastalıkları alanına ait orijinal araştırma makaleleri.

II. Yarışma Başvurusu
Türkiye Endokrinoloji ve Metabolizma Derneği'nin bilimsel yayın organı olan "Turkish Journal of Endocrinology and Metabolism" dergisinde **yayınlanmak üzere kabul edilmiş ve 31.12.2018 - 31.12.2019 tarihleri arasında TURKJEM'de yayınlanmış olan orijinal araştırma makaleleri yarışmaya katılmayı hak ederek Jüri Heyeti tarafından değerlendirmeye alınır.**
Makale yazım kuralları için <http://www.turkjem.org> sayfasına giriş yapınız.

III. Sonuç Açıklanması
Ödül kazanan makaleler 42. Türkiye Endokrinoloji ve Metabolizma Hastalıkları Kongresi 2020 de açıklanır.

Türkiye Endokrinoloji ve Metabolizma Derneği Bülteni

Türkiye Endokrinoloji ve Metabolizma Derneği'nce
üç ayda bir yayımlanır.

Yayın Türü: Yaygın süreli

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