POSTER SUNUM ÖZETLERİ
[POSTER PRESENTATION ABSTRACTS]

PP-01
THE EFFECT OF SLEEVE GASTRECTOMY SURGICAL METHOD ON B12 VITAMIN AND FOLIC ACID LEVELS IN MORBID OBESE PATIENTS
Hatice Banu KeskinKayalı, Hakan Vatansevä, Meryem Ayranç
Selcuk University, Department of Medical Biochemistry, Konya

Objectives: B12 and folic acid is absorbed from the last part of the small intestine by binding to the intrinsic factor secreted from stomach. In the operation of the sleeve gastrectomy (SG), approximately 75% of the stomach is removed, the absorption of vitamin B12 and folic acid is decreasing because of not sufficient amount of intrinsic factor. In our study, compared the values of vitamin B12 and folic acid preop and postop 1;3;6.month of 23 morbid obese patients were opened by SG method.

Materials-Methods: Preop and postop 1;3;6.month serum samples were collected total of 23 morbid obese patients (5 male, 18 female) SG was applied, the mean age was 43±12.83, the mean body mass index (BMI) was 49.27±7.46. Vitamin B12 and folic acid levels were analyzed by direct chemiluminescence method in autoanalyzer Cobas 6000 (Roche Diagnostics, USA). Dependent sample t test was used to examine the differences between the periods. A p < 0.05 was considered statistically significant.

Results: When the results between preop and postop 1; 3;6.month evaluated the levels of vitamin B12 and folic acid found to be decreased (p = 0.003; p = 0.008; p = 0.001) (p = 0.082; p = 0.001; p = 0.001), respectively.

Conclusions: After obesity surgery, some vitamins and minerals deficiencies are encountered in patients. SG is not only restrictive, it also causes hormonal changes leading to weight loss and vitamin B12 and folic acid deficiency are the most frequent nutritional deficiencies in patients. The laboratory results we obtain supports that SG surgery reduces the absorption of vitamins in patients.

Keywords: Morbid obesity, sleeve gastrectomy, vitamin B12, folic acid.

PP-02
USING “BIG DATA” TO ESTIMATE INDIRECT REFERENCE INTERVALS AND EVALUATE CLINICAL UTILITY OF HORMONES AND RELATED BIOMARKERS: THE IMPORTANCE OF MEDICAL LABORATORY DATA
Diler Aslan
Pamukkale University, Department of Medical Biochemistry, Denizli

Objectives: Laboratory should determine reference intervals (Refint) (Scientific and ISO 15189 requirement). Refints have been estimated from laboratory data (indirect method). Laboratories are healthcare data centers. In this context, clinical utilities of test results can be evaluated. Aims of this research are to determine the Refints of PTH, testosterone, TSH, FT4, and 25OHVitD and, to evaluate their levels according to the diagnoses (ICD Codes).

Materials: Convenient Laboratory Information System (LIS); Statistical Packages. MS Excel. Method: Six-month data for PTH, testosterone, TSH, FT4, and 25OHVitD was obtained (Roche Cobas 8000 e601 ve 602). The data for inpatients, and patients who have disorders/diseases related to the analyze were excluded. According to the differences between the 10 year-groups, populations were divided into specific age and/or gender groups. Horn’s algorithm and transformations to the normality were used for outlier exclusions. Refints were estimated by nonparametric or parametric methods. Bhattacharya method was assessed for the limits.

Findings: Differences were observed from manufacturers’ expected levels. If the patients who have values near lower and upper limits are examined closedly, the utility of Refints and their impacts on medical decisions can be evaluated for specific disorders/diseases, and the outcomes can provide useful information.

Conclusion: LBS is a large data repository that provides information on the assessment of healthcare services. Particularly for endocrine tests, evaluation of the patient test results according to the Refints and medical decision limits periodically, and publication of the outcomes will provide useful information for clinical decisions and national healthcare policies.

Keywords: Hormone measurement, big data, indirect reference interval, clinical utility, standardization

PP-03
EFFECTS OF MEGALOBLASTIC ANEMIA DUE TO VITAMIN B12 OR FOLATE DEFICIENCY ON LEVELS OF TUMOR MARKERS
İnanç Karaköy, Can Duman, Fatma Demet Arslan, Anıl Baysoy, Banu İşbilen Başok
Tepecik Training and Research Hospital, Medical Biochemistry Clinic İzmir

Objectives: Carbohydrate antigen (CA) 15-3 test detects soluble forms of mucin glycoprotein 1 (MUC-1) and MUC-1 is overexpressed in over 90% of breast tumors. On the other hand, megaloblastic anemia results from a defect in DNA synthesis. Folic acid and vitamin B12 deficiency are the main causes of megaloblastic anemia. The aim of the study is to investigate the effect of megaloblastic anemia due to vitamin B12 or folate deficiency on five different tumor marker levels.

Methods: Patients who admitted to the Tepecik Training and Research Hospital between January 2011 and July 2016 were investigated retrospectively. Cut-off points were established according to the literature for definition of anemia, macrocytosis, vitamin B12 and folic acid deficiencies. The differences between the groups with and without megaloblastic anemia in terms of age, gender and tumor markers were statistically analyzed. p < 0.05 were considered as statistically significant.

Results: Megaloblastic anemia due to deficiency of vitamin B12 or folate increased the levels of CA 15-3 (p=0.001 and 0.005, respectively). Megaloblastic anemia due to vitamin B12 deficiency did not cause statistical changes in CA 125, CA 19-9, carcinoembryonic antigen and alpha-fetal protein levels (p=0.777, 0.327, 0.577 and 0.197, respectively).

Conclusions: Megaloblastic anemia is associated with erythroid hyperplasia, which results in ineffective erythropoiesis. It has been hypothesized that MUC-1 is released from megaloblastic erythroblasts undergoing apoptosis in patients with anemia. Analysis of vitamin B12 and folate levels may also be required when a CA 15-3 test result is encountered discordant with the clinic.

Keywords: CA 15-3, folate deficiency, vitamin B12 deficiency

PP-04
THE EFFECTS OF MAGNESIUM AND ZINC ON DIABETES MELLITUS
Murat Akşıl, Merve Zeytlini Akşıl, Banu İşbilen Başok
Tepecik Training and Research Hospital, Medical Biochemistry, İzmir

Objectives: Magnesium and zinc are trace elements required for growth and development. Disturbances in trace element status may lead to insulin resistance and hence development of diabetes and its complications. The aim of our study was to investigate the relationship among serum magnesium and zinc levels and diabetes mellitus.

Materials-Methods: In the study, between January 2016 and December 2017; the results of 138 patients who were tested zinc, magnesium, HbA1c, glucose, and insulin tests at the same time, were taken retrospectively. Patients were divided into three groups according to the glucose and HbA1c levels as indicated by ADA criteria: normal, prediabetes and diabetes. Analyzes were performed using Mann-Whitney U, Kruskal-Wallis and Spearman correlation tests were performed since the data were not normally distributed.

Results: Sixty patients were normal, 47 were prediabetic and 31 were diabetic, and their ages were 39(32-50), 53(46-64) and 62(53-68) years, respectively. Serum magnesium levels were significantly lower in the diabetic group than in the normal and prediabetes group (p<0.001, p=0.014, respectively). There was no statistically significant
difference among the groups in terms of serum zinc levels (p < 0.029). Magnesium levels were negatively correlated with both HbA1c and glucose values (r=-0.356, p<0.001; r=-0.258, p=0.002 respectively).

Conclusions: Magnesium is a cofactor of various enzymes in carbohydrate oxidation and plays a role in glucose transport in and out of hepatocytes and beta islet cells. In several studies reported that, chronic hypomagnesemia has been associated with the development of insulin resistance. Magnesium-rich food and/or oral magnesium supplementation may benefit by increasing insulin sensitivity in diabetic patients with hypomagnesemia.

Keywords: Diabetes mellitus, hypomagnesemia, insulin resistance, zinc

PP-05
HOW IS EFFECT OF IRON DEFICIENCY ANEMIA ON HBA1C LEVELS IN NORMOGLYCEMIC INDIVIDUALS?

Murat Akşit1, Merve Zeytini Akşit2, Giray Bozkaya3
1Tepeck Training and Research Hospital, Medical Biochemistry, Izmir
2Bozyaka Training and Research Hospital, Medical Biochemistry Izmir

Objectives: Iron deficiency anemia is the most common anemia in our country and around the world and restricts the use of HbA1c in diagnosis and treatment as it is known to be a cause of potential interference. This study is aimed to analyze the effect of iron deficiency anemia on HbA1c levels in population having glucose levels in reference range.

Materials-Methods: A total of 228 normoglycemic individuals (fasting blood glucose 70-100 mg/dL), including 103 iron deficiency anemia and 125 control groups, who were admitted to the Bozyaka Training and Research Hospital between January and June 2016 with fasting glucose, iron, unsaturated iron binding capacity, HbA1c levels and complete blood count were included in the study. HbA1c levels were measured by BIO-RAD Variant II HbA1c Analyzer using ion-exchange high performance liquid chromatography method.

Results: The study included 175 women and 53 men and the mean age was 48.7 ± 15.5 (18-88) years. HbA1c levels were significantly higher in the iron deficiency anemia group than in the control group. There was a significant negative correlation between HbA1c and Hb, Fe. (Respectively r=-0.255, p < 0.001; r=-0.236, p < 0.001).

Conclusions: Our data show that HbA1c levels may be misleading in assessing glycemic status in the iron deficiency anemia. Therefore, the presence of iron deficiency anemia should be questioned when HbA1c is used for diabetes diagnosis.

Keywords: HbA1c, iron deficiency anemia, diabetes mellitus

PP-06
THE EVALUATION OF 25 HYDROXY D3 VITAMIN LEVELS IN OBESE DISEASES ON LABORATORY TRANSACTIONS

Fatih Hunc, Hale Maral Kir, Ceyla Eraldemir
Kocaeli University, Medical Biochemistry, Kocaeli

Objective: Vitamin D is a hormone that is studied on for long time, apart from the effect on calcium, phosphate metabolism, it acts multimeric functions. In this study, it is aimed to investigate the relationship between vitamin D levels and obesity, which is shown in the scientific literature recently. Obesity is a serious syndrome identified for global pandemic. 25 (OH) D3 is a form of vitamin D that is often used to measure body D vitamin state.

Method: Data is obtained retrospectively from January 2010 to May 2017 from Kocaeli University Medical Faculty Education and Research Hospital Central Laboratory information system. Statistical evaluation is performed with IBM SPSS 20.0 (SPSS Inc., Chicago, IL, USA). p < 0.05 is considered as sufficient for statistical significance.

Results: As a result of statistical analysis, 25 OH D3 levels are found significantly lower in the adult obese group than in the adult patients without chronic disease group (p < 0.001). Significantly higher levels of hormones are detected in males compared to females in the analysis (p < 0.001). There is a strong positive correlation and significant difference between age groups and D vitamine levels (r = 0.63, p < 0.001). Season makes significant difference in vitamin D levels (p<0.001). The highest hormone levels are found in autumn and the lowest hormone levels are found in winter.

Conclusion: In this research, we find lower D vitamin levels in obese group than non-obese. Besides further researches are needed to understand the relationship between D vitamin and obesity.

PP-07
EFFECTIVENESS OF INTRAVITREAL RANIBIZUMAB INJECTIONS FOR DIABETIC MACULAR EDEMA TREATMENT: LONG TERM OUTCOMES

Mahmut Kaya, Nişüfer Koçak, Taylan Öztrük, Ziya Ayhan, Süleyman Kaynak
Dokuz Eylül University, Eye Diseases, Izmir

Objectives: To assess long-term effects of intravitreal ranibizumab monotherapy on retinal morphology in the treatment of diabetic macular edema (DME).

Materials-Methods: This was a retrospective noncomparative study. A total 123 eyes of 81 patients (31 females and 50 males; mean age, 60.4 years) with DME followed for at least 24 months were included. All patients were treated with at least 3 intravitreal ranibizumab injections for the treatment of DME. Intravitreal ranibizumab was given for 3 months then pro re nata (PRN). Complete ophthalmic examination, including determination of best-corrected visual acuity (BCVA), stereoscopic biomicroscopy, and retinal thickness measurement by spectral domain optical coherence tomography (SD-OCT), was done at baseline and at each follow-up visit.

Results: All patients completed 3 months of follow-up with a mean follow-up period of 41.4±6.52 months. The mean BCVA at baseline was 0.42±0.36 (Snellen), which significantly improved to 0.64±0.38 (p<0.02) at final visit. The mean central retinal thickness was 572.86±142.56 µm at baseline and decreased to 416.26±112.28 µm (p<0.001) at final visit. The mean number of injections was 8.8 injections during this period.

Conclusions: In real-life clinical practice, intravitreal ranibizumab injection has anatomical and functional effectiveness for the treatment of DME.

Keywords: Diabetic macular edema, ranibizumab, retinal thickness, visual acuity

PP-08
EVALUATION OF MICORRNA-223 EXPRESSION IN THE PLACENTA OF GESTATIONAL DIABETES

Dijle Kipmen Korgun1, Şegün Dogru2, Mehmet Sakirci3
1Akdeniz University, Faculty of Medicine, Medical Biochemistry, Antalya
2Akdeniz University, Faculty of Medicine, Obstetrics and Gynecology, Antalya

Objectives: Placenta is an organ which acts as a barrier between maternal and fetal circulation during pregnancy. A healthy pregnancy is closely associated with normal placental development. Gestational Diabetes Mellitus (GDM) is one type of diabetes that occurs during pregnancy and significantly increases the risk of a number of adverse consequences for the fetus and mother. Epigenetic alterations in the third trimester of pregnancy has been associated with risks of placenta-mediated complications of GDM. Placental expressions of characterized microRNAs (miRNAs) is thought to play an important role in the diagnosis of GDM as novel and effective biomarkers. The aim of the our study is to evaluate the miR-223 expressions in placenta with GDM.

Materials-Methods: In this study, placental tissue from third trimester pregnancy were provided. miR-223 expression in placental tissue was assessed by Real-time PCR method.

Results: According to the Real-time PCR results; it was determined that the miR-223 expression decreased in the statistically significant range in GDM group compared to control group in placenta.
Conclusions: miR-223 is considered to be a novel biomarker related to diagnosis and treatment of GD. In the studies conducted in recent years that epigenetic alterations regulate the maternal, fetal and placental processes, more evidence to understand the role of miR-223 in GD are needed.

Keywords: Gestational diabetes, miR-223, placenta

**PP-09**

**EFFECTS OF DIFFERENT CONTROLLED OVARIAN HYPERSTIMULATION PROTOCOLS ON EPITHELIAL-MESENCHYAL TRANSITION ON HUMAN ENDOMETRIUM CELLS**

Melike Özgüzel Önal1, Yıldız Uyar2, Ulviye Cansu Öztürk3, Halife Seda Vatansever3

1Çukurova University, Department of Obstetrics and Gynecology, Adana
2Manisa Celal Bayar University, Department of Histology and Embryology, Muğla
3Çukurova University, Department of Obstetrics and Gynecology, Adana

Objective: The pharmacological agents used in controlled ovarian hyperstimulation (COH) protocols induce ovulation by increasing oocyte count and quality, but the effects on endometrial epithelial cells are not known. Epithelial-mesenchymal transition (EMT) is biological process occurs in epithelial cells. During EMT, epithelial cells acquire mesenchymal properties such as fibroblast-like shape and mobility. EMT is basis for embryogenesis and also a key process in tumorigenesis because it promotes invasive and metastatic behavior of cancer cells. Aim of this study was to investigate the effects of COH protocols’ drugs on EMT in CRL-1671 human endometrial cells.

Materials-Methods: Experimental groups were determined as control, growth hormone (GH), Gonadotropin (GnTR), GH and GnTR, Letrozol (L) and GnTR, and combined group (L+GnTR+GH). Syndecan-1, E-cadherin and N-cadherin distributions were studied by indirect-immunoperoxidase technique. Immunoreactivity intensities were scored as mild (+), moderate (++), and strong (+++).

Results: Syndecan-1 immunoreactivity was increased in GH and decreased in L+GnTR+GH group. E-cadherin immunoreactivity was decreased in L+GnTR and L+GnTR+GH groups and N-cadherin immunoreactivity was increased in GH and L+GnTR+GH groups compared to the control.

Conclusions: E-cadherin decreases and N-cadherin increases during EMT. Syndecan-1 plays important role in adhesion and migration, and its expression is regulated by E-cadherin. It has been suggested that EMT process may occur in L+GnTR+GH group due to the reduction of Syndecan-1 immunoreactivity in parallel with E-cadherin and the increase of N-cadherin. In conclusion, endometrial epithelial cells might gain mesenchymal properties in L+GnTR+GH group, thus it is important to control endometrium in patients who are planned to use this treatment protocol.

Keywords: COH, CRL-1671, EMT

**PP-10**

**GALACTORRHEA AND HYPERPROLACTINEMIA DURING VORTEXITONE USE; CASE REPORT**

Hüseyin Murat Özkan

Istanbul Rumeli University, Children Development, Istanbul

Objective: Hyperprolactinemia is one of the most common endocrine disorders of the hypothalamic–pituitary axis. Hyperprolactinemia and galactorrhea are rarely seen as adverse effects of antidepressant drugs

Case: 33 years old women, between 2011-2017, three depressive episodes were observed and treated as an outpatient. In the first episode fluoxetine was used, no galactorrhea was detected. In the second episode, she was given escitalopram and visited a gynecology and obstetrics clinic with amenorrhea and galactorrhea. Her serum prolactin levels were 50.88 (normal range: 4.79–23.9 ng/ml) and magnetic resonance imaging findings were normal. Escitalopram was discontinued and during four week she was prescribed clobazam 0.5 mg/week. (0.6 ng/ml after one month, 16.6 ng/ml in the third month).

In third episode (2016), she was given vortioxetine. At the beginning of the fourth month of treatment she developed galactorrhea and breast pain and prolactin level was measured as 43.85 ng/ml. Vortioxetine was discontinued and prolactin level was measured at 20.14 ng/ml after 4 weeks of drug-free observation.

Conclusion: Blocking of dopamine (D2) receptors on the tuberoinfundubular pathway increases prolactin release and galactorrhea is observed. According to literature reports, galactorrhea was not observed during the use of vortoxetine. Galactorrhea associated with SSRIs is limited to case presentations. It is still unclear how antidepressants cause galactorrhoea by affecting the tuberoinfundubular pathway. When galactore was observed during antidepressant drug use, prolactin levels and MRI should be investigated, and termination / replacement of antidepressant treatment is recommended if necessary.

Keywords: Vortioxetin, Galactorrhea, Hyperprolactinemia

**PP-11**

**COMPARISON OF THYROID FUNCTION TESTS IN DIFFERENT AGE GROUPS AND THE RELATIONSHIP BETWEEN CREATININE**

Çiğdem Fidan, Gülşah Demirci, Erdinç Devrim, Hasan Serdar Öztürk

Ankara University, Department of Medical Biochemistry, Ankara

Objective: Serum thyroid stimulating hormone (TSH) is the most sensitive indicator for the evaluation of thyroid functions. In thyroid diseases, laboratory findings should be evaluated to confirm hyperthyroidism or hypothyroidism since clinical symptoms are often non-specific. It is aimed to assess the age-related variability of thyroid function test results and to investigate the relationship between thyroid function tests and renal function tests.

Materials-Methods: Thirty patients who had creatinine, TSH, fT3, fT4, antiTPO and antiTg tests without any known thyroid disease were included in this study. They were examined at Ankara University Medical Faculty, İbni Sina Hospital between November 2017 and January 2018. The patients were divided into 3 groups according to the age distribution of NHANES III (1st group: 20-29 years, 2nd group: 30-50 years, 3rd group: > 80 years). Results: It was found that the TSH values of the 1st group were significantly lower than those of the 2nd and 3rd groups (p<0.05). It was found that the fT3 values of 3rd group (mean: 4.22±0.81) was significantly lower than those of the 1st (mean: 5.79±0.45) and 2nd groups (mean: 5.47±0.48), (p<0.001, p<0.01, respectively). There were negative correlation between creatinine and fT3 and positive correlation between creatinine and T4. Conclusions: TSH values in the young age group were lower than the older age group. It was supposed that this difference is due to the variable sensitivity of the hypothalamic-pituitary feedback system with increased age and the increase in TSH secretion as a result of decreased TSH receptor activity. It was also showed that conversion of T4 to T3 declined as GFR decreased.

Keywords: TSH, fT3, fT4

**PP-12**

**THE RELATIONSHIP BETWEEN B2M AND LIGHT CHAIN CONCENTRATIONS, KL RATIO AND CAPILLARY ELECTROPHORESIS**

Gülşah Demirci, Çiğdem Fidan, Erdinç Devrim, Hasan Serdar Öztürk

Ankara University Faculty of Medicine, Department of Medical Biochemistry, Ankara

Objective: Some biochemical markers are related to multiple myeloma disease activity, and one of the most important markers is beta-2-microglobulin (B2M) concentration. Free immunoglobulin light chains are synthesized as a 'by-product' of the immunoglobulin synthesis. An abnormal ratio of serum free immunoglobulin light chains [kappa/(k)light chains] reveals excessive light chain production as a consequence of clonal tumor proliferation. Our aim is to evaluate the variability of these biochemical analytes in different patient groups.
Materials-Methods: This study included 29 patients (16 female, 13 male) who applied to the Ankara University Medical Faculty, Ibni Sina Hospital Pediatric Department between November 2017 and January 2018. Serum free kappa and lambda concentrations and simultaneous capillary electrophoresis tests were studied in the patients. Three groups were formed according to serum β2M concentrations (1st group: 3.5-9 mg/L, 2nd group: 9-18.9 mg/L, 3rd group: >18.9 mg/L).

Results: Serum free kappa and lambda concentrations, KL ratio and percentage of G band in capillary electrophoresis were compared in all 3 groups. The serum free lambda level of 1st group (mean: 33.09±36.55) was significantly lower than those of 2nd group (mean: 2.1±1.3; p<0.05). Also KL ratio of 1st group (mean: 208.1±73.57) were found to be significantly higher than those of 2nd group (mean: 0.50±0.41; p<0.05).

Conclusions: Frequently serum free kappa and lambda concentrations are increased in patients with polyclonal hypergammaglobulinemia or renal impairment. However, in these two cases the free KL ratio remains normal. Studies have showed that abnormal free KL ratio originate only from clonal B-lymphoid or plasma cell proliferative disorders and is evidence of free monoclonal light chains in the serum. In our study, serum free KL ratio was higher in patients with lower levels of β2M because the free lambda concentration was lower in this group.

Keywords: β2M, serum free KL, capillary electrophoresis

PP-14 ADULT ONSET TRIPLE A SYNDROME (ALLGROVE SYNDROME)

Yusuf Yalvaç1, Zeynel Abidin Sayiner2, Mustafa Araz2, Ersin Akarsu2, Suzan Tabur2
1Gaziantep University, Internal Medicine, Gaziantep
2Gaziantep University, Endocrinology and Metabolic Diseases, Gaziantep

Objective: Triplea syndrome is an autosomal recessive, rare disease characterized by adrenal insufficiency, achalasia and alacrimia. The AAAS (Achalasia-Addisonism-Alacrima syndrome) associated gene is defined on chromosome 12q13. Triple A syndrome is usually diagnosed during childhood and infancy. We wanted to draw attention to the fact that Triple A syndrome can be diagnosed after the childhood.

Case: A 25-year-old woman presented with nausea and vomiting weakness, weight loss, skin thickening and dizziness during the last 1 week. The patient described swallowing difficulties especially with liquid foods, and had lost 8 kg in the last 6 months. In family history, 2 sisters were admitted to the endocrine clinic because of adrenal insufficiency. A synthetic ACTH stimulation test was performed to further test the patient with baseline cortisol levels of 0.7 μg/dL (3.7-19.4) and ACTH (adrenocorticotopic hormone) >1250 pg/dL (10-46). Basal cortisol, 30 min, 60 min cortisol values were determined as 0.9 μg/dl, 1.2 μg/dl, 0.7 μg/dl respectively and the patient was diagnosed with primary adrenal insufficiency. Barium scintigraphy was found to be consistent with akalazya. When the story of the patient is questioned, she tells her that she can not cry even though she recently lost her mother. Allgrove syndrome was considered for the patient. Steroid replacement therapy was initiated (prednisolom 5 mg/day) for the treatment and the patient complaints resolved gradually.

Conclusion: Allgrove syndrome was first described by Allgrove in 1978 as achalasia, alacrima and adrenal insufficiency triad. Gazerian et al. Suggested that this syndrome should be named as 4A syndrome together with findings such as autonomic dysfunction, motor neuropathy, and mental retardation in addition to classical triad. In our case, there was a hypotension hyponatremia and hyperpotasemia table as well as a hyperpigmentation table and a prescription adrenal insufficiency. Although triple syndrome is diagnosed in childhood, it should be considered in the differential diagnosis of adrenal insufficiency in adulthood with family history. The presence of this syndrome can be revealed by questioning difficulty in crying and difficulty in swallowing.

PP-15 INVESTIGATION OF THE EFFECT OF MARAS POWDER USAGE ON SERUM PROLIDAZ ACTIVITY IN HEALTHY ADULT MEN

Hakan Yıldırım
Sutlu Imam University, Medical Biochemistry, Kahramanmaraş

Introduction: Prolidase is an exo peptidase in the plasma, brain and various organs that separates proline or hydroxyproline from the carboxyl terminal position of the dipetides. It is thought that the use of Maras herb on the activity of serum prolidase (proline peptidase), which is known to play an important role in the collagen balance in adults.

Materials And Methods: A total of 90 people were included in the study, 50 working group using Maras grass with similar age distribution in Kahramanmaraş province and surrounding provinces and 40 working people using Maras grass in approximately 7 months between June 2017 and January 2018. Prolidase levels were measured spectrophotometrically using modified Chinar technique in venous blood plasma samples from these groups. The obtained data were compared using the t test as appropriate. At the end of the study statistical analyzes were evaluated by SPSS 11.5 statistical program. A P value of < 0.05 was considered significant.

Results: It was seen that the normal distribution of the groups was not appropriate. Mann Whitney-U test was used to compare the statistic of the groups. According to this test result, the difference between the
groups was significant (p < 0.001). Plasma Prolidase levels were found to be 3493.14 ± 233.37 in the average and standard error levels in Marash at users, and 2235.75 ± 169.57 in the non-UL users. 

Conclusions: The high levels of prolidase enzymes used in marash and its locusts, which are obtained from tobacco, known as nicotiana rustica, and mixed with 1/3 by the ashes of oak or grapevines; prochlorene, collagen and protein containing proline or hydroxyproline are more catalyzed than normal individuals. This is thought to constitute one of the unknown harmful effects of maras.

Key words: Maras powder, prolidaz, plasma

PP-16
RETROSPECTIVE OBSERVATIONAL STUDY: HEMATOLOGICAL PARAMETERS IN PATIENTS WITH THYROID DISEASE

Abdullah Sivrikaya1, Emel Sahin1, Sedat Abusoğlu1, Büşra Ecer1, Esra Paydaş Hataysal1, Cem Onur Kiraç2, Süleyman Hilmi İpekçii, Levent Keşapçiları, Ali Ünlü1
1Selçuk University Faculty of Medicine, Department of Medical Biochemistry, Konya
2Selçuk University Faculty of Medicine, Endocrinology and Metabolism Diseases, Konya

Background: Thyroid gland is located in the neck opposite C5-T1 vertebrae and it produces I3, I4 and calcitonin. Several studies have reported that thyroid hormones (I3-I4) have important roles in the hematopoietic system; because they indicate that thyroid hormones induce hemopoeisis, also several platelet abnormalities were seen in patients with thyroid disfunction and hypothyrotemia may cause thrombocytopenia. Thyroid diseases are very common. The most common ones are hashimoto, Graves and multinodular goiter. Hashimoto and Graves are autoimmune ones. Thyroid disorders are frequently accompanied with the different blood cell abnormalities. Mean platelet volume (MPV) is one of the platelet size and some studies have found differences in MPV values in thyroid disorders. So in this study, we aimed to determine the differences of platelet indices (MPV, PLT, MPV/PLT) in patients with and without thyroid dysfunction, also in patients between autoimmune ones and others.

Material-Methods: This study included 147 patients (49 Graves, 50 Hashimoto and 48 multinodular goiter) and 50 healthy individuals with similar age and gender distribution who admitted to Selçuk University Medical School Hospital between 01.04.2017 and 01.10.2017. Patients with chronic disease were excluded. Platelet indices (MPV, PLT, MPV/PLT) were performed with Beckman Coulter LH780 hematology analyzer. Statistical analysis was performed with SPSS v16. p values of < 0.05 were considered to indicate statistical significance.

Results: 80% of patients with thyroid disorder were female and 20% were male. MPV, PLT, MPV/PLT values of patients with thyroid disorder and healthy control group were found as 8.47 ± 0.9 fl, 267.6±59.9, 0.0335 ±0.009 and 8.5 ± 0.93fl, 252.08 ± 61.5, 0.035 ± 0.009 respectively. No significant difference was observed in the MPV, PLT, MPV/PLT values of patients with chronic disease were excluded. P< 0.01 for the difference between autoimmune ones and others.

Conclusions: As consistent with our study's results, overall mean bias to ID-LC-MS/MS was reported as ~7.1% for the Siemens ADVIA Centaur assay, ~15.3% for the Diasorin LIAISON assay; ~8.4% for the Roche ELECSYS assay and ~16.3% for the Abbott ARCHITECT assay. It might be effective to analyze the samples with clinical discordance in LC-MS/MS system.

Keywords: Vitamin D, Immunoassay, Mass Spectrometry

PP-18
SERUM ASYMMETRIC DIMETHYLARGININE LEVELS IN PREGNANCY PERIOD

Hatice Han Kesinkaya1, Sedat Abusoglu1, Abdullah Sivrikaya1, Selena Arzu Yılmaz1, Ali Ünlü1
1Selçuk University Faculty of Medicine, Department of Medical Biochemistry, Konya
2Selçuk University Faculty of Medicine, Department of Obstetrics and Gynecology, Konya

Objectives: There is a relationship between ADMA and endothelial dysfunction in women with high levels of asymmetric dimethyl arginine (ADMA) in early pregnancy. Variation of serum ADMA levels during pregnancy is crucial in understanding the pathogenesis of diseases and associating them with therapy, developing new treatment protocols, and even eliminating the risk factors of healthy persons without disease. Therefore, our aim was to determine the level of serum ADMA of pregnant participants who underwent first and second trimester screening.

Materials-Methods: A total of 200 pregnant women were included in the study. These participants were divided into 4 groups as second trimester control (n = 50) (Group 1), second trimester high risk (n = 50) (group 2), first trimester control (n = 50 ) (Group 3) and first trimester high risk (N = 50) (Group 4). Serum ADMA levels of each batch were measured on an ABSCIEX API 3200 triple quadrupole mass spectrometer (USA) equipped with an atmospheric pressure chemical ionisation (APCI) operating in positive mode for determination of vitamin D. Statistical analysis was performed with MedCalc v16.2.1.

Results: According to Deming regression analysis, the equation was found to be as Immunoassay = 1.0610 + 1.1117 LC-MS/MS. The Bland Altman evaluation demonstrated a partial mean bias of 32.9 % between both methods.

Conclusions: As consistent with our study's results, overall mean bias to ID-LC-MS/MS was reported as ~7.1% for the Siemens ADVIA Centaur assay, ~15.3% for the Diasorin LIAISON assay; ~8.4% for the Roche ELECSYS assay and ~16.3% for the Abbott ARCHITECT assay. It might be effective to analyze the samples with clinical discordance in LC-MS/MS system.

Keywords: Asymmetric Dimethylarginine, Pregnancy, Mass Spectrometry

PP-17
COMPARISON OF IMMUNOASSAY AND MASS SPECTROMETRIC SERUM VITAMIN D METHODS

Abdullah Sivrikaya, Sedat Abusoğlu, Fikret Akyürek, Esra Paydaş Hataysal, Büşra Ecer, Ali Ünlü
1Selçuk University Faculty of Medicine, Department of Medical Biochemistry, Konya

Objectives: Vitamin D is a steroid hormone precursor that undergoes chemical conversion in the liver and kidney: the first reaction produces 25OH3D3, an objective indicator of vitamin D status, and the second produces the main bioactive form, 1,25-dihydroxyvitamin D (1,25(OH)2D). The aim of this study was to compare immunoassay and in-house mass spectrometric serum vitamin D methods.

Materials-Methods: A total of 78 serum samples were analyzed with mass spectrometry and Roche Total vitamin D commercial immunoassay kit. Mass spectrometric analyses were performed using an Shimadzu LC-20-AD (Kyoto, Japan) coupled with a ABSCIEX API 3200 triple quadrupole mass spectrometer (USA) equipped with an atmospheric pressure chemical ionisation (APCI) operating in positive mode for determination of vitamin D. Statistical analysis was performed with MedCalc v16.2.1.

Results: According to Deming regression analysis, the equation was found to be as Immunoassay = 1.0610 + 1.1117 LC-MS/MS. The Bland Altman evaluation demonstrated a partial mean bias of 32.9 % between both methods.

Conclusions: As consistent with our study’s results, overall mean bias to ID-LC-MS/MS was reported as ~7.1% for the Siemens ADVIA Centaur assay, ~15.3% for the Diasorin LIAISON assay; ~8.4% for the Roche ELECSYS assay and ~16.3% for the Abbott ARCHITECT assay. It might be effective to analyze the samples with clinical discordance in LC-MS/MS system.

Keywords: Vitamin D, Immunoassay, Mass Spectrometry

"Endocrine and Metabolic Diseases Biomarkers From Diagnostic to Therapy"

**PP-19**

**PREDICTORS FOR IMMUNE INSUFFICIENCY IN HIV POSITIVE CASES**

Ferhat Gürkan Aslan1, Mehmet Kırkgöl1, Oğuz Karabay2, Mustafa Altındığ3
1Sakarya University, Faculty of Medicine, Department of Medical Microbiology, Sakarya
2Sakarya University, Faculty of Medicine, Department of Infectious Diseases Sakarya

Objectives: Certain cytokines in acute HIV-infected patients are biomarker candidates for clinical development. Strong association between IFN-γ inducible protein 10 (IP-10) and low CD4 cell counts 2 years after the onset of infection suggests that cytokines may be useful biomarkers. The aim of this study is investigate the correlation of IP-10 with CD4 cells counts and viral load.

Materials-Methods: Study sample consists of 30 patients (13 with treatment and 17 without treatment) and 20 healthy voluntaries. Informed consent was obtained from all participants. Venous blood samples of patients (at 0, 3, and 6 months) and voluntaries were sent to the Medical Microbiology Laboratory of the Medical Faculty of Sakarya University for flow cytometry, nucleic acid assays and ELISA test. Data were collected using SPSS.

Results: Mean IP-10 level in patients is 344 ng/mL. Mean IP-10 levels in patients with and without treatment are 210 ng/mL and 422 ng/mL, respectively, while that in control group is 68 ng/mL. Results show a statistically significant difference in IP-10 levels between patient and control groups (p = 0.006), a moderate positive correlation between IP-10 and viral load values (r = 0.59, p < 0.001) and a moderate negative correlation between IP-10 and CD4 cells counts (r = -0.51, p < 0.001).

Conclusions: Results are in agreement with those of previous studies. Especially early IP-10 levels in HIV-1 patients are associated with CD4 (+) cell counts and viral replication. Further studies are needed to analyze IP-10 as biomarkers for prognosis.

Keywords: AIDS, biomarker, HIV, IP-10, cytokine

**PP-20**

**THE EFFECTS OF SYRIAN CIVIL WAR ON TUBERCULOSIS CASES: CASE OF ŞANLIURFA**

Elif Demir1, Zeliha Demir Giden2, Ramadan Giden3
1University of Hurren, Medical Biochemistry, Şanlıurfa
2University of Duran, Chest Diseases Şanlıurfa
3Şanlıurfa Training and Research Hospital, Emergency Medicine, Şanlıurfa

Objectives: Tuberculosis (TB) is an infectious disease as old as human history. Throughout history, social and political events have led to the development of the disease. Industrial revolution, wars, bad living conditions, migrations, inadequate health politics, negligence following patients have caused this disease to spread. The number of those who migrated to my country after the end of civil war in Syria found millions. Şanlıurfa, which is a border city, is one of those who host the Syrian refugee population. The aim of the study is to analyze statistically the TB cases that took place in Şanlıurfa with the civil war that took place in Syria.

Materials-Methods: Five-year (2013-2017) TBC data in the Şanlıurfa Hatılıye Community Health Center Tuberculosis Unit and the 5-year Syrian asylum-seeker data from the Immigration Administration were evaluated statistically.

Results: In the civil war that started in Syria, while asylum claims were very few in the first period, there was a big increase in the number of asylum seekers by 2013 (224,655 people, 15 times increase compared to 2012). 1,519,286 in 2014, 2,503,519 in the year 2015, 2,749,140 in the year 2016 and 3,466,263 in the number of registered Syrian asylum seekers in 2017. Şanlıurfa, has been the province that hosts to 2012). 1,519,286 in 2014, 2,503,519 in the year 2015, 2,749,140 in the year 2016 and 3,466,263 in the number of registered Syrian asylum seekers in 2017. Şanlıurfa, has been the province that hosts

Conclusions: With the increase in the number of asylum seekers every year, the number of TB cases with Syrian nationality has also increased. As most Syrian refugees are poor in terms of living conditions and conditions, particularly collective refugee camps are at great risk for a respiratory TB disease.

Keywords: Syrian Civil War, Tuberculosis, Şanlıurfa

**PP-21**

**USAGE OF MODIFIED REFERENCE RANGE OF MONOMERIC PROLACTIN IN HYPERPROLACTINEMIA EVALUATION**

Melehat Dinçan, Hacer Ebru Açıklıöz, Emre Sarandöl
Uludağ University, Department of Medical Biochemistry, Bursa

Objectives: To evaluate the usage of active monomeric prolactin (PRL) reference range in hyperprolactinemia.

Materials - Methods: PRL levels, reported in the previous 35 months in the Clinical Biochemistry Laboratory of the Uludağ University Medical Faculty, had been evaluated. Three hundred and ninety cases were reported as high and 60 as normal. PRL was analyzed in the serum and then immediately after precipitation with polyethylene glycol in the supernatant (Spr-PRL). Concentrations of Spr-PRL were divided by that of untreated serum, and were expressed as R%. R% values ≤40% and ≥60% were considered as macroprolactinemia and true hyperprolactinemia, respectively. The intermediate values were defined as the grey zone. Spr-PRL, accepted as the active monomeric PRL, were evaluated according to the reference range (monomeric reference range) obtained from the control group.

Results: According to the R% criteria; macroprolactinemia was detected in 25.1% and true hyperprolactinemia was detected in 67.2% of patients with hyperprolactinemia. When the data were evaluated according to the modified reference range; 7 (2.7%) of the 263 true hyperprolactinemia reports were changed as macroprolactinemia and 13 (13.4%) of the macroprolactinemia were changed as true hyperprolactinemia.

Conclusions: We observed that some of the true hyperprolactinemia cases were ignored when the R% values were used as the sole criteria. Spr-PRL value is already achieved for determination of R%, it would be useful to determine reference range of Spr-PRL for each laboratory and report PRL levels using this parameter.

Keywords: hyperprolactinemia; macroprolactin; monomeric prolactin; polyethylene glycol

**PP-22**

**DETERMINATION OF MEDIAN VALUES OF TRIPLE SCREENING TEST PARAMETERS IN MÜĞLA AND BALIKESİR REGION**

Ercan Sanuhan1, Emre İspir2
1Mugla Ştiko Koçman University, Medical Biochemistry Muğla
2Balıkesir Atatürk State Hospital, Biochemistry Laboratory Balikesir

Objective: To determine the median values of the triple screening test parameters used for prenatal screening in Muğla and Balikesir regions and to compare them with the existing median values in Prisca risk assessment program.

Materials and Methods: In this study, 1503 pregnant women who applied to Muğla Ştiko Koçman University Training and Research Hospital between 2012-2018 and 8774 pregnant women who applied to Balıkesir Atatürk State Hospital between 2012-2016, beta-human chorionic gonadotropin (β-hCG), and unconjugated estriol (uE3) were examined retrospectively. The difference between the calculated new median values and the existing median values in the Prisca program was evaluated statistically.

Results: 17th and 19th weeks AFP median values of the pregnancies who applied to Muğla Ştiko Koçman University Training and Research Hospital were higher than the median values in the program (p<0.05). The median value of β-hCG at 15th week was lower than the median value of the program (p<0.05). For all weeks, the uE3 median values were statistically different from the median values in the program (p>0.05). AFP median values of the pregnancies who applied to Balıkesir Atatürk State Hospital were lower than the median values of the program (p<0.05). Except the 17th week, the median values of β-hCG were higher than the median values of the program (p<0.05). For all
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weeks, the uE3 median values were lower than the median values of the program (p<0.05).

Conclusion: Median values calculated locally instead of the data of the programs used for prenatal risk assessment will lead to more accurate results and decrease of risky interventions such as amnioncentesis.

Keywords: Prenatal diagnosis, triple screening test, median values

**PP-23**

EVALUATION OF APRI, FIB-4, FORNS AND AAR INDICES BY USING DIFFERENT CUTTING VALUES IN HEPATIC FIBROSIS

Neslihan Cihan, Selin Yıldız, Ayşenur Macun
University of Health Sciences, Ankara, Health Research and Application Center, Department of Medical Biochemistry, Ankara

Objectives: The aim of this study is to evaluate APRI, FIB-4, Forns and AAR indices in patients enrolled according to liver biopsy results and to determine new cut-off values for these indices.

Material-Methods: A total of 116 patients were included in the study. According to biopsy results, 100 patients had hepatic fibrosis and 16 patients without hepatic fibrosis were evaluated. Patients’ indices are calculated by the following equations: APRI=[AST/ULN] x 100/Platelet [10^12/L], FIB-4= Age (J) x AST [ULN] x Platelet [10^12/L] x ALT [ULN].

Results: ROC curves were plotted by using the MedCalc program with different cutoff values for APRI, FIB-4, Forns and AAR indices.

**PP-24**

SERUM GALECTIN-3 LEVELS IN HASHIMOTO THYROIDITIS

Beyza Saracaoğlu, Esra Paydaş Hataysal, Mine Öztürk, Ali Ünlü
1KTO Karatay University, Medicana Medical Faculty Hospital, Konya
2Selçuk University Faculty of Medicine, Department of Medical Biochemistry, Konya
3KTO Karatay University, Medicana Medical Faculty Hospital, Endocrinology and Metabolic Diseases, Konya

Objectives: Hashimoto thyroiditis (HT) is a chronic autoimmune thyroid disease characterized by thyroid enlargement, thyroid autoantibody production and lymphocytic infiltration, mostly associated with thyroid hypofunction in various degrees. Galectin-3 (Gal-3) is a member of the multifunctional beta-galactoside-binding lectin family, which was several important regulatory roles in inflammation, immunity, and cancer. The aim of this study was to evaluate serum levels of Gal-3 in HT.

Materials-Methods: The newly diagnosed 59 HT patients aged between 27-57 years who were admitted to the Endocrinology outpatient clinic of KTO Karatay University Medicana Medical Faculty Hospital were included in the study and 26 patients with chronic disease and those who were pregnant were excluded from the study. Diagnosis was based on that HT patients had thyroid antigens (especially thyroperoxidase and thyroglobulin) antibodies and reduced echogenicity in the thyroid ultrasound. Serum Gal-3 levels were measured by the chemiluminescence microparticle immunoassay (CMIA) method (AIA-II).

Results: A total of 33 cases were included in the study. The mean age of the patients was 26.2 years and the mean age was 37.2 ± 9.2 years.

**PP-25**

PREPARATION OF MOLECULARLY IMPRINTED POLYMERS FOR TESTOSTERONE DETERMINATION

Volkan Yetgin, M. Nalan Tüzmen
Dokuz Eylül University, Chemistry Department, Izmir

Objective: Molecular imprinting is a technology for producing cavities around a template molecule, where only a template molecule can enter, by polymerizing a suitable monomer. With this technology, artificial receptors can be generated and the template molecule in a sample can be selectively separated. In this study, polymers with specific selectivity to testosteron were also produced by molecular imprinting technology. The testosterone is an androgen group hormone, a steroid hormone, released from the adrenal glands. Testosterone is used as a marker of male fertility efficiency and doping agent. Therefore, its determination selective sensitive control becomes important.

Materials-Methods: Testosterone-imprinted polymers were synthesized by the miniemulsion technique using methacryloylamidotriptophane (MATrp) monomer. Characterization of the prepared polymer was carried out using FTIR, SEM and Particle Size Measuring Instruments. After characterization, template removal was carried out with the aid of a suitable agent. Testosterone adsorption capacities of removed polymers were determined by High Performance Liquid Chromatography (HPLC) using standard testosterone solutions.

Results: The template molecule from the testosterone-imprinted MATrp polymer was removed using a mixture of methanol: 1% acetic acid (1: 1) and confirmed by HPLC. It has been determined that the imprint polymer synthesized has a spherical structure and nanoscale according to the characterization data. The assay was carried out at a flow rate of 1.5 mL/min using a C18 column (5 mm particle diameter, 4.6-150 mm) and ACN: MeOH: 1% AcAc mobile phase (40:30:30) by HPLC.

Conclusion: As a result of this study, a novel, economical, selective and easily applicable material for testosterone adsorption and determination has been obtained. With testosterone specific polymers developed by molecular imprinting, the benefits of widespread use, such as low sample throughput, high selectivity, and discrimination of complex compounds with different compounds, will be achieved.

Keywords: Testosterone, molecular imprinting, HPLC

**PP-26**

EVALUATION OF POLYCLINIC BIOCHEMICAL TEST RESULTS IN THE TRAINING AND RESEARCH HOSPITAL

Serdar Turkmen, Hakan Cengiz, Sunay Oz
1Gaziosmanpasa Taksim Training and Research Hospital, Biochemistry, Istanbul
2Molecular Medicine, Institute of Health Science, Dokuz Eylül University, İzmir
3Family Medicine, Gaziosmanpasa Taksim Training and Research Hospital, Istanbul

Objective: Family Medicine is a clinical specialty with a specific education content, outpatient practice and primary care orientation. In this study; In Istanbul GDP Taksim EAH, biochemical test numbers and results were investigated and the status was determined in all polyclinic requests of the family physician in the 3rd step. Method: In this retrospective study, patients who applied to family medicine clinic in the last year were examined and examined. Biochemical measurements; Beckman AU680 autoanalyzer, Hormone measurements; Beckman Unicel DXi 800 and HbA1c; BioRad VARIANT™ II was made on these devices. Biochemistry test results
and pathologic results were interpreted as the effect of diagnosis. The data was received via the automation system. Descriptive and frequency statistical analyzes were performed using the SPSS 17.0 program.

Results: As a result of the data obtained from the laboratory data, 37,454 Biochemistry test, 12,991 Hormone test and 845 Hba1c test were conducted from January 1, 2017 to December 31, 2017 in the patients who applied to the Family Physician Polyclinic in our hospital. Approximately 3,700,000 biochemical tests and 750,000 hormone tests were conducted in our laboratory in 2017. Among these tests, Hba1c (403 test results) 6.0, total 835 tests) and Glucose (418 test results) 126 mg / dl, total 2923 tests) were found in the highest pathologival values. The Toxicity Blood Sugar test, which is one of the other tests related to diabetes mellitus, was performed 77 times and 16 of them (≥200 mg / dl) were found pathologically. The most commonly requested hepatic function tests were ALT (267 test result K=35 - E> 50 U / L, total 3078 test) and AST (172 test result K=35 - E> 50 U / L, total 3066 test) were found to be normal values.

Conclusion: It is understood that the family medicine specialist policlinic available in our hospital has functions for the coordination of health services between the 1st step and 2nd step in the hospital and outpatient clinics. The periodical (general) health examination is the leading reason for listing the reasons for referral to family medicine outpatient clinics.

Keywords: Clinical Biochemistry, Family Medicine, Laboratory Test

PP-27
THE RELATIONSHIP BETWEEN INFLAMMATION AND BONE TURNOVER MARKERS IN TYPE 2 DIABETIC OSTEOPOORIC HIP FRACTURE PATIENTS
Aylin Sepici-Dinçel1, V. Ercan Dinçel2
1Gazi University Faculty of Medicine, Department of Medical Biochemistry, Ankara
2T.C. Ministry of Health, Public Hospitals Authority, Ankara 1. Regional General Secretariat, Health Sciences University, Ankara Training and Research Hospital, Orthopedics and Traumatology Clinic, Ankara

Objective: Bone fragility directly increases with diabetes duration, with poor glucose control, microvascular complications and need of insulin. The aim of this study was to determine the possible association of cytokinin levels with local bone formation inhibitors in diabetic and non-diabetic hip fractures with diabetes metabolism.

Materials and Methods: In Group 1, 14 patients (9 female / 5 male, 76.28 ± 3.91) hip fractured patients with type 2 diabetes and in Group 2, 13 patients (9 female / 4 male, 74.38 ± 7.07) hip fractured patients without diabetes were included in the study. Both groups of patients had osteoporotic fractures after low-energy trauma. Bone mineral density measurements were done with Lunar DXA. IL-17 and sclerostin (SOST) levels were determined by ELISA method.

Results: The mean age and body mass indexes of both groups (30.9 ± 1.2, 27.1 ± 0.9 respectively) were calculated. The values of AHI (30.96 ± 4.64 and 6.03 ± 1.42, p <0.001) and pO2 saturation (18.6 ± 8.7 and 14 ± 0.7, p <0.002) of the groups were statistically different. There was no difference between SOST (14.97 ± 2.20, 17.41 ± 0.51, ng/mL) and PON-1 (U/L) levels among the groups. There was a statistically significant difference between the two groups at the levels of Gal-1 (0.88 ± 0.19 and 2.04 ± 0.25, p <0.002, ng / mL).

Conclusion: It is understood that the increase in apnea-hypopnea index with different biomarkers will guide the diagnosis, follow-up and treatment of the disease.

Keywords: OSAS, Galactin-1, SOST

PP-28
BIOMARKERS RELATED WITH GALECTIN-1 IN MODERATE AND MEDIUM/SEVERE LEVELS OF OBSTRUCTIVE SLEEP APNEA SYNDROME
Ayşe İnzı1, Rabia Şemsi Özkısa2, Rabia Turdi2,3, Aylin Sepici Dinçel2
1Gazi University Faculty of Medicine, Ear Nose Throat Disease Department, Ankara
2Gazi University Faculty of Medicine, Department of Medical Biochemistry, Ankara
3Sinop University, Vocational School of Health Services, Sinop

Objectives: Galectins play a key role in many pathological conditions such as autoimmune diseases, allergic reactions, tumor cell metastasis and inflammation, especially in cellular functions, primarily galectin-1 (GAL-1) can play a key role for migration, chemotaxis, proliferation, apoptosis and differentiation. There is an increased risk of inflammation and cardiovascular disease in obstructive sleep apnea syndrome (OSAS) with recurrent hypoxic attacks. This preliminary study aimed to evaluate the association between galectin-1 levels and related biomarkers with disease activity and risk factors.

Materials and Methods: In Group 1, 10 (2 female / 8 male) patients with medium/severe OSAS and in Group 2, 10 (6 female / 4 male) patients with moderate OSAS were included in the study. The demographic characteristics of the patients were recorded. Apnea-hypopnea index (AHI) and pO2 saturation measurements were performed by diagnostic polysomnography (PSG).

Gal-1, sclerostin (SOST) levels were determined by ELISA method and paraoxonase-1 (PON-1) kinetic spectrophotometric method.

Results: The mean age and body mass indexes of both groups (30.9 ± 1.2, 27.1 ± 0.9 respectively) were calculated. The values of AHI (30.96 ± 4.64 and 6.03 ± 1.42, p <0.001) and pO2 saturation (18.6 ± 8.7 and 14 ± 0.7, p <0.002) of the groups were statistically different. There was no difference between SOST (14.97 ± 2.20, 17.41 ± 0.51, ng/mL) and PON-1 (U/L) levels among the groups. There was a statistically significant difference between the two groups at the levels of Gal-1 (0.88 ± 0.19 and 2.04 ± 0.25, p <0.002, ng / mL).

Conclusion: It is understood that the association of the increase in apnea-hypopnea index with different biomarkers will guide the diagnosis, follow-up and treatment of the disease.

Keywords: OSAS, Gal-1, PON-1, SOST

PP-29
EVALUATION OF N-TELopeptide LEVELS IN ROMATOID ARThRITIS
Ercan Dinçel1, Rabia Şemsi Özkısa2, Funda Kosova2, Aylin Sepici Dinçel2
1Health Sciences University, Ankara Training and Research Hospital, Orthopedics and Traumatology Clinic, Ankara
2Gazi University, Faculty of Medicine, Department of Medical Biochemistry, Ankara
3Celal Bayar University, Manisa

Objective: Rheumatoid arthritis (RA) is a chronic, autoimmune, inflammatory disease involving synovial joints. In this study, it was aimed to investigate the levels of N-telopeptide (NTX) which is a resorption marker, in patients with rheumatoid arthritis compared to healthy controls.

Materials and Methods: The study consisted of age and gender matched patients with rheumatoid arthritis and control group. NTX levels of all serum samples were measured using the ELISA method.

Results: There was no age differences between the study groups (Romatoid arthritis group (RG): 51.9 ± 14.1, CG: 56.8 ± 10.2, p >0.05). The results of NTX levels showed statistically significantly lower levels in rheumatoid arthritis group (RG: 13.37 ± 6.25, CG: 17.65 ± 6.76 nm BCE p <0.05). These values were evaluated by disease activity.

Conclusion: During inflammatory chronic rheumatic diseases differences of bone turnover markers are expected. This change was assessed by N-telopeptide levels in our study group and the lower level of resorption marker compared to control group suggested that the bone turnover is declined and that the reduction in resorption is also accompanied by a decrease in formation. The evaluation of the...
expected bone resorption for bone mass in inflammatory diseases could not be guided only with one resorption or formation marker. The markers of bone turnover need to be evaluated together as resorption or formation markers.

Keywords: Bone turnover, N-telopeptide, Rheumatoid arthritis

**PP-30**

LOW NEUTROPHIL-LYMPHOCYTE RATIO IN PATIENTS WITH EUTHYROID CHRONIC AUTOIMMUNE THYREOTIDIS

Buşra Ecer, Esra Paydaş Hataysal, Hüsamettin Vatansev, Emel Şahin, Sedat Abuşoğlu, Cem Onur Kıraç, Levent Keşapçıl, Süleyman Hilmi İpekç, Ali Ünlü

1 Selçuk University, Faculty of Medicine, Department of Medical Biochemistry, Konya
2 Selçuk University, Faculty of Medicine, Endocrinology and Metabolic Diseases, Konya

Objective: Autoimmune thyroid Disorders (ATD) include Graves’ disease and Hashimoto’s thyroiditis which are the most common causes of thyroid gland dysfunctions. The neutrophil-lymphocyte ratio (NLR), usually determined from peripheral blood, is calculated by dividing the number of neutrophils by number of lymphocytes. Thyroid disorders are frequently accompanied with the different blood cell abnormalities. In this study, our aim was to compare NLR in patients with ATD to control groups.

Material-Methods: A total of 200 patients were enrolled in this prospective study, including 100 patients with euthyroid chronic autoimmune thyreotidis and 100 healthy controls who admitted Selçuk University Medical Faculty between 01.04.2017 and 01.10.2017. Patients with other chronic diseases were excluded. Complete Blood Count analysis was performed with Beckman Coulter LH780. Statistical analyses were performed using the IMB SPSS, Version 20.

Results: There were no statistical differences between ATD group and control group for Leucocyte count and Neutrophil count. (p=0.14, p=0.89 respectively). The NRL values were statistically lower in patients with ATD median 2.01 (0.73-4.40) compared to control group median 1.80 (0.67-5.24) (p<0.049).

Conclusion: Our results show that NLR values were lower in euthyroid ATD patients than in healthy control group. However, there were no significant differences in neutrophil and leucocyte count between the individuals with euthyroid ATD and control group.