SÖZLÜ SUNUM ÖZETLERİ
[ORAL PRESENTATION ABSTRACTS]

OP-01 ASSOCIATION OF SERUM MICKINE LEVELS WITH INSULIN RESISTANCE AND OBESITY IN POLYCYSTIC OVARIAN SYNDROME PATIENTS

Fatma Beyazit
Onsekiz Mart University, Obstetrics and Gynecology, Canakkale

Objectives: Recent studies suggest a possible role of midkine in inflammatory response by increasing leucocyte migration. Therefore, a possible involvement of midkine in polycystic ovary syndrome (PCOS) can be speculated due to connection between PCOS and inflammation. The aim of the present study is to analyze serum levels of midkine in PCOS patients and determine a possible connection between midkine and insulin resistance.

Materials-Methods: This cross-sectional study includes 54 PCOS patients and 36 age and body-mass index (BMI) matched controls. Routine biochemical tests and hormonal analysis were applied to all study participants. Serum midkine levels were determined with ELISA method. Insulin resistance were evaluated with HOMA-IR.

Results: Mean serum midkine levels were 14.2±14.3 and 17.0±17.8 pg/ml in PCOS patients and controls respectively (p=0.412) (Table 1).

According to BMI subgroups (BMI - 25 vs - 25), midkine levels were found to be elevated in PCOS patients with BMI - 25 kg/m² (p=0.044).

According to HOMA-IR values PCOS patients were divided into two groups. Although an increasing trend was observed in respect to serum midkine levels in HOMA-IR - 2.5 subgroup this elevation was not statistically significant (p=0.301) (Table 2).

Conclusions: Unaltered midkine levels in PCOS patients compared with controls suggests that midkine has no role on PCOS pathophysiology. However, the positive effect of obesity on midkine levels suggests that midkine is probably released from adipocytes. These results may be related with the pathogenesis of PCOS and there is a strong need for further studies that will unravel the association between obesity, insulin resistance and midkine in PCOS patients.

Keywords: PCOS, midkine, insulin resistance, obesity

OP-02 CASE: ISOLATED HYPERPHOSPHATASEMIA IN CHILDHOOD

Fatma Denet Anslan̄, Banu İşbélen Başколо, Berna Eröğlu Filibelli, Gönlül Gati̇
1Tepecik Education and Research Hospital, Medical Biochemistry İzmir
2Tepecik Education and Research Hospital, Department of Child Health and Diseases, İzmir

Objectives: Benign transient hyperphosphatasemia, occurs in early childhood, is not associated with liver or bone disease, and usually improves within months. It was aimed to evaluate the macroenzyme presence in a 2.5 years old male patient who was under follow-up due to idiopathic isolated serum alkaline phosphatase (ALP) elevation since newborn period and to emphasize the importance of family investigation for differential diagnosis.

Materials-Methods: Biochemical parameters were evaluated in the patient and family members. The patient was examined radiologically for bone growth. The precipitation test with polyethylene glycol was performed to exclude macroenzyme presence. A heat-inactivation test was performed to find the dominant isoenzyme. The pedigree was generated for ALP levels according to age and sex-matched reference range.

Results: The physical examination, anthropometric measurements, and developmental stages of the patient were consistent with age. ALP levels of the patient, father and sister were elevated according to age and sex(975, 152 and 579 IU/L, respectively), although their calcium, phosphorus and parathormone levels were normal. The bone isoenzyme was the dominant one without any trace of illness radiologically.

Conclusions: The child was diagnosed as benign familial hyperphosphatasemia, rarely seen and transferred autosomal dominant, because of the isolated ALP elevation together with other family members without any disease or symptom. Benign familial hyperphosphatasemia is a asymptomatic disease which has a genetic variant of ALP. However, to distinguish from other causes of ALP elevation is important in order to not to cause stress in patient and family and not to confuse diagnosis and treatment.

Keywords: Hyperphosphatemia, alkaline phosphatase, childhood

OP-03 EFFECT OF STEM CELL AND NICHE ON THE WOUND HEALING IN CULTURE FOR THE EFFECT OF DIABETES AND MENOPAUSE MIMICED BY BONE-LIKE TISSUES FORMATION WITH STEM CELL DIFFERENTIATED OSTEOSTABLES

Fulya Gütbaş,1 Pınar Kılıçalan Sönmez2, Mahmut Özku̇t, Fatma Şimşek , Mettek Kuruş1, Mehmet İbrahim Tuğlu2
1İzmir Kâtip Çelebi University, Department of Histology and Embryology, İzmir
2Manisa Celal Bayar University, Department of Histology and Embryology, İzmir

Objectives: In menopausal-associate with diabetes, problems of healing bone fractures and age-related emboli are an important problem in medicine. It is a known method to imitate culture environment due to ethic and harmful effects. We investigated the effects of diabetes and menopause on the formation of bone-like tissue in the culture and the treatment potential of stem cells and niches.

Materials and Method: A fracture was imitated with a scratch in this environment. Addition of high glucose and estrogen to the medium were used to mimic the effect of osteoporosis. Osteoblast differentiation of adipose-derived stem cell was achieved by supplementation of ascorbic acid, beta-glycerophosphate and dexamethasone. Characterization of osteoblast was performed using osteonectin and osteocalcin. The presence of bone-like tissue was demonstrated by Alizarin red and Von kossa histochemistry. Bone fracture was imitated by creating a scratch on the bone-like tissue by a pipette. During healing, high glucose and lack of estrogen was shown to be associated with diabetes and menopause. The treatment effect of the stem cell and niche to the wound closure has been examined.

Discussion: Differentiated osteoblasts and mineralized bony-like tissue formation was detected successfully in culture. In wound healing, the delay in diabetic and estrogen-free environment was significantly accelerated by stem cells and nishe with faster and better bony-like tissue was formation.

Conclusion: It has been determined that stem cell and niche treatment may be beneficial for bone fractures in diabetic menopausal patients. Thus it was thought that it could be possible to reduce the cost and increase the patient's life quality.

Keywords: Osteoporosis, Stem Cell, Osteoblast, Cell Culture, Wound Healing

OP-04 HIGH-THROUGHPUT ANALYSIS OF HIGH-COLESTEROL DIET INDUCED Atherosclerosis AND THE EFFECT OF ENDOPOLASMIC RETICULUM STRESS

Perinur Bozaykut
İstanbul Medipol University, Biochemistry Department, İstanbul

Objective: Hypercholesterolemia is the major risk factor for the development of atherosclerosis although the mechanism of action still remains unclear. In the present study, our aim was to investigate cellular defenses activated by oxidative and endoplasmic reticulum stress (ER) on cholesterol diet induced atherosclerosis, and to determine the effects of vitamin E on the related mechanisms, in vivo.

Material and Method: Twenty-four male albino rabbits were assigned randomly to four groups fed: 1) vitamin E deficient diet, 2) vitamin E deficient diet with daily intramuscular injections of vitamin E (50 mg/kg), 3) vitamin E deficient diet containing 2% cholesterol and 4)
“Endocrine and Metabolic Diseases Biomarkers From Diagnostic to Therapy”

vitamin E deficient diet containing 2% cholesterol with daily intramuscular injections of vitamin E (50 mg/kg). The consequences of hypercholesterolemic diet and vitamin E effect were examined determining ER stress markers and antioxidant protein levels by immunoblotting and the proteasomal activity by fluorometric detection method in aortic tissues. High-throughput analysis is performed by whole-genome sequencing method.

Results and Discussion: Cholesterol fed rabbits exhibited atherosclerotic lesions and endothelial damage compared to control rabbits whereas lipid accumulation and foam cell formation was detectable in animals fed cholesterol and treated with vitamin E. The expressions of ER stress markers were increased by the cholesterol-rich diet. Whereas, vitamin E resulted in elevated antioxidant levels and notably, the proteasomal activity which was impaired in cholesterol fed group was increased by vitamin E as well.

Conclusion: Our result demonstrated that cholesterol-rich diet accounts for the development of atherosclerosis via oxidative and ER stress related factors and vitamin E treatment affords protection via these factors.

OP-05
A NEW IMMUNOHISTOCHEMICAL BIOMARKER FOR MEDULLARY THYROID CARCINOMA: INSULINOMA-ASSOCIATED PROTEIN 1
Hasan Güçer
Recep Tayyip Erdoğan University, Department of Pathology, Rize

Objectives: Insulinoma-associated protein 1 (INSM1) is a zinc-finger transcription factor that regulates neuroendocrine differentiation. It has been shown to be expressed in pituitary adenomas, pheochromocytoma, various neuroendocrine tumors, and carcinomas as well as fetal neuroendocrine tissues. INSM1 is also reported to be positive in medullary thyroid carcinoma (MTC), but the expression in other thyroid lesions has not been investigated sufficiently. In this study, INSM1 expression was investigated in MTC and in various thyroid and parathyroid lesions which may cause difficulties in differential diagnosis of MTC.

Materials-Methods: Thirty eight MTCs, 22 normal thyroid tissues, 23 follicular nodular diseases, 20 follicular adenomas, 20 follicular variant papillary carcinomas, 20 classical variant papillary carcinomas, 3 follicular carcinomas, 5 poorly differentiated thyroid carcinomas, 5 anaplastic carcinomas, 5 solid cell nests, 10 normal parathyroid tissues, 5 parathyroid hyperplasia, 10 parathyroid adenomas and 1 parathyroid carcinoma were included in the study. Positivity of the tumor cell population was graded as 0 (when positive cell comprised 0%), 1+ (1-5%), 2+ (5-50%) or 3+ (50%) in the tumor area.

Results: INSM1 expression was observed in normal and hyperplastic C-cells and MTCs only. INSM1 was expressed in 38 out of 38 MTCs (100%). The distinct nuclear expression of INSM1 enabled to distinguish MTCs from other neoplastic and non-neoplastic tissues clearly.

Conclusions: The findings obtained in this study suggest that INSM1 is a useful immunohistochemical biomarker for diagnosing of MTC. Since it is expressed only in C-cells and showed minimal or no artefactual reactions, the INSM1 antibody is also useful for the determining number and distribution of C-cells.

Keywords: Medullary thyroid carcinoma, INSM1, immunohistochemical biomarker

OP-06
EXAMINATION OF DISTAL LATANCE AS FALL RISK BIOMARKER IN PATIENT WITH DIABETIC PERIPHERAL NEUROPATHY
Duygu Aktar Reyhanlçi1, Bilge Kara1, Gaye Yildirim2
1Dokuz Eylül University, Physical Medication and Rehabilitation, İzmir
2Dokuz Eylül University, Neurology, İzmir

Objective: It was intended to determine of lower extremity motor nerve electromography results with fall risks of patients in subjects with diabetic peripheral neuropathy.

Materials-Methods: The study included 9 patients with type 2 diabetes who were diagnosed as peripheral neuropathy by electromyography (EMG). Demographic features and tibial and peroneal ankle latency were recorded with EMG. Risk of falls are assessed by Biodex Balance balance system.

Results: Mean age of subjects were 65.33 ±6.5 and body mass index were 30.76±5.7. There was a strong positive correlation between the increased latency of the tibial nerve and the risk of falling (r: 0.736). There was no correlation between peroneal nerve and falling risk.

Conclusions: The longer the response of the tibial nerve to the stimulus is, the greater the risk of falling has been observed. It can be predicted that the risk of falling can be reduced by increasing the excitability of the tibial nerve in patients with diabetic peripheral neuropathy. Mobilization of tibial nerve and strengthening the muscles which are innervated by the tibial nerve may be considered as an alternative for reducing fall risks. Extending the scope of the study by increasing the number of cases will ensure that the results are more reliable.

Keywords: Diabetes, tibial nerve, fall risk

OP-07
FREQUENCY OF CONGENITAL HYPOTHYROIDISM IN NEWBORNS WHO ADMITTED TO HOSPITAL
Selda Telo
Fırat University Faculty of Medicine, Department of Medical Biochemistry, Elazığ

Objectives: We aimed to evaluate the frequency of congenital hypothyroidism (CH), and thyroid function test (TFT) results according to diagnosis in newborn infants followed in our hospital.

Materials and Methods: Infants, who admitted to Fırat University Hospital of newborn clinic or polyclinic between 2014-2017 years and had TFT results were included. Results were prospectively scanned from the hospital’s digital archive system files. TSH levels were divided as; > 15 IU/mL (group 1), 15-50 IU/mL (group 2) and ≤ 50 IU/mL (group 3). TFT results were evaluated according to diagnoses. Results: A total of 983 infants were included, 437 (44.5%) were female. No statistically significant difference was found in TSH levels between sex. According to TSH levels, 871 (88.6%) infants was grouped as group 1, 83 (8.4%) was group 2, 29 (3%) was group 3. 2.8% of infants diagnosed with CH; of the remaining neonatal diagnosis was 19.4% prolonged jaundice, 31.7% low birth weight, 13.2% low birth weight with prolonged jaundice, 31.7% other diagnoses. Mean sT4 values were 1.45 ± 0.53 ng/dL in group 1, 1.41 ± 0.54 ng/dL in group 2, 0.63 ± 0.56 ng/dL in group 3. sT4 was significantly lower in group 3 compared to other two groups (P < 0.0001).

Conclusion: Frequency of CH was 3% in newborn infants. This high ratio emphasizes the need for close monitoring of TFT results in newborn infants.

Keywords: Congenital hypothyroidism, newborn, TSH

OP-08
DETERMINATION OF VITAMIN D RECEPTOR EXPRESSION IN SCLERODERMA SUBTYPES
Ayşe Koçak1, Duygu Harmanç1, Merih Birlik2, Gül Güner Akdoğan3
1Dokuz Eylül University, Department of Molecular Medicine, İzmir
2Dokuz Eylül University, Romatology Department, İzmir
3Ekonomi University, Department of Medical Biochemistry, İzmir

Objectives: The aim of this study was to compare the expression of Vitamin D receptor (VDR) in scleroderma subtypes. VDR is a member of the nuclear localised hormone receptor family; 1,25-(OH)2D, a form of metabolically active Vitamin D3, is the ligand of VDR. When VDR and 1,25-(OH)2D are linked, many genes initiate molecular interaction reactions that will modulate the transcription. VDR has been shown to be a negative regulator of the TGF-β / Smad signaling pathway, which is important in the pathogenesis of scleroderma. Thus, reduced expression of VDR and decreased ligand levels may
contribute to hyperactivity of the TGF-beta pathway in SSC and abnormal fibroblast activation.

Materials and Methods: 19 SSC patients and 6 healthy controls were included in the study and they were classified according to the 2013 ACR / EULAR criteria. They were applied to Dokuz Eylul University, Faculty of Medicine, Department of Rheumatology-Immunology, between 2015-2017. Rodnan scores were calculated of all scleroderma patients. 11 of the limited type and 8 were of the diffuse type of scleroderma. Informed consent was obtained from all participants. 1 ml of total blood was collected.

VDR gene expression was determined by quantitative PCR in isolated RNAs from the blood. Changes in mRNA levels were analyzed according to the ΔΔCT method and beta-actin was used as the housekeeping gene. Student-t test was used as a statistic. In addition, Pearson correlation test was used to determine the relationship between Rodnan score and VDR gene expression.

Results: VDR gene expression in diffuse type scleroderma patients was statistically significantly decreased compared to the control (p = 0.01). It was found that VDR gene expression in limited type scleroderma patients did not show any significant difference when compared to control (p = 0.16).

Conclusions: VDR gene expression decreased in patients with diffuse type scleroderma and showed negative correlation with Rodnan score. Further studies are planned to increase the number of samples to obtain more information.

Keywords: Scleroderma, vitamin D receptor, limited type scleroderma, diffuse type scleroderma

OP-09 INVESTIGATION OF THE PERFORMANCE OF CLASSIFICATION METHODS IN HEPATITIS DECISION SUPPORT SYSTEMS

Sema Güzel, Ahmet Alkan
Kahramanmaraş Sutcu Imam University, Electrical and Electronics Engineering, Kahramanmaraş

Objective: Thanks to data mining, which has an important place in engineering applications in today, it has become possible to make inferences by evaluating systems with mathematical and statistical methods and to make estimates of unknowns with these inferences. In medical practice, the increasing amount of data makes it difficult to accurately evaluate the information in these data, while using data mining in decision support systems; in the decision-making process, such as diagnosis and treatment according to patient data, it is easy for experts to obtain valuable information from large-scale data, to reveal relationships between data, and to make prospective predictions.

Materials and Methods: In this study; the success of classification models, which are predictive models data mining used in medical decision support systems, has been investigated in determining whether hepatitis disease is fatal in terms of certain determinants. For this purpose, the data set from UCI database of hepatitis disease was analyzed and C4.5 decision tree, k nearest neighbors, Naive Bayes and multilayer artificial neural network classification methods have been applied to data set through WEKA program.

Results: When the success rates of hepatitis diagnosis are compared; C4.5 decision tree 89.03% success, k nearest neighbor algorithm 87.74% success, Naive Bayes 86.45% success and multi-layer artificial neural network 84.51% success showed. All the methods performed acceptable success but C4.5 decision tree classification method have been most successful method for diagnosing hepatitis.

Conclusion: The results of this study demonstrated that the C4.5 decision tree algorithm could be used effectively as medical decision support system for diagnosing hepatitis disease.

Keywords: Data Mining, Classification Algorithms, Decision Support Systems, Hepatitis

OP-10 IS APELIN LEVEL IMPORTANT IN PAPILLARY THYROID CARCINOMA?

Hamza Çınar1, Havva Erdem2
1Ordu University, Department of General Surgery, Ordu
2Ordu University, Department of Pathology, Ordu

Objectives: Thyroid cancer is the most common endocrine malignancy and the incidence is increasing all over the world (1). About 80% of all thyroid cancer cases constitute papillary thyroid carcinoma (PTC) (2). There are many mutations in the PTC formation mechanism. Apelin is an endogenous ligand for G-protein coupled APJ receptor and its effects are linked to APJ (3). Apelin is involved in cell proliferation and in the initiation of cancer angiogenesis (4). The aim of this study is to investigate the relationship between Apelin expression and PTC.

Materials and Methods: In this study which was planned as a preliminary study, 10 cases with PTC and 10 cases with nodular colloid goitre (NCG) diagnosed in patients who underwent thyroidectomy between 2014-2017 in Ordu University Medical Faculty Educational Research Hospital were randomly selected and included in the study. The paraffin embedded blocks of the samples were selected as appropriate and sections of 3 microns were taken. Sections were stained with apelin (leica bond automatic device) and evaluated under light microscope. Evaluation was rated as 0 (no staining), 1 (light staining), 2 (moderate and severe staining). Fisher’s exact test was used for statistics. The sample size is taken as n (%). P < 0.05 was considered statistically significant.

Results: The cases were divided into PTC and NCG groups consist of 10 patients. The PTC group is all female and the average age is 53.3 (42-73) years. NCG group is 9 in female and 1 in male and average age is 44 (27-60) years. Apelin staining rates in PTC cases were 5 (50%) patients grade 1 and 5 (50%) patients grade 2. There were no cases of PTC cases that were not stained with apelin (grade 0). In NCG cases; 6 (60%) patients did not have apelin staining and 4 (40%) patients had grade 1 staining. No grade 2 staining was observed in any of the cases. Apelin staining was more prominent in cases with PTC than in NCG cases (p=0.002).

Conclusion: Apelin expression level is increased in PTC cases. Agents targeting the apelin receptor may be developed for diagnostic and therapeutic purposes. But in order to get clearer results, the study should be repeated in larger series.

Keywords: Apelin, Papillary thyroid carcinoma, Nodular colloid goitre

OP-11 INVESTIGATION OF URINARY N-TELopeptides (NTX) LEVELS IN PREGNANT WITH PREECLAMPSIA-ECLAMPSIA

Elif Demir
Harran University Faculty of Medicine, Department of Medical Biochemistry, Şanlıurfa

Objectives: Pregnancy is a factor that causes changes in mother’s whole body. Preeclampsia is a systemic disease due to pregnancy, which is reduced in vasospasm and secondary organ perfusion and associated with multiple organ involvement and dysfunction. In this study we measured urine NTx levels, a bone resorption marker, to assess the effect of eclampsia-preeclampsia severity on bone resorption.

Materials-Methods: A total of 102 patients were included in the study among the patients who applied to Ataturk University Medical Faculty Research Hospital Obstetrics and Gynecology Department. Twenty-five healthy non-pregnant women, 27 healthy pregnant women, 19 mild preeclampsia, 21 severe preeclampsia and 10 eclampsia patients were included.

For the urine Ntx analysis “Osteomark Ntx test” was used. NTx levels were measured by ELISA. “SPSS” package program was used for statistical evaluations.

Results: NTx values in the group of eclampsia and severe preeclampsia were significantly higher than those of the mild preeclampsia group (p < 0.05) and control groups (p < 0.001). There was no significant difference between groups with eclampsia in terms
The prevalence of NTx values with severe preeclampsia. The NTx values in the mild preeclampsia group were significantly higher than the control groups (p < 0.001). In healthy pregnant group NTx values were significantly higher than healthy non-pregnant group (p < 0.001).

Conclusions: Increased urinary NTx levels in the eclamptic and preeclamptic pregnancies compared to normal pregnancies indicate increased osteoclastic activity.

Keywords: Preeclampsia-Eclampsia, NTx, Bone Resorption.

OP-12
EVALUATION OF MEASUREMENT UNCERTAINTY FOR HbA1C
Saadet Çelik¹, Müşgan Erçan²
¹Bilecik Public Health Laboratory, Department of Medical Biochemistry, Bilecik
²Bozok University, Department of Medical Biochemistry, Yozgat

Objective: HbA1c is a test recommended for diagnosis and follow-up of DM. It is measured at regular intervals for the follow-up of blood glucose regulation in diabetic patients A standardization is required for this. With the recent standardization of measurement methods and the use of certified reference materials, measurement variability between laboratories is steadily declining nowadays. We aimed to calculate the uncertainty of HbA1C measurement by taking advantage of internal and external quality control data of HbA1C.

Materials and Methods: The internal quality results and external quality (EQAS) control results of the HbA1C test that are obtained between November 1 and 1 January 2017 were used in our study. In the calculation of measurement uncertainty, six step "uncertainty calculation model", that is defined in Nordest guide was followed.

Results: For the HbA1C test, the extended measurement uncertainty was calculated to be ±0.56% in the 95% confidence interval. Conclusion: From the last three months data, the measurement uncertainty of HbA1C was calculated to be 0.56%. Adding measurement uncertainty to the categorized HbA1C results helps us obtain more accurate and reliable results. As a result, when laboratories make measurement uncertainty calculations at regular intervals; this improves the confidence of laboratory results by preventing improper treatment by increasing the power of clinical interpretation.

Keywords: External quality control, Internal quality control, Uncertainty of measurement, HbA1C.

OP-13
IS THERE A RELATIONSHIP BETWEEN TWO UPPER EXTREMITY FUNCTIONAL ASSESSMENT SCALES USED IN STROKE?
Mehmet Özkeskin¹, Fadime Küçük², Bilge Kara³
¹Okan University, Department of Physiotherapy and Rehabilitation, İstanbul
²Okan University, Department of Physiotherapy and Rehabilitation, İstanbul
³Dokuz Eylül University, Department of Neurological Physiotherapy-Rehabilitation, İzmir

Objectives: Our study aimed to recognize if there were any relationships between Fugl Meyer Assessment(FMA) and Jebsen Hand Function Test (JHFT) scales which are used for upper extremity assessment.

Materials-Methods: Ten stroke patients with mean age 63.80± 9.54 years were included to the study. Brunnstrom exercises were performed to the patients 45minutes, 5days, totally 2weeks.Affected upper extremity functions were assessed with FMA and hand ability timing were assessed with JHFT. All the assessments were done before the treatment, after 1 months and 3 months.

Results: Mean stroke timing of the patients were 25.95±24.66 months. All the patients were right hand dominant. There weren’t any relationships between total FMA score of the hemiparetic upper extremity and JHFT total score before the treatment (r=0.292; p=0.413). There weren’t any relationships between total FMA score of the hemiparetic upper extremity and JHFT total scores after 1month treatment (r=0.427; p=0.219). Also there weren’t any relationships between total FMA score of the hemiparetic upper extremity and JHFT total scores after 3 months treatment (r=0.612; p=0.080).

Conclusions:According to our study there weren’t any relationships between total FMA score of the hemiparetic upper extremity and JHFT total scores of the patients. So the recovery of the functions of the affected upper extremity doesn’t ensure the affected hand to do a function in a short time. In the future studies, different assessment methods should be used with more patient number and also it should be considered stroke time, activity specific physical therapy, dominance of the hemiparetic side, the relationship between functions of the upper extremity recovery and activity ability.

Keywords: Stroke, Brunstrom exercises, Fugl Meyer Assessment, Jebsen Hand Function Test

OP-14
VITAMIN D LEVEL IS CORRELATE WITH QUALITY OF LIFE IN MULTIPLE SCLEROSIS INDEPENDENTLY DISEASE SEVERITY
Turhan Kahraman¹, Görkem Kösehasanoğulları², Bilge Piri Çınar³, Pınar Özçelik⁴, Hatice Başer⁴, Serkan Özakbaş⁴
¹İzmir Katip Çelebi University, School of Physical Therapy, Department of Physiotherapy, İzmir
²İzmir State Hospital, Neurology, İzmir
³Bülent Ecvet University, Department of Neurology, Zonguldak
⁴Dokuz Eylül University, Department of Neurology, İzmir

Objectives: The some studies have supported the relationship between vitamin D and sensitivity to autoimmune diseases. The prevalence of high vitamin D was low in multiple sclerosis (MS). Our aim is to investigate the relationship between vitamin D level and quality of life and disease severity in MS.

Materials-Methods: Two hundred-fifteen MS patients were enrolled into the study (160 MS, 25). 2 hydroxy D vitamin was measured from the venous blood samples of the patients. Participants were divided into two groups according to serum vitamine D levels; low D vitamin level (< 14 ng/ml) and high D vitamine level (≥ 15 ng/dL). Disease severity was assessed by Expanded Disability Status Scale (EDSS) and classified as mild (EDSS: 0-4.0) and severe (EDSS 4.5 and above). The health-related quality of life was assessed with Multiple Sclerosis International Quality of Life (MUSIQoL). EDSS and vitamin D levels were compared. The relationship between EDSS, MUSIQoL and D vitamine level was investigated.

Results: Average D vitamine level was 9.23 ± 4.78 ng/ml (normal range: 14-60 ng/ml). 104 patients presented with low levels of vitamin D (48,4%). In the patients with low D vitamin levels tended to be more disabled than patients with normal vitamin D levels, but the difference was not statistically significant (p=0.051). There was a significant correlation between vitamin D levels and MUSIQoL (r=0.568, p=0.001). A moderate negative correlation was also found between EDSS and MUSIQoL (r=0.446, p=0.002)

Conclusions: In conclusion, the inverse relationship between disease severity measured by EDSS and D vitamin levels suggests that vitamin D levels may have an effect on the quality of life and a regulatory role in clinical disease activity.

Keywords: Multiple sclerosis, vitamin D, quality of life, severity of disease.

OP-15
USE OF ARTIFICIAL INTELLIGENCE IN PHLEBOTOMY UNIT
Dilek Orbatu¹, Oktay Yıldırım²
¹Health Sciences University, Tepeçek Training and Research Hospital, Child Health and Diseases, İzmir
²Dokuz Eylül University, Computer Engineering, İzmir

Objectives: Venous blood collection (Phlebotomy) is the most commonly used invasive method for laboratory tests for diagnostic and therapeutic purposes in outpatient services. In the process of phlebotomy, hungry patients wait for more than one queue for a long time, and faults can occur which can affect the patient’s test results and employee safety. Using artificial intelligence, we have developed a
system to plan and manage all the processes and resources to minimize the errors that can occur during the phlebotomy phase and to allow the patients to comfortably wait for the shortest time.

Materials-Methods: By using the developed artificial intelligence, while the patients who have been registered by kiosk or smart phone can sit comfortably in the waiting room, artificial intelligence simultaneously identifies the next patient according to the priority status and enables the tube labelling robot or the staff to prepare the tubes, calls the patient to the blood collection unit at the most appropriate time via voice and video information screens. The artificial intelligence also performs the identity and sample validation of the patient when it arrives at the phlebotomy unit.

Results: With artificial intelligence, a New blood collection unit was created, in which patient names were audibly and visually announcing according to patient priority criteria, which patients were not expected to stand in more than one queue for a long time, and patients did not have to carry containers. Incomplete and erroneous phlebotomy risks removed completely with identity and sample verification capabilities. Both the patient and employee satisfaction increased in the results of the survey conducted after this study.

Conclusions: The transformation that artificial intelligence brings to many areas has become a common sight in the health field. This developed artificial intelligence-based application is a clear example of how conventional health processes can be made more intelligent, functional, and error-resistant by using intelligent algorithms. With artificial intelligence, patient and employee satisfaction and security have been moved to a higher level than the human can.

Keywords: Phlebotomy, Artificial Intelligence, Health 4.0

OP-16 HER2 EXPRESSION IN LUNG SQUAMOUS CELL CARCINOMA

Ali Aslan1, Havva Erdem2
1 Ordu University, Physiology, Ordu
2 Ordu University, Department of Pathology, Ordu

Objectives: The relationship between HER2 expression levels in lung squamous cell carcinoma and the age of the patients and differentiation grade of the tumor was studied.

Materials-Methods: HER2 expression was examined retrospectively in immunocytochemical methods in 18 patients diagnosed with squamous cell lung cancer at Ordu University Educational Research Hospital in 2015-2017. The research findings were evaluated statistically and accepted as P < 0.05 level.

Results: HER2 expression was detected by immunohistochemical method in 88.89% of 18 male patients with squamous cell lung carcinoma (p < 0.01). The mean age of the patients which are the cases with expression of HER2 (71.38) was earlier than non-expression (82.00) but these findings are not statistically significant (p=0.11). However, there was a significant difference between the ages of the patients according to HER2 expression intensity (p<0.005). The mean age of the patients with intense of the HER2 expression was 82.8 and the non-expression was 82.0. There was no significant correlation between HER2 expression and tumor differentiation grade (p=0.651). However, intense of the HER2 expression is seen at relatively earlier ages. HER2 expression intensity doesn’t depend on the differentiation degree (p=0.529). However, according to the degree of differentiation grade-3 is 1.6 times higher than grade-2 and, it was determined that all of the cases had HER2 expression in Grade-3 differentiation.

Conclusions: When the research findings are examined, the possibility of HER2 expression in patients under the age of 75 years who are diagnosed with squamous cell carcinoma of the lungs should not be neglected, considering that HER2 targeted therapies for lung cancer have begun to be developed.

Keywords: HER-2, lung cancer, expression

OP-17 EFFECT OF MOTOR IMAGERY ON CERVICAL MUSCLE FUNCTION WITH CHRONIC NECK PAIN

Özlem Özcın1, Hayriye Kul Karaalı1, Duygu Iğın1, Özgül Soysal Gündüz2, Bilge Kara2
1 Manisa Celal Bayar University, Department of Physiotherapy and Rehabilitation, Manisa
2 Dokuz Eylül University, School of Physical Therapy and Rehabilitation, Izmir

Objectives: Motor imagery (MI) is defined as the mental presentation of movement without any body movement. It was seen that MI has developed muscular function in many clinical settings. Our aim is to investigate the effect of MI on cervical muscle function with chronic neck pain.

Materials And Methods: Our study was performed with 40 people with chronic neck pain. The people were randomly divided into two groups as MI and exercise group, exercise group. The endurance of deep neck extensor muscles was assessed by neck extensor muscle endurance test. Assessment was repeated 2 times (beginning and end of the fourth week). The patients in each group were included in the exercise program of strengthening cervical muscles for 45 minutes and 5 days for 4 weeks. For the MI and exercise group, MI program was applied for 15 minutes in additional.

Results: Regarding pre-to post interaction for both groups, neck extensor muscle endurance test was found statistical significant (p < 0.001). There were statistical difference between groups for post interaction in favor of MI and exercise group (p = 0.012).

Conclusions: It was seen that MI effected on cervical muscle function in chronic neck pain. In chronic neck pain, cervical muscle fiber shifting type I to type II fibers cause neck muscles fatigue. So MI can increase muscle endurance in a short time. However, the number of studies was very limited. Thus, we suggest that much more clinical studies should be done to support evidence based clinical data.

Keywords: Neck Pain, Motor Imagery, Exercise

OP-18 THE ROLE OF FASUDIL TREATMENT ONAMYLOID BETA INDUCED INFLAMMATION MODEL IN ASTROCYTES

Burçin Nilay Yener
Gaziantep University, Department of Medical Biochemistry, Gaziantep

Objectives: With more than 35 million affected people worldwide, Alzheimer’s disease is the most common form of the demantia and a rising threat for public health. It is a primary neurodegenerative disorder characterized by three major pathological hallmarks: neuronal loss, neurofibrillary tangles and plaques comprised of amyloid beta. Cytokines play a key role in the interaction between nervous and immune system, including cell growth and differentiation, inflammatory processes, the immune and acute phase response. Fasudil is a rho kinase inhibitor, that has neuroprotective effects. The aim of this study was to investigate whether a pharmacological approach to Alzheimer’s disease of amyloid beta-induced inflammation in astrocyte cell line application of fasudil is possible.

Materials-Methods: Cells were incubated with 5 μM amyloid beta for 24 hours. Another group of rho kinase inhibitors for treatment was added to 2.5 μM fasudil. cDNA synthesis was performed from RNA samples isolated from the cells. Gene expression analysis was performed by real-time PCR method.

Results: According the results obtained, amyloid beta IL-6, IL-10 and IL-12 mRNA expression levels were 2 to 9 higher than control group. Fasudil therapy significantly reduced the increase in amyloid beta-stimulated inflammation and some apoptotic genes. (p < 0.001).
Microscopic examinations also showed of fusaidi cell protective effect.
Conclusions: As a result, the inhibition of rho kinase by fusaidi may be an agent that can be used in therapy with a protective effect on the suppression of amyloid beta mediated inflammation. However, further work is needed to arrive at a definite conclusion.

Keywords: Alzheimer’s disease, Amyloid beta, Fusaidi, IL-6, IL-10, IL12

OP-19
EVALUATION OF PERNATEN SCREENING TEST AND SOFTWARE CONFORMITY WITHIN THE SCOPE OF ISO 13485:2016
Ercan Saruhan1, Muhittin-Abdulkadir Serdar2
1Mugla Sıtkı Koçman University, Department of Medical Biochemistry, Muğla
2Acibadem University, Department of Medical Biochemistry, Istanbul

Objectives: It became mandatory for kit manufacturers to obtain CE certificates by In Vitro Medical Diagnostic Devices Regulation. Manufacturers are obliged to carry out the declaration of conformity with the EC Full Quality Assurance System for reagents, calibrators, control materials related to reagents and softwares specially designed to evaluate the Trisomy 21 risk listed in Annex-2B of this regulation. The producers are obliged to complete the procedures specified in TS EN ISO 13485: 2016, which are necessary for conformity under the supervision of the notified body, by 2019. We investigated prenatal screening tests in this study, total beta hCG, free beta hCG, AFP, PAPP-A, estriol kits and risk calculation softwares in consultation with manufacturers operating in Turkey that they receive appropriate CE certificate or not. Our aim in this work is to increase the awareness of the manufacturers and clinical biochemists on this issue.

Conclusions: As a result of the data we received from the quality unit of Beckman Coulter, Siemens and Roche firms operating in Turkey, Roche company received the declaration of conformity for free beta hCG and PAPP-A kits. But Beckman Coulter and Siemens continue to work for the new version of ISO: 13485. Firms declare that they will complete the quality application process by the year 2019.

Keywords: Trisomy 21, In vitro diagnostics, CE certificate

OP-20
EVALUATION OF SUSPECT OR BORDERLINE ANTI-HEPATITIS C VIRUS ANTIBODY RESULTS WITH RAPID MOLECULAR DIAGNOSTIC TEST (GENEXPERT)
Sadık Akgün
Adıyaman University, Medical Microbiology, Adıyaman

Objectives: The purpose of this study was to evaluate the results of suspicious or borderline Anti-Hepatitis C Virus (Anti-HCV) antibodies obtained with the rapid molecular diagnostic test (Genexpert) in the event of invasive interventions in hospitals, the Enzyme Linked Immunosorbent Assay (ELISA) is used to screen personnel who are injured by piercing and cutting instruments or splattered into mucous membranes of personnel with blood or other blood products of the patients, or who have received anti-HCV as screening test.

Materials-Methods: To study, 179 women and 155 men who were diagnosed with suspicious or borderline (low positive) results of Anti-Hepatitis C Virus (Anti-HCV) antibody working in the Microbiology laboratory by ELISA between January 01, 2016 and January 18, for a total of 334 patients and job applications, or as a screening test for marriage (mean age: 42.1, lowest: 1, highest: 91 years) were included. Blood samples were studied using the appropriate kit and device (Anti-HCV, Architect i2000 SR, Abbott, USA) by ELISA method in the direction of the manufacturer's recommendation. According to this: (Xpert HCV Viral Load, Genexpert, Cepheid, USA) in the direction of the manufacturer's recommendation using a rapid molecular method with low-value positive samples (Cut-off: ≥1) identified as suspicious or borderline, load assignment. Then, using low-value positive samples (Cut-off: ≥1) determined by ELISA as suspicious or borderline, using the appropriate kit and the device of rapid molecular test (X pert HCV Viral Load, Genexpert, Cepheid, USA), the viral load was determined within 90 minutes.

Results: When the low-value positive samples detected as suspect or borderline by ELISA method are evaluated by fast molecular method; 91 (87%) samples were determined negative, 3 (3%) samples were determined positive with different copies. In females, 159 (89%) were negative and 20 (11%) were positive, in males, 132 (85%) and 23 (15%) respectively.

Conclusions: Since the majority of 334 cases (87%) studied by rapid molecular method were found to be HCV-negative in reality, the anxiety of patients and workers was quickly and largely eliminated, while the remaining few (13%) were positive HCV.

Keywords: Anti-HCV Antibody; Borderline values; Rapid Molecular test

OP-21
THE EFFECT OF BARIATRIC SURGERY ON SERUM GALECTIN-3 LEVELS
Meryem Avranç1, Esra Paydaş Hataysal², Hakan Vatansev³, Bezya Saracılı⁴, Hüsametin Vatansev⁵
1Acibadem University, Department of Nutrition and Dietetics, Konya
2Selcuk University, Department of Medical Biochemistry, Konya
3Necmettin Erbakan University, Food Processing Department, Konya
4KTO Karatay University, Department of Medical Biochemistry, Konya

Objectives: It became mandatory for kit manufacturers to obtain CE certificates by In Vitro Medical Diagnostic Devices Regulation. Manufacturers are obliged to carry out the declaration of conformity with the EC Full Quality Assurance System for reagents, calibrators, control materials related to reagents and softwares specially designed to evaluate the Trisomy 21 risk listed in Annex-2B of this regulation. The producers are obliged to complete the procedures specified in TS EN ISO 13485: 2016, which are necessary for conformity under the supervision of the notified body, by 2019. We investigated prenatal screening tests in this study, total beta hCG, free beta hCG, AFP, PAPP-A, estriol kits and risk calculation softwares in consultation with manufacturers operating in Turkey that they receive appropriate CE certificate or not. Our aim in this work is to increase the awareness of the manufacturers and clinical biochemists on this issue.

Conclusions: As a result of the data we received from the quality unit of Beckman Coulter, Siemens and Roche firms operating in Turkey, Roche company received the declaration of conformity for free beta hCG and PAPP-A kits. But Beckman Coulter and Siemens continue to work for the new version of ISO: 13485. Firms declare that they will complete the quality application process by the year 2019.

Keywords: Trisomy 21, In vitro diagnostics, CE certificate

OP-22
COMPARISON OF DIFFERENT STEM CELLS AND L-929 FIBROBLAST CELLS FOR HEALING WITH IN THE WOUND MODEL CREATED IN CULTURE
Pinar Kilicaşlan Sönmez1, Fulya Gulbağç2, Mahmud Mustafa Özkut1, Fatma Simşek3, Meletem Kuruş3, Mehmet İbrahim Tüğü1
1Manisa Celal Bayar University, Department of Histology and Embryology, Izmir
2Izmir Katip Celebi University, Department of Histology and Embryology, Izmir

Objective: Wound healing is a difficult and costly problem in chronic diseases such as diabetes. New products are needed to effectively increase treatment. However, it is possible that these new products are not harmed and at least the test of the body is not imitated in the culture medium.

Material and Method: In this context, line-wise wound formation in the root cell-derived culture medium rather than the frequently used L-929 fibroblast cell line suggests that it is more similar in vivo. In this study, different types of root cells were investigated in the wound model to be
formed with scratches under the influence of wound healing of stem cell niches.

Results: Bone marrow and adipose-derived mesenchymal Stem Cell (MSC) confluent L-929 cells and wound in a scar with plus. After one day of incubation in the MSC culture medium, the factors that they secreted to the medium, were collected and added to the media for wound healing. High glucose was added to the culture medium to make wound healing difficult. The wound environment and healing process were examined with eNOS for oxidative stress and TUNEL staining for apoptosis.

Conclusion: It was found that the recovery period of L-929 cells was similar to the types of MSC used. It has been seen that niche practice has made a meaningful contribution to the difficult healing. Oxidative stress and apoptosis decreased with niche and proliferation increased. The similarity of the wound healing model with MKH to L-929 was more significant in terms of in vivo imitation. It was thought that the use of niches in wound healing could be a product that should be used in hard wounds and that phase studies should be done by verifying with animal experiments.

Keywords: Cell Culture, Mesenchymal Stem Cell, Wound Healing, Oxidative Stress, Apoptosis

OP-23
DIABETIC MODEL IN CULTURE MEDIUM DAMAGES WITH SPERM STEM CELLS IN RAT EFFECT OF NICHE

Mahmud Mustafa Özkul1, Fulya Gülbağta2, Pınar Kılıçaslan Sönmez1, Fatma Simsak1, Meltem Kuruş1, Mehmet İbrahim Tuğlu1
1Manisa Celal Bayar University, Department of Histology and Embryology, Manisa
2Izmir Katip Çelebi University, Department of Histology and Embryology, İzmir

Objective: Male infertility due to diabetes and smoking is an important question in vitro fertilization units. New products are needed in this regard. The niche known as the niche that the root cell secretes into the culture medium is thought to prevent sperm morphology. It was aimed to investigate the niche effect of sperm obtained by testicular sperm extraction on the morphological disorders that they will be affected by high glucose in culture medium.

Material and Method: Sperm obtained by testicular sperm extraction were washed and then taken to culture medium. It was waited until it lost its activity and vitality in the high glucose medium. It was evaluated on a time-dependent basis according to the criteria of crime. A high-glucose medium was administered as a daily nutrient of the Oil-Derived Mesenchymal Stem Cell. The morphological structure at the level of fine structure was examined histologically with Modifiye Giemsa and by Scanning Electron Microscopy.

With the niche effect, it was seen that the sperm that underwent morphological changes in a large way had been returned. It was thought that in vitro fertilization units of stem cell niches would bring important contributions to the sperm maturation in male infertility problems.

Keywords: Cell Culture, In Vitro Fertilization, Diabetes, Morphology, Infertility

OP-24
ARMS-PCR+HRM: A NOVEL DIAGNOSTIC METHOD FOR MT-TL1 MUTATIONS CAUSING MITOCHONDRIAL CYTOPATHIES

Bengisu Kevser Bulduk1, Can Ebru Bekircan Kurt2, Sevim Eredem Ozdamar2, Cetin Kocaae1
1Hacettepe University, Department of Medical Biology, Ankara
2Hacettepe University, Department of Neurology, Ankara

Objectives: Point mutations on mitochondrial tRNA and rRNA genes cause oxidative phosphorylation defects by impairing protein synthesis. The majority of “mitochondrial cytopathies” are caused by point mutations on the tRNA Leu (MT-TL1) gene. The A3243G mutation is identified in 80% of MELAS patients. However, MT-TL1 may harbor T3271C, C3256T, T3291C, A3260G, C3303T mutations which are associated with mitochondrial cytopathies. Two basic approaches are pursued towards direct analysis of known point mutations. While restriction endonuclease digestion allows low cost opportunities, much costly sequencing analysis is required in the absence of any sequence compatibility. A valuable alternative is Amplification Refractory Mutation System (ARMS). We developed a novel ARMS-PCR assay to identify 6 point mutations on MT-TL1 gene.

Materials-Methods: ARMS-PCR is based on two sets of primers to amplify variant alleles. Wild type and mutant alleles result in variant product size amplicons providing an affordable approach for mutation screening. The novel ARMS-PCR assay sensitivity was improved by using “High Resolution Melt curve analysis”. Detection limits and precision of the assay is verified using synthetic controls with variant heteroplasmy ratios that simulate human mtDNA.

Results: The assay was implemented to screen 500 patient samples from the pediatric and adult neurology clinics of Hacettepe University with a pre-diagnosis of mitochondrial cytopathy. Newly identified mutations were confirmed by Sanger sequencing.

Conclusions: This novel method offers an affordable, reliable and rapid alternative for screening of MT-TL1 point mutations. The study results provide the “proof of concepts” for the implementation of this application for future screening of other rare mtDNA variations in clinical samples.

Keywords: Mitochondrial cytopathies, ARMS-PCR-HRM, Mutation, Genetic testing, IVD

OP-25
CALCULATION OF MEASUREMENT UNCERTAINTY IN HbA1C

Mehmet Kalayci
Bazg Training and Research Hospital, Biochemistry Laboratory, Elazığ

Objectives: HbA1c, reflection blood glucose levels within prior 2-3 months, play an important role in the diagnosis and follow-up patients with diabetes mellitus. Measurement uncertainty defines range of values which may be encountered in relationship with level measured. In this study, it was aimed to calculate measurement uncertainty and to explicate physicians the importance of measurement uncertainty in diagnosis and monitoring treatment in an effective manner.

Materials-Methods: A six-step estimation model of measurement uncertainty based on European Accreditation Guideline defined in Nordest guideline, European Technical Report and OSOTS 21748 guideline was used to identify measurement uncertainty for HbA1c.

Results: Uncertainty value was detected as 5.9% in HbA1c test. For instance, HbA1c value is between 6.12 and 6.8 (6.5±5.9%) when HbA1c level was measured as 6.5 in laboratory. HbA1c measurement uncertainty results detected in our laboratory is within acceptable limits (RILBAK - 18).

Conclusions: Results of laboratory test should be provided to physicians and patients as accurate as possible. Thus, provision of uncertainty of measurement together with value measured will provide measurement range and improve quality. Furthermore, reporting measurement uncertainty along with test results will acknowledge physicians of measurement quality and provide them with awareness regarding this issue.

OP-26
A NEW PROCALCITONIN ASSAY AS ABBOTT; COMPARISON OF TWO COMMERCIAL SYSTEMS

Özlem Aydemir1, Engin Karakeçoğlu1, Mehmet Köroğlu2, Ünal Erkorkmaz1, Mustafa Altnendi2
1Sakarya University, Training and Research Hospital, Microbiology Laboratory, Sakarya
2Sakarya University, Faculty of Medicine, Training and Research Hospital, Department of Medical Microbiology, Sakarya

Objectives: Procalcitonin (PCT) is a 116-amino-acid peptide belonging to the calcitonin (CT) superfamily of peptides. PCT levels increase rapidly within 3-6 hour of systemic bacterial or fungal infection or
Endocrine and Metabolic Diseases Biomarkers From Diagnostic to Therapy


inflammation, and persist for as long as the inflammatory process continues. Using randomized patient sera, this study evaluated the the correlation, linearity and accuracy of the new automated Abbott BRAHMS PCT assay and automated Vidas BRAHMS PCT system.

Materials-Methods: 109 clinical serum samples collected between July and December 2017 were analyzed using both the Vidas and Abbott PCT assays, according to the manufacturers’ recommendations. Samples were analyzed simultaneously using Vidas B-R-A-H-M-S PCT kit and Architect B-R-A-H-M-S PCT kit with the VIDAS PC (bioMérieux, Marcy l’Etoile, France) and Architect i2000 (Abbott, USA) systems, respectively. The kappa coefficient was calculated.

Results: The majority of serum samples belonged to Emergency Service (30.3%) patients. The mean PCT for all samples were 19.00±7.04 with Vidas and 12.24±2.40 with Abbott. The two tests yielded inconsistent results; Vidas > 0.5ng/mL and Abbott ≥0.5ng/mL in 1 patient, Vidas≥0.5ng/mL and Abbott ≤ 0.5ng/mL in 2 patients. This study showed a high level of agreement (κ=0.930, p < 0.001) between Abbott PCT and Vidas PCT system.

Conclusion: Abbott PCT assay and VIDAS PCT results were very close to each other. An advantage of the Abbott PCT assay is that it can detect levels below 0.05 ng/mL. However, it is impossible to directly measure the value of 100 ng/mL. Therefore, a second procedure should be repeated by diluting with serum. This, however, may increase costs.

Keywords: Procalcitonin, Comparison, VIDAS PCT, ABBOTT PCT

OP-27 MEASUREMENT UNCERTAINTY OF THE URINE AMPHETAMINE TEST

Saliha Aksun
Katip Celebi University, Department of Medical Biochemistry, Izmir

Objective: Measurement uncertainty is a parameter that must be given together with the analysis result in the patient report. Uncertainty of measurement in drug (amphetamine) analysis that is very important from the legal point of view is calculated as extended uncertainty over the threshold determined by the guidelines will affect the criminal decision. For this purpose, measurement uncertainty of the urine Amphetamine test requested by the supervised release was calculated by the method that we used in our laboratory. In drug analysis, immunological methods have the potential to cross-react with other substances in urine. Verification analysis by chromatographic method that is more expensive and difficult to apply is required for incomparable results with the declaration of the patient.

Method: The measurement uncertainty of the Amphetamine test studied on drug (amphetamine) analyzes that is evaluated as measurement uncertainty over the threshold determined by the guidelines was determined and the biochemical analysis was recaborluted with the uncertainty ratio, it was discussed how the clinical decision could be changed according to the legal threshold of 500 ng/mL (Samsha). CV% of internal quality control material (amphetamine EMIT Liquicheck urine toxicology control USA) were calculated. The bias was calculated from external quality control (LG).

Results: 1. Calibrator, Calibration Uncertainty: U (calibrator bias) = 5.59 (without unit)

2. Internal Quality Control Uncertainty Outcome

3. External Quality Control Uncertainty Result

4. Combined Standard Uncertainty Result: Uc = 31.63 (Without Unit)

5. Calculation of Extended Uncertainty

Ux=2*Uc

UX=63.26 (Without unit)=%63.26=0.63

6. Reporting Uncertainty Measurement Uncertainty Added Analysis Result (with unit)= Found Result (with unit) ± (UX) x Found Result (with unit)

In this case, in the Amphetamine test that has a threshold value of 500 ng/ml for punishment in the legal process, the actual value of a patient result at the threshold level should be considered as 500±315 ng/ml.

Conclusion: Measurement errors in drug analysis can lead to irreversible penalties to be taken. The presentation of clinical laboratory tests together with measurement uncertainty results will allow determination of samples to be selected for verification analysis by chromatographic method.

OP-28 DEGUELIN AND CURCUMIN HAVE POTENTIAL TO REVERSE TUMOR AGGRESSIVENESS IN ANAPLASTIC THYROID CANCER

Mehmet Ali Koçoğlu1,2, Hakan Cengiz3, Halil Ates4, Hilal Koçoğlu1,4
1Dokuz Eylül University, Institute of Health Science, Department of Molecular Medicine, Izmir
2Dokuz Eylül University, School of Medicine, Department of General Surgery, Izmir
3Dokuz Eylül University, Institute of Oncology, Izmir
4Dokuz Eylül University, Institute of Oncology, Department of Basic Oncology, Izmir

Objective: Anaplastic Thyroid Cancer (ATC) is one of the most lethal and aggressive human malignancy. Compared to other types of cancer, ATC is characterized by extensive simultaneous genetic and epigenetic alterations. Seminal studies have been shown that cancer-stem-cell (CSC) phenotype is mainly responsible for ATC aggressiveness and metastatic potential. Cytostatics mostly ineffective due to multidrug resistance mechanisms driven by CSC phenotype. Recently, the use of plant-derived, less toxic compounds which have multiple anti-cancer efficacies including CSC inhibition has become attractive. The aim of the study was to evaluate anti-cancer activity of two natural compounds (Curcumin, Deguelin) on ATC cells and metastatic CSC phenotype.

Material and Method: Seven groups were formed. ATC cells (CAL-62) were treated with two compounds, Docetaxel and combinations with previously determined IC50 doses. CSC phenotype, metastatic potential and tumoral aggressiveness were evaluated morphologically using by sphere formation, vasculogenic mimicry (VM) and angiogenesis assays in matrigel and cellular motility. Experiments were then replicated. Anova followed by Holm-Sidak test were used for statistical analyses and p<0.05 accepted as significant. Results were compared with Docetaxel.

Results: In the aspects of cell cycle arrest and apoptosis induction, Deguelin and particularly Curcumin were found to be effective as much as docetaxel at IC50 concentrations (p<0.05). Both natural compounds significantly suppressed sphere formation (Total spheroidal area, spheroid numbers and mean spheroidal area) in matrigel as well as significantly reduced tumor aggressiveness parameters (reduced cell kinetics and VM around spheroids, p<0.05).

Conclusion: Curcumin and Deguelin are capable of altering metastatic cancer activity of two natural compounds (Curcumin, Deguelin) on ATC cells and metastatic CSC phenotype.

Keywords: Anaplastic Thyroid Cancer, Deguelin, Curcumin, Vasculogenic Mimicry, Angiogenesis, Apoptosis