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In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022



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In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022



CONTENTS

- Welcome Message
- Committees
- Scientific Program
 - 26 November 2022, Saturday
 - 27 November 2022, Sunday
- Invited Speakers Abstracts
- Oral Presentations Abstracts
- Poster Abstracts

In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

WELCOME MESSAGE

Dear colleagues,

We are honored and happy to hold our "2nd Kahramanmaraş Biochemistry Days in memory of Prof. Gunes T. Yuregir" symposium, which we will organize for the second time, in Kahramanmaraş on 26-27 November 2022.

Our aim in our symposium is to contribute and provide opportunities with different studies in the field of health sciences. In our symposium, we will have the opportunity to discuss especially the contributions of today's technology to health sciences, innovative approaches and other contribution dimensions. Our main goal in this symposium will be to capture a multidisciplinary approach by contributing to the bringing together of many different sciences. We hope that our symposium will be realized in a way that will be beneficial for all participants and contribute to the field. We would like to thank all our professors who provided scientific support in our symposium and wish good luck to all participants and scientists to meet at our symposium.

Symposium President

Prof. Dr. Ergul Belge Kurutas

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In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

SCIENTIFIC PROGRAM

26 November 2022, Saturday

Keynote1:

Chairpersons: Ilter DEMIRHAN, Erkan ONER

OP-001: Ozlem NAKIS BOZKUS "Evaluation of GPER-1 Levels in Patients With Subclinical Hyperthyroidisim"

OP-002: Busra CITIL DEMIRCI "Elevated Neutrophil-to-Lymphocyte Ratio in Patients with Melasma"

OP-003: Ahmet Nedim KADIFECI "The Effect of Hesperidin on GPER-1 Levels in an Experimental Heart Ischemia Reperfusion Model"

OP-004: Fatma TURAN "Determination of Candida Species by Real Time PCR"

08:00-10:45 OP-005: Mujde AKSIMSEK "Role of Raftlin in Melasma: A Cross Sectional Study"

OP-006: Beyza Nur KARABOYUN "Evaluation of the Relationship Between Oxidative Stress and Raftlin Levels in Women with Postmenopausal Osteoporosis"

OP-007: Tuba Nur ERBIL "An Evaluation of Beta Arrestin-2 Levels in Children Who Stutter"

OP-008: Seda IKIKARDES "Investigation Of Propolis With Molecular Placement Work Against Diabetes"

OP-009: Ayse Humeyra HAYBER "Effect of Cardadom (Ellettaria Cardamamom) Treatment on Tissue Iris Levels in a Model of Heart Ischemia Reperfusion Damage"

OP-010: Dogu ULUTAS "Investigation of The Diagnostic Value of Presepsin Levels in Drug-Naive With Generalized Anxiety Disorder" OP-011: Suheyla OZYURT "NADPH Oxidase-1 And Nitrosative Stress Levels in Patients With Nonsyndromic Cleft Lip With/Without Cleft Palate"

COFFEE BREAK

10:45-11:00

KSU Rector - Alptekin YASIM KSU Dean of the Faculty of Medicine - Hafize OKSUZ TBS President - Dogan YUCEL Symposium President - Ergul BELGE KURUTAS Kahramanmaraş Provincial Director of Culture - Seydihan Yusuf KUCUKDAGLI *"Kahramanmaraş ve Tarihi Yerleri Hakkında"* In Memory of Speech Prof. Gunes T. Yuregir I1:00-12:30 Kıymet AKSOY Metin KILINC Haluk UYGUR Duru MALYALI "The Role of Prof Güneş T. Yüregir in Thalassemia" Diler ASLAN Metin kuru a kur

Reading the Memoirs and Messages of the Participants about Prof Güneş T. Yüregir

12:30-13:30

LUNCK BREAK & POSTER VISITING

 Keynote2:

 Chairpersons: Dogan YUCEL, Yurdanur KILINC

 Halef Okan DOGAN "Therapeutic Drug Monitoring and Interpretation of Results"

 Hamit Hakan ALP "Biological Variation and Its Use in the Clinical Laboratory"

 Serkan BOLAT "Artificial Intelligence Applications in the Medical Laboratory"

 OP-012: Unal OZTURK "Evaluation Of Plasma Raftlin Levels In Coronary Artery Diseases: Preliminary Study"

 OP-013: Meral OZSIN "Evaluation of Pentraxin-3, IL-6 and TNF-alpha Levels in Patients With Obstructive Sleep"

 OP-014: Hatice KOPAR "Elevation of Neutrophil and Lymphocyte Ratio in Patients with Generalized Anxiety Disorder"

 OP-015: Figen GUZELGUL "Assosication of Uncoupling Protein 1 (UCP 1)) Gene Polymorrphism With Breast Cancer"

 OP-016: Ali Furkan UCAR "Can Some Antiviral Compounds be Target in the Sars Cov-2 Mpro Structure?In Slilico Study

6



In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

SCIENTIFIC PROGRAM

26 November 2022, Saturday

15:45-16:00	COFFEE BREAK
16:00-18:30	Keynote3:
	Chairpersons: Halef Okan DOGAN, Hamit Hakan ALP
	Aydın AKTAS "Importance of Organic Synthesis and Pharmacophore Properties of N-Heterocyclic Carbene Precursors"
	OP-017: Sabahat OZKAN "Investigation of Curcuma Longa P53 Structure by Molecular Docking Method"
	OP-018: Emin YAGMUR "Investigation of Pinosembrin, a Bioactive Compound in Propolis, in Cardiovascular Diseases by Molecular Docking Method: In Silico Study"
	OP-019: Onur HURSITOGLU "Diagnostic Performance of Increased Beta Arrestin-2 Level in PAtients with Schizophrenia"
	OP-020: Nesibe KARABACAK "Investigation of Omentin-1, Interleukin10 and Interleukin13 Levels in Patients with Diabetes Mellitus and Hypertension"
	OP-021: Gonul Seyda SEYDEL "The Relationship Between Inflammation Parameters and the SYNTAX Score in Patients with Acute Coronary Syndrome"
	OP-022: Emrah AKSAN "Protective Effects of Iloprost On Ischemia-Reperfusion Injury of the Ovary in a Rat Model"
	OP-023: Merih AKKAPULU "Investigation of the Effect of Cobalt Oxide Nanoparticles on Inflammation and Oxidative Stress"
	OP-024: Pelin EROGLU "Investigation of Gravin Gene Expression in Patients with Lung Cancer"
	OP-025: Meltem GUNGOR "Protective Effect of Coenzyme Q10 on Distant Tissue (Kidney) Injury Induced by Liver Ischemia Reperfusion"
	OP-026: Mahmut AY "Diagnostic Values Of Netrin-1 Levels In Patients with Panic Disorder"
	OP-027: Erkan ONER "Raftlin And NADPH Oxidase-1 Levels In Patients With Basal Cell Carcinoma"
	OP-028: Hasan ULUSAL "Investigation of The Effect of Magnetic Nanoparticles Targeted with Folic Acid on the Cytotoxicity of Idarubicin"
	OP-029: Murat KIRECCI "Methicillin-Resistant Staphylococcus Aureus: A Docking-Based Virtual Screening and Molecular Dynamics Simulation Study to Identify a Potential Penicillin-Binding Protein 2a Inhibitor of Hyperoside"
	OP-030: Saniye Basak OKTAY "Serum Vitamin And Mineral Levels in Pediatric Patiens With Upper Respiratory Tract Infections"
	OP-031: Onur ATAHAN "Investigation of The Relationship Between YKL-40, Nitric Oxide, Vascular Endothelial Growth Factor (VEGF) in Metabolic Syndrome"
18:30-19:30	DINNER BREAK
	27 November 2022
	Chairpersons: Serap YALIN, Velid UNSAL
	OP-032: Ilter DEMIRHAN "Raftlin and 8-iso-Prostaglandin F2α Levels in Patients With Modic Changes"
	OP-033: Abdussamat GUZEL "Antioxidant Activity And Enzyme Inhibition Of Mountain Mint (CYCLOTRICHIUM NIVEUM L)."
	OP-034: Yılmaz UĞUR "Investigation of Antioxidant Capacity And Enzyme Inhibition Effects Of Urtica Dioica"
	OP-035: Ahmet YALTIR "Investigation of Anticancerous Peptide-1 Carbonic Anhidrase IX Structure by Protein-Petide Docking Method:in Silico Study"
	OP-036 Seyda Kolgeli "Investigation Of Berberine And Its Derivatives In The Structure Of Drug-Resistant HIV-1 Protease By Molecular Docking Method"
10:00-10:15	COFFEE BREAK/POSTER VISITING
10:15-11:15	Keynote5:
	Chairpersons: Mehmet TARAKCIOGLU, Unal OZTURK
	Tugba TASKIN TOK "Molecular Modeling: Current and Future Perspectives"
11:15-12:00	ORAL/POSTER PAPERS AWARDS CLOSING
12:00-13:00	Lunck Break

13:00-17:00



Kahramanmaras Trip



In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022



INVITED SPEAKERS ABSTRACTS

IS-1: Halef Okan DOGAN "Therapeutic Drug Monitoring and Interpretation of Results"

IS-2: Hamit Hakan ALP "Biological Variation and Its Use in the Clinical Laboratory"

IS-3: Serkan BOLAT "Artificial Intelligence Applications in the Medical Laboratory"

IS-4: Aydın AKTAS "Importance Of Organic Synthesis and Pharmacophore Properties of N-Heterocyclic Carbene Precursors"

IS-5: Tugba TASKIN TOK "Molecular Modeling: Current and Future Perspectives"

IS-6: Velid UNSAL "Role of TNF-α in Metabolic Diseases"

INVITED SPEAKERS ABSTRACTS

IS-001

THERAPEUTIC DRUG MONITORING AND INTERPRETATION OF RESULTS

Halef Okan Dogan

Sivas Cumhuriyet University, Medical Faculty, Department of Biochemistry, Sivas, Türkiye

Therapeutic drug monitoring (TDM) is defined as obtaining information that may affect the dose of the drug during treatment. This process includes test order, sampling, measuring the drug level, and interpreting the result. In order to monitor the level of a drug, therapeutic range must be well defined, drug level must vary between individuals, and there must be a relationship between dose and clinical findings. Immune methods, point-of-care tests and mass spectrometry can be used as analytical methods. The preanalytical phase needs to be well standardized, as the results may be affected by preanalytical factors such as hemolysis, lipemia, icterus, age, pregnancy, and gender. In addition, preclinical and clinical data should be considered when interpreting the results.

IS-002

BIOLOGICAL VARIATION AND ITS USE IN THE CLINICAL LABORATORY

Hamit Hakan Alp Van Yüzüncü Yıl University, Faculty of Medicine, Department of Biochemistry. Van/Türkiye

Analytes measured in clinical chemistry laboratories have three main sources of variation: i) Preanalytical, ii) Analytical, and iii) Biological variation. Biological variation (BV) is defined as the normal physiological fluctuation of biomolecules around a homeostatic set point over time. BV consists of two components, within-subject (CVI) and between-subject (CVG) variation. CVI and CV_G can be calculated with studies designed to minimize preanalytical variation. In addition, CV1 and CVG data obtained from previous studies and meta-analyses are constantly updated in the European Federation Clinical Chemistry and Laboratory Medicine (EFLM) BV database and presented to users. The individuality index obtained by dividing the CV_I by the CV_G is used to evaluate the usefulness of the population-based reference range. The reference change value (RCV), calculated using CV_I and analytical variation, can be used to evaluate consecutive results for an individual. In addition, data on biological variation are used in many areas such as determining analytical performance specifications, determining the number of samples needed to estimate the homeostatic set point, and calculating delta check.

In this presentation, it is aimed to convey how to obtain BV data and its usage areas in clinical laboratories.

The importance of producing BV data and using existing data is increasing daily due to the wide range of usage areas and providing new approaches in the clinical chemistry laboratory. For this reason, it is important to create BV studies and reliable data and to understand the usage areas in the clinical chemistry laboratory.

IS-003

ARTIFICIAL INTELLIGENCE APPLICATIONS IN THE MEDICAL LABORATORY

Serkan Bolat

Sivas Cumhuriyet University, Medical Faculty, Department of Biochemistry, Sivas, Türkiye

Healthcare services are carried out in cooperation with a large team. The greatest support for medical decisions is provided to clinicians by the clinical laboratory, radiology, and pathology reports. Easy access to healthcare services, an increasing number of patients and defensive medical approaches increase the responsibility of the clinician. This situation is reflected in the laboratory services as the increasing number of test requests. The development of technology and automation meets the increasing quality and speed needs of laboratories. Despite many clinicians in the hospital, however, there are a limited number of laboratory specialists who control all laboratory processes. The COVID-19 pandemic has dramatically demonstrated the need for laboratory services. In addition, this momentum should be maintained by making laboratory consultations more effective. Using artificial intelligence (AI) applications will provide more time for these activities. AI is basically various software or algorithms that can mimic the human brain. In many ways, these systems have been incorporated into preanalytical, analytical, and postanalytical laboratory processes, and their scope will increase. The most basic laboratory use of artificial intelligence is image recognition technologies that classify cells in urine microscopy. Later, in addition to radiology and pathology, it was used in clinical fields such as ophthalmology, cardiology, and dermatology. In addition, hemogram analyzers can offer many preliminary diagnoses to the clinician with their own algorithms. In clinical laboratories, reflex test requests can be created with some relatively easy algorithms. However, too many algorithms are required to verify or interpret the test results such as the accuracy of preliminary diagnosis information obtained from laboratory information systems (LIS), and the follow-up of the analytical and post-analytic process by the software. The biggest challenge of using AI in laboratory is the adaptation of LIS. The inability of existing LIS to keep up with these developments has provided new markets for IVD company solutions such as auto-verification, laboratory management, or clinical decision support systems. The main purpose of these developments, which are the stages of progress toward digital transformation in healthcare, is to improve healthcare services. The rapid adaptation of medical laboratories to this transformation will be a milestone for the future of our profession.

IS-004

IMPORTANCE OF ORGANIC SYNTHESIS AND PHARMACOPHORE PROPERTIES OF N-HETEROCYCLIC CARBENE PRECURSORS

Aydın Aktas

Vocational School of Health Service, Inonu University, 44280-Malatya, Türkiye

The chemical industry is one that manufactures and exchanges goods using synthetic or natural raw materials to satisfy consumer and industry demand. This industry creates a wide range of goods, including fertilizers and pesticides for farmers, fibers and synthetic dyes for the textile industry, pharmaceuticals for the healthcare industry, artificial sweeteners for food and beverages, beauty products for the cosmetics industry, plastics for packaging, and synthetic rubber for the automotive sector.

Chemists' interest in diverse organic compounds has recently increased. The most prominent of these compounds are carbenes, one of the significant ligands. Carbenes are covalently linked to two nearby groups and are neutral entities with six electrons in their valence shell . They are also frequently utilized, highly reactive, and transient intermediates in organic synthesis. In 1968, Wanzlick and Öfele independently published the first uses of NHCs as ligands in transition metal chemistry. Arduengo et al. isolated, deposited, and demonstrated the hypersensitivity of the N-heterocyclic carbene (NHC) crystal IAD in 1991. N-heterocyclic carbenes are the carbenes produced by applying Arduengo's research on free carbenes to nitrogen rings (NHC). In the years that followed, fascinating investigations on stable carbenes, including acyclic carbenes and stable NHCs, were published. Because they are tightly coordinated with metals that have strong -donor and weak -acceptor characteristics, NHCs do not easily depart from the metal center.



In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

The catalytic activity in chemical processes have garnered interest because of the potent metal-ligand connection and high electron density of NHCs. Nearly all transition metals in the periodic table can be complexed using NHCs because they can be electrically and sterically adjusted. Numerous chemists recently reported investigations on the biological actions of NHC precursors, including our working group.

As a result, new synthetic techniques are used to create novel drug-active compounds, which have lower toxicity, more selectivity, fewer adverse effects, and less resistance. Pharmacol characteristics are very significant. As a result, organic synthesis is becoming more and more significant. Important chemical molecules with pharmacophore characteristics include NHC precursors. These characteristics give organic and organometallic compounds a significant place in the chemical market. Future times will bring about fresh developments in this area.

IS-005 MOLECULAR MODELING: CURRENT AND FUTURE

PERSPECTIVES

Tugba TASKIN-TOK^{1,2}

¹Gaziantep University, Faculty of Arts and Sciences, Chemistry Department, Turkey

²Gaziantep University, Institute of Health Sciences, Bioinformatics and Computational Biology Department, Turkey

As a result of rapid developments in information technology, values in the world are changing rapidly. Nowadays, in the world, purpose and knowledge have begun to replace instead of capital, labor and raw materials as valuable items. Health and medicine topics, are prone to research in science and technology fields, are within the scope of future vision and socio-economic goals. However, the costs of high-tech products in the health field are increasing and alternatives are sought for drug design and treatment methods based on the rapid development of technology. In this condition, innovative drugs and rational treatments in the pharmaceutical industry will help prevent effectively diseases, besides reduce treatment costs.

Modeling and simulation technology is an indispensable part of modern rational drug design. It is possible to talk about many different methods, software and approaches that have been used successfully in this field. Although the approaches differ, the main parts in drug design: 1. the interaction of drug with target, 2. the interaction of drug with its environment, 3. the characterization of drug in an isolated environment. Moreover, drug repositioning approaches do not require long-term preclinical studies of the molecules and therefore make excellent candidates in state of epidemics. Recently, the use of machine learning approaches facilitates shorter and more accurate selections in identifying these candidates.

To save both time and the costs of tests costing today, computer aided drug design studies have accelerated in recent years, with target-based and ligand-based drug designs, as well as virtual screening studies.

Keywords: Molecular Modeling and Simulation Technology, Drug Design and Development, Artificial Intelligence.

IS-006 ROLE OF TNF-a IN METABOLIC DISEASES

Velid Unsal

Department of Nutrition and Dietetics, Faculty of Health Sciences, Mardin Artuklu University, Mardin, Turkey

Metabolic diseases occur due to problems with the conversion of proteins, carbohydrates and fatty acids. Metabolic diseases include obesity, insulin resistance, hyperglycemia, insulin resistance, thyroid, goiter, dyslipidemia, hypertriglyceridemia, hypertension. Tumor necrosis factor (TNF- α) was identified as the first of the proinflammatory cytokines as well as the first adipokine to contribute to metabolic diseases. TNF-a plays an important role in the pathogenesis

of many inflammatory diseases. It is the first cytokine that can be detected in the blood after tissue damage or physical stress. In addition, its role in metabolic diseases has attracted attention in recent years. TNF- α impairs insulin action and glucose metabolism. Clinical studies have established a clear positive association between TNF- α levels and the risk of type 2 diabetes (T2D). There is evidence for the pathogenic roles of TNF- α in non-alcoholic fatty liver disease. Preclinical studies in mouse models of atherosclerosis provide convincing evidence for the pathogenic involvement of TNF- α . TNF- α is a protein with therapeutic potential. In order to eliminate the effects of TNF- α , there are specific anti-TNF drugs in clinical use today. There is convincing evidence on glucose metabolism, insulin resistance, adipose tissue, hyperglycemia of anti-TNF- α therapies. In Conclusions, TNF- α has an important role in metabolic diseases. The therapeutic consumption of TNF- α and its emergence as a metabolic messenger in metabolic diseases seems to be an important consideration.

Keywords: TNF-a, Metabolic Diseases, Adipokine

ORAL PRESENTATION LIST

OP-001: Ozlem NAKIS BOZKUS "Evaluation of GPER-1 Levels in Patients With Subclinical Hyperthyroidisim"

OP-002: Busra CITIL DEMIRCI "Elevated Neutrophil-to-Lymphocyte Ratio in Patients with Melasma"

OP-003: Ahmet Nedim KADIFECI "The Effect of Hesperidin on GPER-1 Levels in an Experimental Heart Ischemia Reperfusion Model"

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OP-011: Suheyla OZYURT "NADPH Oxidase-1 And Nitrosative Stress Levels in Patients With Nonsyndromic Cleft Lip With/Without Cleft Palate

OP-012: Unal OZTURK "Evaluation Of Plasma Raftlin Levels In Coronary Artery Diseases: Preliminary Study"

OP-013: Meral OZSIN "Evaluation of Pentraxin-3, IL-6 and TNF-alpha Levels in Patients With Obstructive Sleep"

OP-014: Hatice KOPAR "Elevation of Neutrophil and Lymphocyte Ratio in Patients with Generalized Anxiety Disorder"

OP-015: Figen GUZELGUL "Assosication of Uncoupling Protein 1 (UCP 1)) Gene Polymorrphism With Breast Cancer"

OP-016: Ali Furkan UCAR "Can Some Antiviral Compounds be Target in the Sars Cov-2 Mpro Structure?In Slilico Study

OP-017: Sabahat OZKAN "Investigation of Curcuma Longa P53 Structure by Molecular Docking Method"

In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

OP-018: Emin YAGMUR "Investigation of Pinosembrin, a Bioactive Compound in Propolis, in Cardiovascular Diseases by Molecular Docking Method: In Silico Study"

OP-019: Onur HURSITOGLU "Diagnostic Performance of Increased Beta Arrestin-2 Level in PAtients with Schizophrenia"

OP-020: Nesibe KARABACAK "Investigation of Omentin-1, Interleukin10 and Interleukin13 Levels in Patients with Diabetes Mellitus and Hypertension"

OP-021: Gonul Seyda SEYDEL "The Relationship Between Inflammation Parameters and the SYNTAX Score in Patients with Acute Coronary Syndrome"

OP-022: Emrah AKSAN "Protective Effects of Iloprost On Ischemia-Reperfusion Injury of the Ovary in a Rat Model"

OP-023: Merih AKKAPULU "Investigation of the Effect of Cobalt Oxide Nanoparticles on Inflammation and Oxidative Stress"

OP-024: Pelin EROGLU "Investigation of Gravin Gene Expression in Patients with Lung Cancer"

OP-025: Meltem GUNGOR "Protective Effect of Coenzyme Q10 on Distant Tissue (Kidney) Injury Induced by Liver Ischemia Reperfusion"

OP-026: Mahmut AY "Diagnostic Values Of Netrin-1 Levels In Patients with Panic Disorder"

OP-027: Erkan ONER "Raftlin And NADPH Oxidase-1 Levels In Patients With Basal Cell Carcinoma"

OP-028: Hasan ULUSAL "Investigation of The Effect of Magnetic Nanoparticles Targeted with Folic Acid on the Cytotoxicity of Idarubicin"

OP-029: Murat KIRECCI "Methicillin-Resistant Staphylococcus Aureus: A Docking-Based Virtual Screening and Molecular Dynamics Simulation Study to Identify a Potential Penicillin-Binding Protein 2a Inhibitor of Hyperoside"

OP-030: Saniye Basak OKTAY "Serum Vitamin And Mineral Levels in Pediatric Patiens With Upper Respiratory Tract Infections"

OP-031: Onur ATAHAN "Investigation of The Relationship Between YKL-40, Nitric Oxide, Vascular Endothelial Growth Factor (VEGF) in Metabolic Syndrome"

OP-032: Ilter DEMIRHAN "Raftlin and 8-iso-Prostaglandin F2 α Levels in Patients With Modic Changes"

OP-033: Abdussamat GUZEL "Relationship Between Phenolic Content Determined By Lc-Ms/Ms and Antioxidant Capacity and Enzyme Inhibition of Cyclotrichium Niveum L."

OP-034: Yılmaz UGUR "Determination Of Phytochemical Content By Lc-Ms/ Ms, Investigation of Antioxidant Capacity, and Enzyme Inhibition Effects of Urtica Dioica"

OP-035: Ahmet YALTIR "Investigation of Anticancerous Peptide-1 Carbonic Anhidrase IX Structure by Protein-Petide Docking Method:in Silico Study"

ORAL PRESENTATIONS

OP-001

EVALUATION OF G-PROTEIN COUPLED ESTROGEN RECEPTOR 1 LEVELS IN PATIENTS WITH SUBCLINICAL HYPERTHYROIDISM

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Objective: Estrogen functions through the estrogen receptors alpha and beta and the recently discovered G-protein-coupled estrogen receptor-1 (GPER-1). It is known a role of estrogen in the pathogenesis of thyroid diseases. Estrogen receptors are present in both normal and neoplastic thyroid tissues. The aim of this study was to evaluate serum GPER-1 levels in patients with subclinical hyperthyroidism (SH).

Methods: Thirty women and 29 men having endogenous subclinical hyperthyroidism for a duration of at least 6 months, and 25 women and 27 men healthy controls were included in this study. GPER-1 levels in serum samples were measured by ELISA.

Results: GPER-1 levels in patients with subclinical hyperthyroidism were found to be higher than controls (p<0.05). A statistically significant difference was determined between genders with GPER-1 level of 0.46 (0.34-0.58) ng/mL in the male SH patient group and 0.34 (0.25-0.39) ng/mL in the female patient group (p = 0.022). Differential diagnosis with ROC analysis for the serum GPER-1 levels was statistically significant [Area under the ROC curve (AUC): 0.973, confidence interval, CI 0.972-1.000, p < 0.001].

Conclusions: The association between GPER-1 and TSH may affect thyroid function due to influence of estradiol in patients having subclinical hyperthyroidism. GPER-1 has high sensitivity and specificity, it could be considered important in the diagnosis and treatment of subclinical hyperthyroidism.

Keywords: Subclinical Hyperthyroidism, GPER-1, ROC Analysis

OP-002

ELEVATED NEUTROPHIL-TO-LYMPHOCYTE RATIO IN PATIENTS WITH MELASMA

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In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022



Objective: Melasma is a chronic dermatologic condition with an incompletely understood pathogenesis and well-demonstrated impact on patient quality of life. Melasma is a common cause for seeking dermatologic care, and with no universally efficacious therapy or cure combination treatment is the best approach for many cases. Neutrophil/lymphocyte ratio (NLR) and platelet/ lymphocyte ratio (PLR) are inexpensive and potentially interesting biomarkers of inflammation. In this cross-sectional, we investigated the relationship between NLR, PLR and Melasma.

Methods: A hundred patients with melasma and 80 healthy volunteers were included in the study. The diagnosis was made clinically and the patients were evaluated by Melasma Area Severity Index. All participants' age, gender, body mass index, Fitzpatrick skin type, drug history, previous melasma treatment, smoking, presence of additional disease, number of pregnancies were recorded.

Results: The mean of NLR and PLR were significantly higher in patients than in controls (p<0.05). The mean rate of NLR and PLR in male was higher (72.9%) than female (27.1%) in the AGA. Furthermore, no associations were found between NLR and PLR and Melasma symptom severity.

Conclusions: Our findings suggest that high NLR and PLR in these patients may exist of an inflammation. Moreover, the alterations in NLR and PLR and other pro-inflammatory cytokines following Melasma treatment may provide additional information about the inflammatory mechanisms in Melasma.

Keywords: Melasma, Inflammation, Neutrophil-to-lymphocyte Ratio, Platelet-to-lymphocyteRatio.

OP-003

THE EFFECT OF HESPERIDIN ON G PROTEIN-COUPLED ESTROGEN RECEPTOR-1 LEVELS IN AN EXPERIMENTAL HEART ISCHEMIA REPERFUSION MODEL

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Objective: It was aimed to determine the effects of Hesperidin (HESP) on G protein-coupled estrogen receptor-1 (GPER-1) levels in an experimental heart ischemia reperfusion model.

Methods: In the study, 30 Wistar albino male rats weighing 250-300 g were divided into 3 groups as Control (C), Ischemia/reperfusion (I/R) and I/R+HESP groups. Before ischemia was induced in the IR+HESP group, 0.5mL HESP was administered at a dose of 100mg/kg 3 times with 8-hour intervals by gastric gavegig albe through that disting the logical of HESP on cardiac ischemia-reperfusion injury were

Results: We observed statistically significant differences between the treatment group and the control group in terms of GPER-1 levels (p<0.05). His-topathologically, we also observed decreased Polymorphonuclear Leucocyte (PMNL) infiltration, myocardial ede¬ma, miyositolysis in the treatment group compared to the I/R and sham groups.

Conclusions: HESP may play an important role in cardiac I/R injury through **in**sti-inflammatory and antioxidant effects which were biochem-ically and histopathologically confirmed in the present study.

Keywords: Hesperidin, Ischemia/reperfusion Injury, Heart, GPER-1

OP-004

DETERMINATION OF CANDIDA SPECIES BY REAL TIME PCR

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Objective: Candida infections are one of the most important fungal infections especially affecting people with low immunity. These infections are most commonly caused by Candida albicans. There are six types of Candida (Candida albicans, Candida glabrata, Candida krusei, Candida dupliniensis, Candida tropicalis and Candida parpsilosis) that are common in patients. Determination of Candida species in a short time and accurately in infected patients is important in terms of treatment, incidence and markers. The aim of this study is to develop a new method for the detection of medically important and common Candida species by HRMA based on Real Time Polymerase Chain Reaction (RT-PCR).

Methods: Candida albicans, Candida glabrata, Candida krusei, Candida dupliniensis, Candida tropicalis and Candida parpsilosis reference strains were inoculated in Sabouraud dextrose medium and incubated at 370C for 2 days. DNA was isolated to be used in RT-PCR by taking 50 mg from the colonies. Saliva samples were taken from five healthy individuals and the same procedure was performed with reference strains. Genomic DNA was isolated for species identification in 3 of these fungi. We established the high-resolution melting point analysis (HRMA) method after amplification with Real Time PCR to determine the difference of Candida species.

Findings: Identification of Candida species was done successfully. This method allowed us to see that 3 Candida species gave melting points at different temperatures by PCR.

Conclusions: Differentiation and identification of Candida species takes a long time with traditional methods. Same day analysis of DNA samples is a fast, simple and inexpensive method with Real-time PCR-HRMA. Rapid identification of the infected Candida species is vital for treatment.

Keywords: Candida Species, Real Time PCR, HRMA Analysis

OP-005

ROLE OF RAFTLIN IN MELASMA: A CROSS SECTIONAL STUDY

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Objective: Melasma is a chronic dermatologic condition with an incompletely understood pathogenesis and well-demonstrated impact on patient quality of life. Raftlin, as an inflammatory biomarker and its importance in many diseases has been investigated in recent years. In this study we aimed to investigate the role of Raftlin in etiopathogenesis of melasma.

Methods: Forty patients with melasma and 40 healthy controls were included in the study. All participants' age, gender, BMI, Fitzpatrick skin type, drug history, previous melasma treatment, smoking, melasma surface severity index (MASI), presence of additional disease, number of pregnancies were recorded. The blood were taken from patients and controls, and Raftlin levels in plasma samples were measured by ELISA method using a commercial kit.

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Results: There was no difference in gender between the groups (p>0.05). Patients had higher BMI and darker skin type. The mean number of pregnancies in the patient group was higher. The Raftlin level was significantly higher in the group with melasma than controls (p<0.05). While plasma Raftlin level was not associated with smoking and gender, it was negatively correlated with BMI, age, number of pregnancies and MASI (r= -0,245, p>0.05). A positive correlation was found between Raftlin levels and severity of melasma (modified MASI score (r=0,865, p>0.05)

Conclusions: The results indicate that Raftlin was associated with oxidative stress. Furthermore, Raftlin may use as an inflammatory biomarker for melasma.

Keywords: Raftlin, Melasma, Melasma Surface Severity Index.

OP-006

EVALUATION OF THE RELATIONSHIP BETWEEN OXIDATIVE STRESS AND RAFTLIN LEVELS IN WOMEN WITH POSTMENOPOSAL OSTEOPOROSIS

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Objectives: Postmenopausal osteoporosis is a disease in which the tendency to fracture in bones increases due to decreased bone mineral density. Oxidative stress is an important risk factor for osteoporosis. Raftlin also plays an important role in inducing the autoimmune response and the vascular inflammatory response. Inflammatory mediators induce sustained synthesis and secretion. As far as we know, although there are studies on antioxidant enzyme activities (superoxide dismutase and catalase) and oxidative stress markers (malondialdehyde) in the literature, there is no study comparing the levels of Raftlin, which is known to play a role in the vascular endothelial response, and oxidative stress levels in postmenopausal osteoporosis patients. The aim of this study is to compare the oxidative stress and the control group, and to compare the levels of Raftlin, a new biomarker in inflammatory diseases, between the two groups.

Methods: Between January 2020 and September 2021, among 40 postmenopausal women with and without osteoporosis, and 30 healthy controls; bone mineral density, routine laboratory tests, 25-hydroxyvitamin D3, raftlin and antioxidant enzyme activities (catalase, superoxide dismutase) and malondialdehyde levels were measured. While antioxidant enzyme activities and malondialdehyde levels were measured by spectrophotometric method, Raftlin levels were measured in ELISA device with commercial kits. Results: Raftlin and Malondialdehyde levels were significantly increased in both postmenopausal groups (p<0.05), while antioxidant enzyme activities (superoxide dismutase and catalase) were significantly decreased (p<0.05). The lowest antioxidant enzyme activity and the highest malondialdehyde and raftlin levels were found in postmenopausal osteoporosis patients (p<0.05). Moreover, a positive correlation was found between raftlin levels and malondialdehyde levels (r=0.395,p<0.001).

Conclusions: These results show a relationship between osteoporosis and oxidative stress. It is thought that free oxygen radical production increases excessively in both postmenopausal groups, and accordingly, antioxidant enzyme activities decrease and malondialdehyde and raftlin levels increase. In addition, Raftlin, a new marker, may be an important parameter in determining the prognostic process of groups with postmenopausal osteoporosis.

Keywords: Raftlin; Oxidative Stress; Postmenopause; Osteoporosis



OP-007

AN EVALUATIN OF BETA-ARRESTIN-2 LEVELS IN CHILDREN-WHO-STUTTER

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Objectives: Stuttering is common among young children as a normal part of learning to speak. Although there has been much research into the cause of stuttering, it has not yet been fully clarified. There is known to be a close relationship between stress severity and stuttering. Up to the now, beta-arrestin-2 (ARRB2) levels have not been published in children-who-stutter. The aim of this study was to evaluate the concentrations of ARRB2 by comparing a stuttering group and a control group. It was also aimed to evaluate the relationship between ARRB2 levels and the severity of the stutter.

Methods: The study included a total of 135 individuals, comprising a study group of 75 and a control group of 60. The severity of the stutter in the patient group was evaluated with the Stuttering Severity Instrument 3 (SSI). Blood samples were taken from both the patient and control groups, and ARRB2 levels were measured by ELISA.

Results: In the stuttering patients, ARRB2 levels were determined to be statistically significantly lower than those of the control group (all p:0.001). In the ROC analysis, there was good diagnostic value for ARRB2, with the area under the curve as 1.0. A direct, positive, statistically significant correlation was determined between SSI points and ARRB2 values (r = 0.542, p = 0.028).

Conclusions: The results of the study showed that ARRB2 levels of the stuttering patients were lower than those of the control group. With 97% sensitivity and specificity, it is thought that ARRB2 in particular could be important for the diagnosis and treatment of these patients. As the severity of the stutter decreased, so there was a decrease in ARRB2, suggesting that ARRB2 is important in stuttering.

Keywords: Beta-arrestin-2, Stuttering, Diagnostic Value

OP-008

INVESTIGATION OF PROPOLIS AGAINST DIABETES BY MOLECULAR DOCKING METHOD

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Objective: Today, molecular modeling is widely used in different fields of scientific research. Especially in medical and pharmaceutical research, molecular modeling saves time and money in the design of new drugs by understanding the interaction between enzymes and inhibitors of disease for possible stable complex formation. Our study is to determine the binding affinity of quercetin, one of the bioactive compounds in propolis, by molecular docking method in the structure of diabetes mellitus.

Methods: Quercetin was taken from PubChem (https:// pubchem.ncbi.nlm.nih.gov). Converted from Open Babel GUI program to pdb format. The protein structure (PDB ID:3IOL) of GLP-1 (Glucagon-like protein-1), a group responsible for diabetes, was obtained from the Protein Data Bank (www.rcsb.org). Modeling work was carried out with Autodock.

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Results: In our study, quercetin compound was tested for the GLP-1 target and it was seen that it could be effective in this target. It seems that the quercetin compound we tried shows good binding ability with a binding energy of -6.7 kcal/mol at the GLP-1 target for diabetes damage.

Conclusions: Quercetin compound is thought to be a compound that can be used in studies for diabetes, since it has good binding affinity for GLP-1, which is the target in diabetes.

Keywords: Diabetes, GLP-1, Quercetin, Molecular Docking

OP-009

EFFECT OF CARDADOM (ELETTARIA CARDAMOMUM) TREATMENT ON TISSUE IRIS LEVELS IN A MODEL OF HEART-ISCHEMIA REPERFUSION DAMAGE

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ABSTRACT

Objective: Severe oxidative stress caused by reperfusion after ischemia causes serious functional and structural damage. In recent years, studies in different organs have shown the protective effects of many antioxidant substances, as well as methods such as ischemic preconditioning against reperfusion-induced damage. Irisin is a new muscle factor that has been discovered in recent years and is associated with metabolic diseases. However, its role in cardiovascular diseases is still controversial. In this study, which was conducted for the first time, it was aimed to investigate the effects of Cardamom (Elettaria Cardamomum) treatment on irisin in the experimentally created cardiac ischemia-reperfusion (I/R) injury model.

Material and Method: A total of 24 adult wistar albino male rats were randomly divided into three groups; I/R group (n=8), sham (n=8) and Cardamom treatment group (n=8). The rats in the Sham and Cardamom groups should be controlled once a day with 1 mL of serum (0.9% NaCl/kg/day and 50 mg/kg/day Cardamom gavage), starting two days before the experiments, while no treatment was applied to the rats in the used ones. After the surgical procedure, 15 minutes of ischemia and 15 minutes of reperfusion were established in the heart.At the end of the experiment, all rats were sacrificed and the presence of irisin in the heart tissue was measured with commercial kits with ELISA device. The histological changes in the heart tissue of all rats were evaluated by hematoxylin-eosin (H&E) staining and light microscopy. Results: At the end of biochemical and histopathological examinations, significant differences were found when sham, I/R and treatment groups were compared with each other. (p<0.05). Irisin levels were found to be lower in the I/R and sham groups compared to the Cardamom treatment group (p<0.05). No statistically significant differences were found between the I/R and sham groups in terms of irisin levels (p>0.05). Histopathologically, PNL infiltration, edema, hemorrhage and myocytolysis were observed in the I/R and sham groups, while only hemorrhage was observed in the Lycopene treatment group.

Conclusions: When the data were analyzed, it was observed that the Irisin levels were higher and the infiltration degree of Polymorph Core Leukocytes was lower in the Cardamom treatment group. This suggests that Cardamom treatment may have a protective effect on cardiac ischemia-reperfusion damage by increasing Irisin levels due to its antioxidant feature.

Keywords: Heart, Ischemia/Reperfusion, Irisin, Cardamom

OP-010

INVESTIGATION OF THE DIAGNOSTIC VALUE OF PRESEPSIN LEVELS IN DRUG-NAIVE PATIENTS WITH GENERALIZED ANXIETY DISORDER

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Objective: Generalized anxiety disorder (GAD) is a prevalent and highly disabling mental health condition; however, there is still much to learn with regard to pertinent biomarkers, as well as diagnosis, made more difficult by the marked and common overlap of GAD with affective and anxiety disorders. Recently, intensive research efforts have focused on GAD, applying neuroimaging, genetic, and blood-based approaches toward discovery of pathogenetic and treatment-related biomarkers. In this paper, we aimed to the investigate the diagnostic value of presepsin levels in drug-naive patients with GAD.

Methods: This study included 85 newly diagnosed drug-naive patients with GAD, aged and gender-matched 55 healthy controls. Medical histories were obtained, and physical examinations and laboratory tests were conducted. Also, the Hamilton Anxiety Rating Scale (HAM-A) was used for all participants. Serum presepsin levels were measured by ELISA.

Results: HAM-A score was significantly higher in GAD patients versus the controls (p < 0.05). While the levels of presepsin in patients with GAD were higher than the controls. A positive significant correlation was observed between the presepsin level and the HAM-A score (r = 0.755, p < 0.001). Receiver operator characteristic curve analysis showed high diagnostic performance for presepsin, areas under curves were 0.905 and 0.928, respectively.

Conclusions: This is the first report to investigate the association between serum presepsin levels in GAD patients. Our findings suggest that increased of presepsin levels may show inflammation in patients with GAD. Furthermore, our results reveal possible diagnostic value of presepsin.

Keywords : Generalized Anxiety Disorder, HAM-A Score, Presepsin,

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OP-011

NADPH OXIDASE-1 AND NITROSATIVE STRESS LEVELS IN PATIENTS WITH NONSYNDROMIC CLEFT LIP WITH/WITHOUT CLEFT PALATE

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Objectives: Nonsyndromic cleft lip with/without cleft palate (NSCL/P) is one of the most common human congenital defects. Reactive nitrogen species act as teratogenic agents, leading, during embryogenesis, to several structural changes in the developing fetus. NADPH oxidase (NOX) enzymes are membrane-bound proteins that catalyze the conversion of oxygen to superoxide. There are a number of isoforms such as NOX-1, NOX-2, NOX-4 and NOX-5 which have diverse functions. Numerous reports have described nitrogen species-mediated congenital defects. The aim of this paper is to determine the NOX-1 and nitrosative status in patients with cleft lip and/or palate.

Methods: Patients with NSCL/P (n = 45 and age- and sex-matched healthy control subjects (n = 30) were enrolled in this study. Nitric oxide (NO) and 3-Nitrotyrosine (3-NTx) concentrations as nitrosative stress biomarker in plasma and were determined as ELISA. Results: Nitrosative stress was confirmed by the significant elevation in NO and 3-NTx concentrations (p<0.05). Besides, increased NOX-1 levels were found in patients with NSCL/P compared with the control group (p<0.05).

Conclusions: Increased NOX-1, NO and 3-NTx concentrations in patients with NSCL/P may indicate the presence of oxidative/nitrosative stress.

Keywords : Nonsyndromic Cleft Lip With/without Cleft Palate, NOX-1, Oxidative/nitrosative Stress

OP-012

EVALUATION OF PLASMA RAFTLIN LEVELS IN CORONARY ARTERY DISEASES: PRELIMINARY STUDY

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Objective: Raftlin is known as lipid rafts which are sphingolipid and cholesterol rich micro-domains of the plasma membrane that coordinate and regulate varieties of signaling processes. Raftlin is also present in cardiac myocytes and are enriched in signaling molecules and ion channel regulatory proteins. It is still uncertain that whether raftlin level is associated with coronary artery disease. The purpose of this study was to explore the relationship between raftlin levels and coronary artery disease.

Methods: In this study, 64 patients (27 women, 37 men) who underwent coronary angiography were divided into 3 groups according to the number of occluded vessels. Group I from those with one occluded vessel (n=21), II. group with occluded two vessels (n=18), and group III consisted of those with occluded three vessels (n=20). The control group consisted of 19 subjects, 12 female and 7 male, with normal coronary angiography results. Blood samples were taken from all subjects, and Raftlin levels in plasma samples were measured by ELISA.

Results: In these case-control study, Raftlin levels were higher in coronary artery disease patients compared with healthy controls (p<0.05). Furthermore, there was a relation to raftlin levels and number of vascular occlusions. It was observed that the raftlin level increased as the number of vascular occlusions increased (p<0.05).

Conclusions: This study confirmed that Raftlin levels were significantly higher in patients with coronary artery disease. Morever, Raftlin may play a role in the pathogenesis of coronary artery disease.

Keywords: Coronary Artery Disease, Raftlin, Lipid Rafts

OP-013

EVALUATION OF PENTRAXIN-3, IL-6 AND TNF-- α LEVELS IN PATIENTS WITH OBSTRUCTIVE SLEEP

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Abstract

Objective: Pentraxin 3 (PTX3) is an acute phase protein that is produced rapidly at local sites of inflammation by macrophages, neutrophils, dendritic cells, fibroblasts, and other cell types in response to IL-1 and TNF- α . PTX3 levels have not been previously examined in patients with obstructive sleep apnea (OSA). Our study aimed to evaluate the changes in PTX3, interleukin-6 (IL-6) and tumor necrosis factor alpha (TNF- α) values from the preoperative state to the third month postoperatively in patients undergoing expansion sphincter pharyngoplasty for OSA.

Material and Methods: Of 120 patients, 50 patients had mild OSA (AHI 5-14), 50 moderate (AHI 15-29), 50 severe (AHI \ge 30), and 50 with AHI < 5 formed a control group. Preoperatively and at 3 months post-operatively, IL-6, TNF- α , and PTX3 values were measured by ELISA.

Results: Preoperatively, mean PTX3 levels were 1.86 ± 0.25 pg/mL for controls, 2.02 ± 0.38 pg/mL in mild, 3.77 ± 0.92 pg/mL in moderate, and 4.55 ± 1.38 pg/mL in severe groups, with moderate and severe groups significantly elevated compared to controls (p<0.001). Preoperatively to 3 months post-operatively, PTX3 levels decreased significantly in each OSA group (p<0.05). Levels of IL-6 and TNF- α followed similar patterns at baseline and after surgical intervention.

Conclusions: PTX3 levels at the third postoperative month decreased significantly compared with preoperative levels in parallel with other markers of inflammation.

Keywords: Interleukin-6, Obstructive SleepApnea, PTX3, Tumor Necrosis Factor Alpha.

OP-014

ELEVATED NEUTROPHIL-TO-LYMPHOCYTE RATIO IN PATIENTS WITH GENERALIZED ANXIETY DISORDER

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Methods: This study consisted of 120 person with GAD (85 of those receiving psychopharmacological treatment), and 105 physically and mentally healthy children.

Results: The mean NLR and PLR were significantly higher in patients than in controls. There was no significant difference between patients who received psychopharmacological treatment for GAD and patient that did not with regard

to NLR and PLR. No associations were found between NLR and PLR and GAD symptom severity. The significance of NLR is not influenced by medication use, age and sex.

Conclusions: Our findings suggest that NLR and PLR may be inflammation biomarkers in people with GAD. Moreover, the significance of NLR is not influenced by medication use, age and sex. Prospective studies that address alterations in NLR and PLR and other pro-inflammatory cytokines following GAD treatment may provide additional information about the inflammatory mechanisms in GAD.

Keywords: GAD, Inflammation, Neutrophil-to-lymphocyte Ratio, Plateletto-lymphocyte Ratio.

OP-015

THE RELATIONSHIP OF UNCOUPLING PROTEIN 1 (UCP 1) GENE POLYMOPHISM AND BREAST CANCER

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Objective: Breast cancer development, the most common cancer in women globally, is affected by age, hormones, obesity, genetic changes, and oxidative stress. It was reported that uncoupling proteins(UCPs) in the inner mitochondrial membrane function in metabolic and energy balance regulations, and reactive oxygen species (ROS) production reduction. By determining the UCP1-3826 A>G mutation incidence in breast cancer, we aim to investigate the mutation contribution to cancer formation.

Methods: 1st group, patients diagnosed with breast cancer applied to Tokat Gaziosmanpasa University Medical Genetics

Department(n=16), 2nd group with familial cancer risk (n=8) and the 3rd was control group (n=12). Previously collected blood was used. DNAs were isolated and gene polymorphism was performed using PCR-RFLP. WinPepi was used for statistical analysis, and p \leq 0.05 was considered significant. Results: The mean age was, 1st group 45.25 ± 11.13, 2nd group 41.7±10.2, and 3rd group 36.75±7.6. According to gene polymorphism results, 12 cases of 1st group had GG(n=4), AG(n=8) and AA(n=4) genotypes, 8 cases of 2nd group had AG(n=4) and AA (n=8) genotypes. Accordingly, 75% of breast cancer cases, 16.6% of familial risk group and 25% of control group were found to have the G allele. Statistically significant differences were observed between 1st and 2nd groups (p=0000), 1st and 3rd groups (p=0.007), and 2nd and 3rd groups (p=0.05).

Conclusions: According to our results, it is thought that UCP1-3826 A>G mutation incidence is high in cancer cases which may have a role in cancer development.

Keywords: Cancer, UCP1, Gene Polymorphism

OP-016

CAN SOME ANTIVIRAL COMPOUNDS BE TARGET IN THE SARS COV 2 MPRO STRUCTURE? WORKING IN SILICO

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Objective: COVID-19 has emerged as the deadliest pathogen the world has faced after the Spanish flu. Due to its novelty, the study of the Sars cov-2 genome is complex and studies to control this virus have gained importance. However, due to the new nature and structure of the virus, it was thought that research should be done with computer aided drug design programs, faster and more time should be gained. We conducted a computer-assisted drug arbitrary study against the protein involved in the mechanism of action of Sars cov-2. This study aimed to investigate some antiviral compounds against SARS-CoV-2 main protease (MPro) using in silico methods.

Methods: Antiviral compounds oseltamivir, zanamivir and idoxuridine were obtained from PubChem database. Compounds were inserted into the active site of the SARS-CoV-2 MPro receptor with PDB ID:6LU7. Molecular docking study was done with Autodock program.

Results: Molecular docking results were found as oseltamivir -5.8 kcal/mol, zanamivir -6.5 kcal/mol and idoxridine -5.6 kcal/mol.

Conclusions: Due to the good binding affinity of the Zanamivir compound on the target Sars Cov-2 Mpro, it is thought that it may show a good inhibitory property in this target.

Keywords: Sars Cov-2 Mpro, Antiviral, Molecular Docking

OP-017

INVESTIGATION OF CURCUMA LONGA PROTEIN 53 STRUCTURE BY MOLECULAR DOCKING METHOD

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Objectives: It is the determination of the binding affinity of the curcimin bioactive compound in the p53 structure of Curcuma Longa, which is very preferred today. In addition, it is aimed to use natural compounds as an alternative to the negative side effects of drugs used in cancer.

Methods: Curcumin is from PubChem(https:// pubchem.ncbi.nlm.nih.gov). Converted from Open Babel GUI program to pdb

format. crystal structure was obtained from the Protein Data Bank (www.rcsb.org). Modeling work was carried out with Autodock.

Results: In our research, the curcumin compound was tested for the target of p53, which is the apoptosis protein, and it was seen that it could be effective in this target. It is seen that the curcumin compound we tried shows a strong binding ability with a binding energy of -8.2 kcal/mol on the p53 target, which is the apoptosis protein.

Conclusions: In summary, it is thought that the Curcumin compound may work in cancer cell lines due to its good binding affinity for the target apoptosis protein p53.

Keywords: Apoptosis, p53, Curcumin, Molecular Docking, Cancer

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OP-018

INVESTIGATION OF PINOSEMBRIN, A BIOACTIVE COMPOUND IN PROPOLIS, IN CARDIOVASCULAR DISEASES BY MOLECULAR DOCKING METHOD: IN SILICO STUDY

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Objectives: Cardiovascular diseases (CVD) are the leading cause of death globally, with an estimated 17.9 million deaths annually. For this reason, there is a need for the development of new drugs. Our study is to determine the binding affinity of pinosembrin, one of the bioactive compounds in propolis in cardiovascular disease structure, by molecular docking method. It also contributes to the development of cardiovascular drugs.

Methods: Pinosembrin was taken from PubChem (https://

pubchem.ncbi.nlm.nih.gov). Converted from Open Babel GUI program to pdb format. Crystal structures of myocardial infarction (PDB ID:4DLI), coronary artery disease (PDB ID:1B09), and atherosclerosis (PDB ID:4YAY) responsible for the cardiovascular target were obtained from the Protein Data Bank (www.rcsb.org). Modeling work was carried out with Autodock.

Results: In our study, pinosembrin compound was tested for the target of cardiovascular diseases and it was seen that it could be effective in this target. It is seen that the pinosembrin compound we tested showed a strong binding ability with binding energies of -9.6, 7.9 and -8.3 kcal/mol, respectively, at the target of myocardial infarction, coronary artery and atherosclerosis.

Conclusions: Pinosembrin is thought to be a compound that can be used in studies with cardiovascular diseases due to its good binding affinity in target myocardial infarction, coronary artery and atherosclerosis structures.

Keywords: Cardiovascular Diseases, Myocardial Infarction, Coronary Artery, Atherosclerosis, Molecular Docking

OP-19

DIAGNOSTIC PERFORMANCE OF INCREASED BETA ARRESTIN-2 LEVEL IN PATIENTS WITH SCHIZOPHRENIA

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Objective: Schizophrenia is typically diagnosed through interviews with patients and their relatives. Thus, molecular biomarkers for this mental illness have recently become a hot topic for research. Beta-arrestin-2, also known as arrestin beta-2, is an intracellular protein that in humans is encoded by the ARRB2 gene. Beta Arrestin-2 has been investigated in schizophrenia; however, no studies has been conducted on the diagnostic performance of Beta Arrestin-2 and to determine the diagnostic performance of Beta Arrestin-2 and to determine the diagnostic performance of Beta Arrestin-2 and to determine the diagnostic performance of Beta Arrestin-2 in patients with schizophrenia.

Methods: Fifty patients with schizophrenia and 50 healthy gender– and agematched controls were included in our study. Symptom severity in the patient group was rated using the Positive and Negative Syndrome Scale (PANSS). The bloods were taken from patients and control groups, and Beta Arrestin-2 levels in serum samples were measured by ELISA. **Results:** The serum levels of Beta Arrestin-2 were found to be significantly increased in patients with schizophrenia compared to the controls (p<0.05). A receiver operating characteristic curve showed a cut-off point of 72.25 pg/ml for the Beta Arrestin-2 diagnostic measure. No significant correlation was found between Beta Arrestin-2 level and PANSS scores or the chlorpromazine equivalent and clinical characteristics (p>0.05).

Conclusions: The results indicated that beta Arrestin-2 may considered a very good diagnostic marker, and further studies should be done to test its validity in patients with schizophrenia.

Keywords: Schizophrenia, Beta Arrestin-2, Diagnostic Value

OP-020

INVESTIGATION OF OMENTIN-1, INTERLEUKIN-10 AND INTERLEUKIN-13 LEVELS IN PATIENTS WITH DIABETES MELLITUS AND HYPERTENSION

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Objective: Diabetes Mellitus, known for its prevalence in the world, is an important public health problem and is a serious, chronic disease. Hypertension, on the other hand, is a known risk factor for microvascular and macrovascular diseases and is a very common condition in individuals diagnosed with Diabetes Mellitus. Various mechanisms have been proposed that show that diabetes mellitus causes inflammation and inflammation causes Diabetes Mellitus. There are also studies showing a mild chronic inflammation association with hypertension. Omentin-1 is one of the newly discovered adipokines secreted from adipose tissue. There are many studies in which omentin-1 is associated with inflammation. The aim of this study is to examine the relationship between anti-inflammatory cytokines interleukin-10 and interleukin-13, which have a role in the prevention of inflammation, and inflammation levels in patients with Diabetes Mellitus and hypertension. By determining the metabolic importance of these biomarkers, it is aimed to contribute to the prevention and recovery of diseases.

Methods: In our study, fasting blood glucose, BUN, creatinine, uric acid, albumin, high-density lipoprotein (HDL) cholesterol, LDL cholesterol, triglyceride, total cholesterol, hemoglobin, blood glucose, LDL cholesterol, triglyceride, total cholesterol, hemoglobin, were collected from all patient and control groups for routine tests after 12 hours of fasting. CRP parameters were analyzed and the data obtained from this analysis were used in the research. The serums of the blood taken from the volunteers were separated and stored at -80 degrees until analysis. Omentin-1, interleukin-10, and interleukin-13 levels in serum thawed before the study were analyzed by enzyme-linked immunoassay (ELISA) method with commercially available kits. The obtained results were statistically analyzed using the SPSS program.

Results: As a result of biochemical examinations, statistically significant differences were found between the control and patient groups in terms of parameters (p<0.001). Omentin-1, interleukin-10, and interleukin-13 levels were found in higher concentrations compared to the control group.

Conclusions: In Conclusions, the new biomarkers may be effective in reducing inflammation in patient groups.

Keywords: Diabetes Mellitus, Hypertension, Interleukin-10, Interleukin-13, Omentin-1

In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

OP-021

THE RELATIONSHIP BETWEEN INFLAMMATION PARAMETERS AND THE SYNTAX SCORE IN PATIENTS WITH ACUTE CORONARY SYDROME

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Obejectives: Inflammation plays a pivotal role in the pathogenesis of acute coronary syndrome (ACS). This study aimed to evaluate the association between the severity of the disease assessed by the SYNTAX score and fibrinogen-to-albumin ratio (FAR), neutrophil-to-albumin ratio (NAR), neutrophil percentage-to-albumin ratio (NPAR), C-reactive protein-to-albumin ratio (CAR) and albumin-globulin ratio (AGR) which are prominent indexes with their easy applicability and usefulness in recently in patients with ACS (STEMI and NSTEMI).

Methods: In this retrospective study, 53 STEMI and 64 NSTEMI patients were included and each patient group was evaluated on its own. The patients were divided into two groups according to SYNTAX scores. The characteristics of the patients, their biochemical parameters and the differences between these indexes were analyzed within each group. In addition, independent risk factors were determined by Multivariate linear regression analysis in patient groups (STEMI and NSTEMI) using SYNTAX scores.

Results: Of patients with NSTEMI, 42 were low SS (65.6 %); 22 were high SS (34.4 %). Patients with high SS had significantly higher age, glucose, fibrinogen, monocyte, and FAR levels and significantly lower albumin and total protein levels compared to patients with low SS (P<0.05). A strong positive correlation was detected between FAR and the SS (P<0.05). Of patients with STEMI, 42 were low SS (79.2 %); 11 were high SS (20.8 %). The total cholesterol, LDL, and glucose levels were significantly higher, albumin, and total protein levels were significantly lower in patients with high SS (p < 0.05). It has been showed that FAR level is an independent predictor of the severity of disease in patients with ACS.

Conclusions: The present study showed that FAR levels can be used as a useful parameter in predicting the severity of disease in patients with STEMI and NSTEMI.

Keywords: Acute Coronary Syndrome, SYNTAX Score, Inflammation Parameters

OP-022

PROTECTIVE EFFECTS OF ILOPROST ON ISCHEMIA-REPERFUSION INJURY OF THE OVARY IN A RAT MODEL

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Methods: We used 32 female wistar albino rats randomly allocated to four experimental groups: sham, only I/R and I/R + iloprost. Ovarian torsion was established in all rats except the sham group. The torsion group was exposed to ischemia for 3 h. The detorsion group was exposed to 3 h ischemia applied + 3 h reperfusion. The detorsion + iloprost group was exposed to ischemia for 3 h + reperfusion for 3 h + intravenous (IV) iloprost infusion for 60 min starting at the beginning of reperfusion. At the end of the reperfusion periods, the ovarian tissues were removed for histopathologic and biochemical evaluation. Raftlin ve and malondialdehyde (MDA) levels in tissue samples were measured by ELISA.

Results: The total histopathological injury score and levels of Raftlin - MDA of the I/R group were significantly higher than for the sham group. Ovarian injury score and Raftlin -MDA level following I/R increased compared to the I/R group. Iloprost administration reduced the total injury score and Raftlin -MDA levels.

Conclusions: We concluded that IV iloprost administration reduces I/R injury in rat ovarian tissue.

Keywords: Ischemia-reperfusion, Ovar, Iloprost, Rat

OP-023

INVESTIGATION OF THE EFFECT OF COBALT OXIDE NANOPARTICULES ON INFLAMMATION AND OXIDATIVE STRESS

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Objectives: Nanoparticles are compounds that are smaller than 100 nm and have size-specific properties. The interest in the use of nanoparticles in industry and daily life is quite high in recent years. Cobalt oxide, which has magnetic and antimicrobial properties, is one of the transition metal oxides in black powder form. Cobalt oxide nanoparticles, which are widely used in biomedicine and industrial products, can easily cross important biological barriers and membranes and interact with organs, cellular organelles and genetic material. Cobalt oxide nanoparticles are thought to collect in the blood, liver, lungs, kidneys, testicles, and intestines. In this study, it was aimed to evaluate the effect of cobalt oxide nanoparticles on inflammation and oxidative stress in liver tissue.

Methods: In our study, 30 female Wistar Albino rats were used. Rats were randomly selected and divided into 5 groups. In order to evaluate the effects of nanoparticles on inflammation and oxidative stress in the liver of rats exposed to different doses of cobalt oxide nanoparticles, tumor necrosis factor alpha (TNF- α), interleukin 6 (IL-6), malondialdehyde (MDA) levels and superoxide dismutase (SOD) and catalase (CAT) enzyme activities were measured. The obtained findings were evaluated by statistical methods.

Results: In our study, it was determined that cobalt oxide nanoparticles did not cause a significant change on oxidative stress and inflammation parameters.

Conclusions: According to the findings, it was concluded that the size of the cobalt oxide nanoparticles (50 nm) we used in the study and the doses we applied (1-50 mg/kg) have not caused oxidative damage and have not triggered inflammation. The effect mechanism of nanoparticles on organisms can be explained with different dose and concentration studies.

Keywords: Nanoparticle, Cobalt oxide, Inflammation, Oxidative stress.



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INVESTIGATION OF GRAVIN/AKAP12 GENE EXPRESSION IN LUNG CANCER

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Objectives: Lung cancer is malignant tumor formation characterized by uncontrollable cell growth in lung tissues. It is the most common type of cancer that causes death in the World. Protein kinases are found in the cell bound to some proteins. Proteins that bind protein kinase A are defined as A-kinase binding proteins (AKAP). Some studies have shown that expression of the AKAP family is associated with cancer development. In this study, it was aimed to evaluate the possible relationship between changes in gravin/AKAP12 gene expression and lung cancer in cases diagnosed with lung cancer.

Methods: The study included 60 patients who were diagnosed with lung cancer, and 51 healthy individuals who were not previously diagnosed with lung cancer, had no family history of lung cancer, and had no smoking or alcohol habit. The gravin/AKAP12 gene expression of the cases was determined by real-time PCR method. In the analysis of the findings, the Mann-Whitney U test was used and the statistical significance level (p) was taken as ≤ 0.05 .

Results: According to the data obtained, it was determined that the gravin/ AKAP12 gene expression level was found to be significantly decreased in patients with diagnosed lung cancer compared to the control group.

Conclusions: Gravin may be an important marker in the early diagnosis of lung cancer.

Keywords: Gravin/AKAP12, Protein Kinase, Gene expression, Lung Cancer

OP-025

PROTECTIVE EFFECT OF COENZYME Q10 ON REMOTE TISSUE (KIDNEY) DAMAGE INDUCED BY LIVER ISCHEMIA REPERFUSION

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Objective: Although it is clear that there are many different mechanisms in the pathogenesis of distant tissue damage, the formation of reactive oxygen and nitrogen species is the most frequently observed mechanism. Therefore, in our study, the protective role of coenzyme Q10 on distant tissue (kidney) damage induced by experimentally induced liver ischemia reperfusion (I/R) was investigated.

Methods: 24 Wistar-Albino rats were used in the study. Three groups of 8 rats each were formed. The rats were opened with a midline incision and the hepatic portal vein and hepatic artery to the liver were closed with a bulldog clamp. I/R group underwent 45 minutes of ischemia followed by 45 minutes of reperfusion. Coenzyme Q10 was administered intraperitoneally to the treatment group at a dose of 100 mg/kg. For biochemical analysis, rats were sacrificed after the experiment.

In order to determine distant tissue damage, Raftlin, Reduced Glutathione (GSH) and MDA levels in tissue samples were measured with commercial kits and ELISA device in order to show the oxidative stress damage on kidney tissue and the protective effects of coenzyme Q10.

Results: Compared to the Sham group, MDA and Raftlin levels were significantly higher in the kidney tissue of the I/R group (p<0.05). In the coenzyme Q10 applied groups, MDA and Raftlin levels showed a significant decrease compared to the I/R group (p<0.05). Decreased GSH levels in kidney tissues were significantly lower in the I/R group compared to the sham group (p<0.05). In addition, GSH levels increased significantly in the coenzyme Q10 applied groups compared to the I/R group (p<0.05).

Conclusions: Intraperitoneal administration of coenzyme Q10 after liver I/R induction may protect against I/R damage by regulating the functions of both local and distant tissues.

Keywords: Ischemia, Reperfusion, Coenzyme Q10, Liver, Kidney

OP-026

DIAGNOSTIC VALUES OF NETRIN-1 LEVELS IN PATIENTS WITH PANIC DISORDER

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Objectives: Panic disorder (PD) is among the most common mental disorders in the Turkey, and it can negatively impact a patient's quality of life and disrupt important activities of daily living. Evidence suggests that the rates of missed diagnoses and misdiagnosis of PD are high, with symptoms often ascribed to physical causes. Diagnosing PD requires a broad differential and caution to identify confounding variables and comorbid conditions. Perimenopausal women are high-risk group of PD and suffer greatly from it. In this paper, we aimed to the investigate diagnostic values of netrin-1 levels in drug-naive patients with PD.

Methods: 120 patients with PD according to the DSM-5 diagnostic criteria for a panic attack and 60 healthy individuals were included in the present study. Peripheral venous blood samples were taken from patients. The serum samples were separated from blood and netrin-1 levels in the serum samples of patients and control groups were measured by ELISA.

Data were analyzed using ANOVA, and p<0 .05 was considered significant.

Results: HAM-A score was significantly higher in PD patients versus the controls (p < 0.05). The levels of netrin-1 in patients with PD were higher than the control patients (p < 0.05). A positive significant correlation was observed between the netrin-1 level and the HAM-A score (r = 0.755, p < 0.001). Receiver operator characteristic curve analysis showed high diagnostic performance for netrin-1, areas under curves were 0.907 and 0.931, respectively.

Conclusions: This is the first report to investigate the association between serum netrin-1 levels and HAM-A score of PD patients. Our results reveal possible diagnostic value of netrin-1.

Keywords : Panic disorder, HAM-A score, Netrin-1

In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

OP-27

RAFTLIN AND NADPH OXIDASE-1 LEVELS IN PATIENTS WITH BASAL CELL CARCINOMA

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Objectives: Oxidative damage has been suggested to play a role in the pathogenesis of basal cell carcinoma (BCC). 8-iso-prostaglandin F2 α (8-iso-PGF2 α) has been proposed as new indicator of oxidative stress, which is involved in the pathophysiologic changes of cancer. NADPH oxidase (NOX) is a transmembrane enzyme that is located in intracellular organelles and comprises several isoforms, including NOX1–5, NOX oxidase 1 and 2, NOX organizer 1, and NOX activator. The roles of Raftlin and NOX-1 in pathogenesis of BCC is not known. This is the first report, we aimed to investigate the roles of Raftlin and NOX-1 at oxidative condition in human basal cell carcinoma (BCC), which is the most common tumor in the world.

Methods: Fresh normal and cancerous skin paired tissue was obtained from 63 patients who underwent curative BCC resection in Kahramanmaras, Turkey. The preliminary diagnosis of BCC was done in dermatology clinic by excision and then the diagnosis was confirmed as histopathologic. The levels of Raftlin and NOX-1 in biopsy samples were measured by ELISA.

Results: A remarkable increase was found in the Raftlin and NOX-1 levels in patients with skin BCC in comparison with the normal neighboring skin tissue (p<0.05). A positive significant correlation was found between Raftlin and NOX-1 levels (r: 0.782, p<0.01).

Conclusions: Results indicated that there is an active oxidative process in BCC biopsies. The levels of increased NOX-1 and Raftlin in oxidative condition due to hypoxia may aggravated tumor growth by its angiogenic activity. Moreover, Raftlin and NOX-1 may play in pathogenesis of BCC

Keywords: Oxidative Stress, Raftlin, NOX-1, Basal Cell Carcinoma

OP-28

INVESTIGATION OF THE EFFECT OF MAGNETIC NANOPARTICLES TARGETED WITH FOLIC ACID ON THE CYTOTOXICITY OF IDARUBICIN

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Objectives: Cancer is a significant health problem due to its high mortality rate and difficulties in treatment. Many methods, especially chemotherapy, are used in the treatment of cancer. However, the most significant disadvantage of chemotherapeutics is that the drugs used are not sufficiently specific to cancerous cells and tissues. In this study, we investigated the effect of idarubicin on HL-60 cells by immobilizing to magnetic nanoparticles (MNP) conjugating with folic acid (FA). **Methods:** In this study, Fe3O4-MNP transporters were synthesized. It was coated and modified with 3-(aminopropyl)trimethoxysilane (APT) to bind FA and idarubicin. Characterization processes were performed with FT-IR, XRD, C-TEM, FE-SEM methods. After the immobilization of FA and idarubicin, MNP-FA-idarubicin complex and MNP-idarubicin were applied to the HL-60 cell line, MTT and ATP cytotoxicity tests were performed, and IC50 values were calculated.

Results: In the characterization analyzes, it was observed that the MNP structure was synthesized, coated with APT, and bound to FA and idarubicin. In cytotoxicity tests performed on the HL-60 cell line, lower IC50 values were observed in FA and idarubicin-bound MNP structures compared to only idarubicin-bound structures. At the end of the 24-hour and 48-hour incubation periods, IC50 values for MNP-FA-idarubicin structure were found to be 0.112 and 0.067 μ M, respectively, while 2.198 and 0.294 μ M for MNP-idarubicin.

Conclusions: Folic acid receptors (FAR) are overexpressed in many cancer cells. Cancer cells can transport FAR and folate conjugates via receptormediated endocytosis. By this mechanism, FA-coated and drug-loaded nanoparticles can evade P-glycoprotein efflux pumps. In addition, it was observed that the cytotoxic effect increased with folic acid binding to the MNP structure. This effect of folic acid is because it both facilitates the entry of the drug into the cell and protects it from P-glycoprotein-mediated drug resistance to idarubicin.

OP-029

METHICILLINE-RESISTANT STAPHYLOCOCCUS AUREUS: INSERTION-BASED VIRTUAL SCREENING AND MOLECULAR DYNAMIC SIMULATION STUDY TO DETERMINE THE POTENTIAL PENICILLIN-BINDING PROTEIN 2A INHIBITOR OF HYPEROCIDE

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Objective: Staphylococcus aureus (S. aureus) is responsible for a variety of ailments, including skin and soft tissue infections, bacteremia, pulmonary infections, septic arthritis, osteomyelitis, meningitis, gastroenteritis, toxic shock syndrome, and urinary tract infections. Methicillin-resistant S. aureus (MRSA) contains penicillin-binding protein 2a (SauPBP2a), which is responsible for catalyzing the production of peptidoglycan in the bacterial cell wall. SauPBP2a has a low binding affinity for beta-lactam antibiotics, and therefore the discovery of new effective SauPBP2a inhibitors is necessary to combat mortality and morbidity in patients affected by MRSA.

Methods: The binding affinity of the hyperoside SauPBP2a active site was investigated by molecular insertion analysis. The stability of the hyperoside-associated clamped pose was tested by performing molecular dynamics (MD) in 10 nanoseconds (ns) computer simulations.

Results: Hypersoid showed significant binding affinity to the SauPBP2a active site (ΔG binding =-6.9 kcal/mol). Their fixed poses were found to be stable for 10 ns MD simulations. Hypersoid and penicillin G also exhibited significant binding affinity to the allosteric site of the enzyme.

Conclusions: This study suggests that hypersoid can be considered as a drug candidate for therapeutic purposes in various human infections associated with MRSA. However, it will lead the way for in vitro and in vivo studies.

Keywords: Molecular Docking, Molecular Dynamics Simulation, Hyperocide

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OP-030

SERUM VITAMIN AND MINERAL LEVELS IN PEDIATRIC PATIENS WITH UPPER RESPIRATORY TRACT INFECTIONS

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Objectives: There are various studies in the literature indicate that relationship between micronutrient deficiencies and the risk of respiratory tract infections in children. The aim of our study is to evaluate the relationship between serum vitamin, mineral levels and upper respiratory tract infection (URTI) in pediatric patiens.

Methods: Our study consisted of 46 patients diagnosed with URTI and 32 healthy routine control patients in the Adiyaman University Training and Research Hospital, pediatric outpatient clinic. The patients' hemoglobin, hematocrit, MCV (mean corpuscular volume), serum iron, iron-binding capacity, ferritin, zinc, folate, vitamin B12 and vitamin D levels were evaluated retrospectively on the laboratory information system.

Results: The patients in the study consisted of 65.54% females (n=48), 34.46% males (n=30) with a mean age of 6.23 ± 5.87 years. There was no significant difference between the groups in terms of age and gender. Serum iron levels (URTI=61.95±4.13 µg/dL; Control=74.52±5.62 µg/dL; p=0.043, z=-2.022) and MCV values (URTI=76.7±0.86 fL; Control=81.28±1.25 fL; p<0.001, z=-3.721) were found as significantly lower in URTI group compared with the control group, while no significant differences were observed for other parameters.

Conclusions: In our study, although iron levels were with in the normal range for all patients, a statistically significant low level was found in patients with URTI. There are several studies indicate that iron deficiency increases susceptibility to infection by impairing cell proliferation and immune function. We believe that monitoring serum iron levels in children and iron supplementation in necessary patients may be beneficial in reducing the risk of URTI.

Keywords: Infection, Serum Iron, MCV

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OP-031

INVESTIGATION OF THE RELATIONSHIP BETWEEN YKL-40, NITRIC OXIDE, VASCULAR ENDOTHELIAL GROWTH FACTOR (VEGF) IN METABOLIC SYNDROME

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Objectives: In previous studies on metabolic syndrome, it was determined that VEGF and YKL-40 levels were increased. In the previous studies in Metabolic Syndrome, there are studies in which the Nitric Oxide level was determined to be high and low. Unlike other studies, the measurement of Asymmetric Dimethyl Arginine level was also included in our study in order to interpret YKL-40, Nitric Oxide, VEGF levels.

Methods: After the informed consent form was signed by all patient and control groups, fasting blood glucose, BUN, creatinine, uric acid, albumin, high-density lipoprotein (HDL) cholesterol, LDL cholesterol, triglyceride, total cholesterol, hemoglobin, CRP parameters were analyzed and the data obtained from this analysis were used in the research. The samples remaining from routine examinations were centrifuged, serums were taken into Eppendorf tubes and stored at -80 °C until the day of analysis.YKL-40, Nitric oxide, VEGF, ADMA levels from obtained sera were analyzed by enzyme-linked immunoassay (ELISA) method with commercially available kits. The obtained results were statistically analyzed using the SPSS program.

Results: In our study, the YKL-40 P(0.003<), NO P (0.001<), VEGF P (0.001<), ADMA P (0.001<) concentrations were found to be statistically significantly higher in patients with metabolic syndrome compared to the healthy control group.

Conclusions: It is thought that the high Nitric Oxide level is not caused by the endothelial nitric oxide synthase enzyme (eNOS), but may be related to the increase in YKL-40 synthesis in smooth muscle cells.

Key Words: Metabolic Syndrome, YKL-40, Nitric Oxide, Vascular Endothelial Growth Factor

OP-032

RAFTLIN AND 8-ISO-PROSTAGLANDIN F2A LEVELS IN PATIENTS WITH MODIC CHANGES

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Objective: Oxidative stress in vertebral endplates of patients with low back pain and Modic changes (MCs) (types I, II, and III) endplate changes on magnetic resonance imaging. Degenerated discs and endplate abnormalities is postulated as a possible source of low back pain. 8-iso-prostaglandin F2 α (8-iso-PGF2 α) has been proposed as new indicator of oxidative stress. Raftlin, as an inflammatory biomarker, has been previously reported in inflammatory diseases. Oxidative stress plays an important the role in various human diseases. However, the Raftlin and 8-iso-PGF2 α levels has not been studied in patients with low back pain and endplate changes on magnetic resonance imaging. The aim of this study was to assess the levels of Raftlin and 8-iso-PGF2 α levels in patients with MCs.

Methods: Patients with MCI, II, and III (n = 45) and age- and sex matched controls subjects (n =30) were enrolled in this study. 8-iso-PGF2 α and Raftlin levels in the serum samples of both groups were measured with enzyme-linked immunosorbent assay.

Results: Oxidative stress was confirmed by the significant elevation in 8-iso-PGF2 α levels in MCI compared with other MCs and the control group (p<0.05). In our study, raftlin levels changed in parallel with prostaglandin levels (p<0.05). The levels of 8-iso-PGF2 α and Raftlin levels showed moderate increase in patients with MCII compared with the other MCs and the control group (p<0.05). In addition, 8-iso-PGF2 α and Raftlin levels in patients with MCIII were slightly higher than that of the control group (p<0.05). Furthermore, significant positive correlation was found between both parameters (r= 0.801, p<0.001).

Conclusions: Our findings indicated that oxidative stress in patients with MCI may be aggravated and it may cause an inflammation formation of the lesion areas in these patients. Also, the increased 8-iso-PGF2 α and Raftlin levels in patients with MCII and MCIII may be an adaptative response to against oxidative stress.

Keywords: Modic Changes, Oxidative Stress, 8-iso-PGF2a , Raftlin

OP-033

ANTIOXIDANT ACTIVITY AND ENZYME INHIBITIONOF MOUNTAIN MINT (CYCLOTRICHIUM NIVEUM L).

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Objectives: Cyclotrichium niveum (Boiss.) Manden & Scheng belonging to the Lamiaceae family, which is an endemic species in the eastern Anatolian region of Türkiye, has an important place in terms of ethno-botany. In this study, we investigated the inhibition of Paraoxonase (PON 1) and the antioxidant capacity of this plant.

Methods: Enzyme inhibition and antioxidant activities were determined spectrophotometrically. Antioxidant activities were determined by using ABTS++ and DPPH• in the radical scavenging tests and FRAP and CUPRAC tests in the chelation tests.

Results: In antioxidant activity tests, it was measured as 66.53% in the water extract for ABTS++ test and 55.03% in the methanol extract DPPH• test. In metal reducing activity, the absorbance value was 0.168±0.04 for FRAP water extract and 0.621±0.01 for CUPRAC methanol extract. In contrast, the methanol and water extracts of the mountain mint didn't exhibit the inhibition effect on PON 1.

Conclusions: Mountain mint, a medicinal aromatic plant, has antioxidant capacity and antiatherogenic potential.

Keywords: Antioxidant, Cyclotrichium niveum, Paraoxonase, Spectrophotometer

OP_034

INVESTIGATION OF ANTIOXIDANT CAPACITY AND ENZYME INHIBITION EFFECTS OF URTICA DIOICA

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Objectives: Urtica dioica L. Subsp. dioica belonging to the Urticaceae family has an important place in terms of ethno-botany. This study was aimed to investigate the inhibition of acetylcholinesterase (AChE) which interact with beta-amyloid to promote deposition of amyloid plaques and paraoxonase (PON 1) which plays a role in the regulation of HDL and LDL and an antiatherogenic, and antioxidant capacity of this plant.

Methods: Enzyme inhibition and antioxidant capacity studies were determined by spectrophotometer. Antioxidant capacity of U.dioica extracts (methanol, hexane, and water) was determined by applying ABTS++, DPPH++, FRAP, and CUPRAC methods.

Results: The methanol extract of the U.dioica exhibited significant inhibition on the AChE (IC50 value for methanol 0.098 ± 0.011 mg/mL). However, both the methanol and water extracts of the U. dioica didn't exhibit the inhibition effect on PON1. The highest activity for ABTS++ was 55.97% in the hexane extract, and DPPH++ was 62.42% in the methanol extract. Compared to other solvents (hexane and water), the methanol extract of the U.dioica showed the highest activity for FRAP and CUPRAC methods. Results as absorbance were 0.302 for CUPRAC, and 0.147 for FRAP in the methanol extract of the U. dioica.

Conclusions: U.dioica which is antioxidant, anti-atherosclerotic and neuroprotective effects has a natural medicine potential instead of synthetic drugs used in Alzheimer's patients.

Keywords: Acetylcholinesterase, Antioxidant, Paraoxonase, Urtica dioica In Memory of Prof Gunes T. YUREGIR 2nd Kahramanmaras Biochemistry Days, 2022

OP-035

INVESTIGATION OF ANTICANCEROUS PEPTIDE 1 IN ITS CARBONIC ANHYDRASE IX STRUCTURE BY PROTEIN-PEPTIDE DOCKING METHOD: IN SILICO STUDY

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Objective: Carbonic anhydrase IX (CAIX) is considered a target for therapeutic intervention in solid tumors. Research in the field of therapeutic peptides began to develop intensively in the second half of the 20th century. In this study, it was aimed to investigate the anticarcinogenic peptide in the structure of carbonic anhydrase IX by protein-peptide docking method.

Methods: Modeling was performed without prior knowledge of the binding site using the CABS-dock web server (http:// biocomp.chem.uw.edu.pl/CABSdock/) for flexible protein-peptide docking.

Results: Antiticancerous peptide-1 in the carbonic anhydrase IX structure showed a strong binding affinity. The RMSD value was determined as 1.36.

Conclusions: In summary, it has been observed that antiticancerous peptide-1 can be a target structure, as it has good binding affinity for carbonic anhydrase IX target. When these structures are examined, we predict that the strong effect of the binding affinity in our protein-peptide docking study between the peptide and carbonic anhydrase IX structure is due to electrostatic attraction.

Keywords: Protein-Peptide Docking, Anticancerous peptide-1, In Silico



OP-036

INVESTIGATION OF BERBERINE AND ITS DERIVATIVES IN THE STRUCTURE OF DRUG-RESISTANT HIV-1 PROTEASE BY MOLECULAR DOCKING METHOD

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Objective: There are concerns that widespread use of antiretroviral drugs to treat human immunodeficiency virus 1 (HIV-1) infection may lead to increased transmission of drug-resistant virus. Our aim is to determine the binding affinities of berberine and its derivatives to the drug resistant HIV-1 protease structure by molecular docking study.

Materials: Berberine, talifendin and berberubin were obtained from PubChem (https://pubchem.ncbi.nlm.nih.gov). Converted from Open Babel GUI program to pdb format. The drug-resistant HIV-1 protease construct (PDB ID:1K6C) crystal structure was obtained from the Protein Data Bank (www.rcsb.org). Modeling work was carried out with Autodock.

Results: In our study, it was seen that berberine and its derivatives, which we targeted to the drug resistant HIV-1 protease structure, could be effective in this structure. It is seen that the berberine compound we tried shows a strong binding ability with binding energies of -9.6 kcal/mol, berberubin compound 7.9 kcal/ mol and talifendin compound -8.3 kcal/mol.

Conclusions: As a result, berberine and its derivatives showed very good affinity with high binding energy scores in which they play an important role in drug resistant HIV-1 protease enzyme target. We argue that berberine and its derivatives may be an inhibitor that can be used in the drug-resistant HIV-1 protease enzyme target.

Keywords: Drug Resistant HIV-1 Protease, Berberine and Derivatives, Molecular Docking

POSTER ABSTRACTS

P-001

CAN THE BIOACTIVE COMPOUND CYANIDIN-3-O-GALACTOSIDE IN ARONIA BE THE ENZYME INHIBITOR OF ACETYL CHOLINE ESTERASE?

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Objective: Molecular docking has become an increasingly important tool for drug discovery. Today, most of the drugs used in clinical practice show their pharmacological effects by inhibiting or activating enzymes. Therefore, enzyme inhibitors have an important place in drug design for many diseases. The aim of this study was to contribute to this growing field of drug design (ie, drug discovery and development) by analyzing the enzyme-drug interactions of the cyanidin-3-O-galactoside bioactive compound contained in ARIONA.

Methods: Cyanidin-3-O-galactoside was obtained from PubChem database. Compounds were inserted into the active site of the Acetyl Choline Esterase receptor with PDB ID:4EY7. Molecular docking study was done with Autodock program.

Results: In our study, the Cyanidin-3-O-galactoside compound was tested for the acetylcholine esterase target and it was seen that it could be effective in this target. It is seen that the Cyanidin-3-O-galactoside compound we tested shows a strong binding ability with a binding energy of -9.5 kcal/mol at the acetylcholine esterase target. We found that donopezil, which I chose as an acetyl choline esterase inhibitor, showed a binding affinity of -7.6 kcal/mol

Conclusions: According to the results of our study, when we compared cyanidin-3-O-galactoside with donopezil, it was determined that cyanidin-3-O-galactoside showed better binding affinity with a binding energy of -9.5 kcal/ mol. According to this result, it is seen that cyanidin-3-O-galactoside can show strong inhibition properties against acetyl cholinesterase enzyme. This study has the potential to be a pioneer for in vivo and in vitro studies.

Keywords: Cyanidin-3-O-galactoside, Acetylcholine Esterase, Molecular Docking

P-002

INVESTIGATION OF ANTIOXIDANT ACTIVITY IN SOME TROPICAL FRUITS GROWED IN TURKEY

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Objective: Tropical fruits, the production of which is increasing in Turkey, attracts the attention of consumers. These fruits help protect from cancer and cardiovascular diseases due to their high antioxidant activity. In this study, the production of which has increased in recent years; Antioxidant activities of pineapple, avocado, shadok (pomelo), papaya, potency pomegranate, passionfruit (marouchia), coconut and dragon fruit (pitaya) were investigated. Methods: Fresh fruits from Adana Nuribey Farm were sent to Kahramanmaraş Sütçü İmam University Medical Biochemistry Laboratory for study. Tropical fruits were cut into small pieces with the help of a knife. Homogenization and centrifugation processes were performed. As an oxidative stress marker, malondialdehyde (MDA) levels, catalase (CAT) and superoxide dismutase (SOD) activities were determined spectrophotometrically.

Results: The lowest MDA level was observed in papaya and the highest MDA level was observed in potency pomegranate. It was observed that antioxidant activity was also high in potency pomegranate with high MDA level. There was not much difference between MDA levels and antioxidant activities in other fruits except papaya and bitter melon. When SOD and CAT activities were compared; the highest CAT activity was measured in potency pomegranate, while the lowest CAT activity was measured in papaya (p<0.05). The highest SOD activity was measured in coconut (p<0.05).

Conclusions: It was determined that there was a correlation between MDA level measured in tropical fruits and antioxidant enzyme capacity. This situation was thought to be caused by metabolic activity. According to the Pearson correlation analysis performed by evaluating all fruits, there is a positive and significant relationship. Since there is no in-vitro study examining the antioxidant activities of tropical fruits, this study will shed light on other future studies.

Keywords: Activity, Antioxidant, Fruit, Tropical.