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66/Supplement 1

# Gülhane Medical Journal

Gülhane Tıp Dergisi

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**ORAL PRESENTATIONS**

## ORAL PRESENTATIONS

## [OP-01]

**Evaluation of the effect of boron and lithium treatment on SH-SY5Y (neuroblastoma) cell viability**Halil İbrahim Seyit<sup>1</sup>, Bengisu Aktürk<sup>1</sup>, Çiçe Şehri Kaymak<sup>1</sup>, Zehra Çiçek<sup>2</sup><sup>1</sup>University of Health Sciences Türkiye, Gülhane Faculty of Medicine, Medical Student, Ankara<sup>2</sup>University of Health Sciences Türkiye, Gülhane Faculty of Medicine, Department of Physiology, Ankara

**Aims:** Neuroblastoma is a type of cancer originating from the peripheral nervous system seen in early childhood, and many methods (surgery, chemotherapy, etc.) have been tried in its treatment. Lithium (Li) and boric acid (BA), which are known to have a wide and variable spectrum of pharmacological and biochemical effects, have been reported to prevent the proliferation and metastasis of different types of cancer cells. However, the mechanisms by which these effects occur are still not clearly known. For this purpose, we evaluated the effects of different doses of BA and Li alone and in combination on neuroblastoma cell viability.

**Methods:** The human neuroblastoma cell culture line (SH-SY5Y) was used in this study. Cells were seeded in a 25 cm<sup>2</sup> culture dish and multiplied with passage. The medium was changed every 72 hours. Then, the number of live and dead cells was determined on a thoma slide by staining with trypan blue (0.4%). The cells were seeded in 96-well cell culture dishes in 100 µL cell medium with 10.000 cells in each well and incubated for 24 hours. Subsequently, BA (0-80 mM) and Li (0-200 mM) concentrations were applied alone and in combination for 24 hours. The percentage of cell viability was determined by the tetrazolium salt (MTT) method. The chemical solutions in the wells were removed and 100 µL (5 mg/mL) MTT solution was added and incubated for 3-4 hours. Finally, 100 µL of dimethylsulfoxide was added and incubated for 20-30 minutes. Then, the absorbance value of the wells at 570 nm was calculated by measuring on the plate reader. IBM Statistical Package for the Social Sciences statistics 27.0 package program (Chicago, IL, USA) was used for data analysis. The data obtained were expressed as mean±standard error. Differences between the groups were evaluated by ANOVA. Then, Dunnett and Tukey post-hoc tests were performed and the statistical significance level was considered at p<0.05.

**Results:** Doses of BA 80 mM (43.99%), 40 mM (39.06%), 20 mM (34.75%), 10 mM (22.60%), 5 mM (24.55%) and 1 mM (23.95%) significantly reduced SH-SY5Y cell viability compared to the control group (p<0.05). Li 200 mM (89.01%), 100 mM (85.04%), 75 mM (76.57%), 50 mM (62.77%), 25 mM (35.42%), 10 mM (34.83%) and 5 mM (28.57%) doses significantly decreased SH-SY5Y cell viability compared to the control group (p<0.05). BA-5 mM+Li-10 mM and BA-10 mM+Li-25 mM applications significantly reduced cell viability by 89.42% and 65.30%, respectively, with a synergistic effect compared to the control group (p<0.05).

**Conclusions:** It was determined that BA and Li alone and combined applications prevented the proliferation of neuroblastoma cancer cells in this study. And, our results need to be supported by further molecular studies by determining the mechanisms through which BA and Li prevent the proliferation of neuroblastoma cells. In addition, it is thought that the results we obtained may lead to new clinical research but, more importantly, BA and Li applications may contribute to promising current and original treatment approaches in neuroblastoma cancer.

**Keywords:** Boron, lithium, neuroblastoma

## [OP-02]

**Radiological examination of pelvic types and diameters and evaluation of gender differences**Reyyan Üstün<sup>1</sup>, Sude Naz Çevik<sup>1</sup>, Mustafa Büyükmumcu<sup>2</sup>, Nizameddin Fatih Karamus<sup>3</sup>, Serdar Balsak<sup>4</sup>, Ayşegül Yabancı Tak<sup>5</sup><sup>1</sup>Bezmialem Vakıf University Faculty of Health Sciences, Department of Physiotherapy and Rehabilitation, İstanbul<sup>2</sup>Bezmialem Vakıf University Faculty of Medicine, Department of Anatomy, İstanbul<sup>3</sup>Altınbaş University Faculty of Medicine, Department of Anatomy, İstanbul<sup>4</sup>Bezmialem Vakıf University Faculty of Medicine, Department of Radiology, İstanbul<sup>5</sup>Bezmialem Vakıf University Faculty of Medicine, Department of Biostatistics and Medical Informatics, İstanbul

**Aims:** Pelvic morphology can vary by gender, geography and racial factors. This study aimed to measure important pelvic diameters in the Turkish population, determine pelvic type incidence, and find the relationship between genders.

**Methods:** Pelvic radiographs of 153 men and women, aged 18-65, selected randomly, were evaluated with X-ray pelvimetry in our study. Pelvic types were determined using Caldwell classification, and conjugata anatomica, obliqua, transversa, vera and diagonalis were measured with Thoms and William's technique. Gender differences were analyzed.

**Results:** In 15.7% of cases android type, in 11.8% anthropoid type, in 33% gynecoid type, and in 39.5% platypelloid type pelvis were found. Platypelloid and gynecoid pelvic types were more common in men, while other types were more common in women. Pelvic diameters in women and men were, respectively, conjugata transversa 13.85±0.92 cm and 14.65±0.89 cm, conjugata anatomica 12.8 (8.34-16.65) cm and 13.55 (8.61-17.73) cm, conjugata vera 14.33 (10.14-17.70) cm and 14.84 (10.43-18.30) cm, conjugata diagonalis 15.94 (11.94-19.61) cm and 16.04 (12-19.39) cm, and conjugata obliqua 11.1 (8.47-13.53) cm and 11.81 (8.98-17.81) cm. Except for conjugata diagonalis (p=0.420), pelvic diameters were significantly larger in women (p<0.05).

**Conclusions:** Knowing the morphometric features of the apertura pelvis superior in the population and identifying differences is important in clinical follow-up. Although our study does not represent the entire population due to its cross-sectional nature, we believe the data will contribute to the literature and help consider differences in pelvic morphology.

**Keywords:** Diameter, morphology, pelvis

## ORAL PRESENTATIONS

## [OP-03]

**Determination of MMP-9, ezrin, and CD44 levels in serum samples of adult patients with severe asthma**

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**Aims:** This study aims to investigate the levels and interactions of ezrin, CD44 and MMP-9 proteins in severe asthma patients who are either treatment-resistant or treatment-sensitive. By identifying these potential biomarkers, we aim to enhance our understanding of the disease mechanisms, develop innovative therapeutic strategies, and improve prognostic evaluations for severe asthma.

**Methods:** Blood samples were collected from severe asthma patients at Çukurova University Faculty of Medicine Balcalı Hospital's Chest Diseases Clinic. Patients who did not achieve symptom control despite optimal medication were classified as having severe asthma. Proteomic analyses were performed on proteins extracted from the blood serum, focusing on ezrin, MMP-9, and CD44. Total protein levels were determined using the BCA method, while protein concentrations were measured through Coomassie Blue staining.

**Results:** The proteomic analysis revealed distinct protein expression patterns between treatment-resistant and treatment-sensitive severe asthma patients. While the study primarily focused on overall protein profiles, the data suggests that variations in proteins such as ezrin, CD44, and MMP-9 could play significant roles in the disease mechanism. These findings are promising for future research into the potential of these proteins as biomarkers for severe asthma.

**Conclusions:** The study underscores the potential of total protein profiles in identifying biomarkers for severe asthma. These initial findings highlight the importance of proteins like ezrin, CD44, and MMP-9, providing a promising direction for future research. Understanding these protein patterns could lead to novel therapeutic approaches and improved prognosis for patients with severe asthma.

**Keywords:** Asthma, refractory asthma, severe asthma, biomarker, chest diseases

## [OP-04]

**Investigation of oxidative stress, inflammation and DNA damage levels in infertile women**

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**Aims:** Infertility is the inability of men and women to achieve pregnancy despite having regular sexual intercourse at least twice a week without using any contraception for at least one year under the age of 35, 6 months between the ages of 35-40 and 6 months over the age of 40. In the literature, oxidative stress, DNA damage, and inflammation are associated with male infertility. In this study, we aimed to examine DNA damage and inflammatory and oxidative stress biomarkers in women diagnosed with infertility.

**Methods:** Blood samples were collected from 42 patients and 42 volunteers. Total oxidant level (TOS), total antioxidant level (TAS), total thiol (TT), and native thiol (NT) levels were measured by photometric methods using commercial kits. Oxidative stress index (OSI) and disulfide (DIS) levels were calculated by mathematical equations. The alkaline single-cell gel electrophoresis (Comet Assay) method was applied for the detection of DNA damage. Interleukin 1-β (IL-1β), interleukin-6 (IL-6), and tumor necrosis factor-α (TNF-α) levels were measured by ELISA kits.

**Results:** In the infertility group, TOS, OSI, and DIS levels among oxidative damage biomarkers were significantly increased ( $p < 0.001$ ). TAS, TT, and NT levels were significantly lower in the infertility group ( $p < 0.001$ ). DNA damage was significantly increased in the infertility group ( $p < 0.001$ ). IL-1-β, IL-6, and TNF-α levels in inflammation biomarkers were significantly higher in the infertility group ( $p < 0.001$ ).

**Conclusions:** We suggest that increased inflammation, DNA damage, and oxidative stress in infertility patients may guide the pathogenesis, prognosis, and treatment strategies of the disease.

**Keywords:** Biomarker, DNA damage, infertility, inflammation, oxidative stress

## ORAL PRESENTATIONS

## [OP-05]

**Investigation of HIF-1 $\alpha$  levels in patients with pernicious anemia**

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**Aims:** Pernicious anemia is a macrocytic anemia caused by intrinsic factor deficiency resulting from vitamin B12 (cobalamin) deficiency. The onset of pernicious anemia is difficult to detect, and progression is slow. Hypoxia-induced factor-1 (HIF-1) functions as a master regulator of oxygen and undergoes conformational changes in response to oxygen concentrations. This study aimed to investigate HIF-1 $\alpha$  levels in patients diagnosed with pernicious anemia.

**Methods:** The population of the study consisted of volunteers who applied to Bezmialem Vakıf University Internal Medicine, Internal Diseases Clinic and agreed to participate in the study. A total of 76 volunteers, including 38 volunteer patients diagnosed with pernicious anemia between the ages of 18-65 years and without any other disease and 38 healthy volunteers with the same demographic characteristics, were included in the study. The levels of the inflammatory biomarker HIF-1 $\alpha$  in sera were measured by photometric method using a commercially available ELISA kit. The Ethics Committee of the University of Health Sciences Türkiye approved the study protocol.

**Results:** HIF-1 $\alpha$  levels were significantly higher in the patient group with pernicious anemia compared to the healthy control group ( $p < 0.001$ ).

**Conclusions:** We suggest that HIF-1 $\alpha$  levels in patients with pernicious anemia may be a specific and effective biomarker for the prognosis of the disease, determination of the correct diagnosis and prevention of damage due to delayed treatment.

**Keywords:** Biomarker, HIF-1 $\alpha$ , pernicious anemia

## [OP-06]

**Evaluation of the effect of pregnancy school on pregnant women's knowledge level about safe motherhood**

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**Aims:** Pregnancy Schools give "Safe Motherhood" training. This research aims to evaluate the level of knowledge about safe motherhood of pregnant women who have or have not received training at the University of Health Sciences Türkiye, Gülhane Training and Research Hospital (GTRH) Pregnancy School.

**Methods:** This study was performed between 16 March 2024 and 31 March 2024 at the GTRH-Gynecology and Obstetrics Polyclinic with 100 volunteer pregnant women. Of the participants, 50 subjects received training and 50 subjects served as controls with no training. The data collection form was administered face-to-face to participants. It contains 57 questions assessing sociodemographic characteristics and knowledge of pregnancy, childbirth, and postpartum processes. Pregnant women could get a maximum of 57 points from the form.

**Results:** There was no significant difference between the average scores of the training group and no training group. The training group gave significantly more correct answers than no training group in 11 of the 45 questions/statements measuring the level of knowledge. Some of these questions/statements and the percentages of correct answers are as follows: "During pregnancy, one should avoid alcohol (A: 88%, B: 68%), X-ray-machines (A: 90%, B: 58%), ready-made-foods (A: 78%, B: 58%), caffeine (A: 78%, B: 52%)", and "Disease risk of a baby can be assessed by performing a heel prick test after birth (A: 96%, B: 84%)"

**Conclusions:** Among pregnant women, there was no significant difference in the responses of women who attended the pregnant school and controls. There is a need to enhance the content, teachings, and methods employed in pregnant schools.

**Keywords:** Pregnancy school, safe motherhood

## ORAL PRESENTATIONS

## [OP-07]

**Examples of the use of artificial intelligence in the diagnosis of hematologic malignancies**

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Hematologic malignancies are cancerous diseases that affect the blood and blood-forming organs, such as leukemia, lymphoma, and myeloma. The primary diagnostic methods for hematologic diseases include complete blood counts, peripheral smears, and bone marrow examinations. The selection of these tests is based on the patient's symptoms, physical examination findings, and the preliminary diagnoses made by the physician. An incorrect diagnostic approach by the physician can result in misdiagnosis and improper treatment, emphasizing the importance of accurate and thorough diagnostic processes. Artificial intelligence (AI) is a field of science dedicated to creating computer systems that possess human-like intelligence. Within AI, machine learning is a branch that enables computer systems to learn from data and gain experience. Deep learning, a subset of machine learning, utilizes multi-layered artificial neural networks to process large and complex datasets. Computer vision is another domain within AI that allows computers to analyze, understand, and interpret visual data from images and videos. With the continuous advancement of technology, AI has begun to play a significant role in the medical field. AI algorithms, such as those based on machine learning, deep learning, and computer vision, are increasingly being utilized in the diagnosis and treatment of diseases. For instance, these AI algorithms can analyze complete blood counts, peripheral smears, and bone marrow examinations to aid in the diagnosis and treatment of hematologic conditions. The success of these AI algorithms depends on the type of disease being tested and the adequacy of the training dataset.

**Keywords:** Hematologic malignancies, artificial intelligence, deep learning, machine learning, diagnosis

## [OP-08]

**Evaluation M30, M65 and oxidative stress levels in Hashimoto patients**

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**Aims:** Hashimoto's thyroiditis (HT), a prevalent autoimmune thyroid disease, is often asymptomatic in its early stages and progresses insidiously, leading to late recognition. Our project aims to demonstrate oxidative stress and apoptosis in HT, an inflammatory disease, using novel biomarkers.

**Methods:** In our ethical study, we analyzed blood samples from 88 volunteers: 44 HT patients aged 65-18 years and 44 volunteers with the same demographic characteristics. Total antioxidant status (TAS), total oxidant status (TOS), total thiol (TT), and native thiol (NT) levels, which are biomarkers of oxidative stress, were measured by photometric methods using commercial kits. Oxidative stress index (OSI) disulphide (DIS) levels were calculated by mathematical equations. M30 and M65 protein levels were measured photometrically with ELISA kits as cell death markers.

**Results:** TOS, OSI, and DIS levels, which are biomarkers of oxidative damage, were significantly increased in the HT group ( $p<0.001$ ). TAS, TT, and NT levels were significantly decreased in the HT group ( $p<0.001$ ). M30 and M65 levels, which are cell death biomarkers, were significantly higher in the HT group ( $p<0.001$ ).

**Conclusions:** It is thought that the increase in oxidative stress and cell death biomarkers in HT patients may be guiding in determining early diagnosis strategies for the disease. Our next step to improve our project is to group HT patients according to their levels and calculate at which stages biomarkers will be significantly different.

**Keywords:** Cell death, Hashimoto's thyroiditis, inflammation, oxidative stress



## ORAL PRESENTATIONS

## [OP-09]

**Effect of *Pinus Nigra* extract and chemotherapeutic drugs on A549 and MCF-7 cancer cells**

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**Aims:** Various studies have been conducted on the use of extracts derived from *Pinus* species, which contain terpenoids, steroids, proanthocyanidins, and flavonoids, for their antibacterial, antifungal, and wound healing properties. Most chemotherapeutic drugs prevent the growth and proliferation of malignant cells with their cytotoxic effects and induce their death. This study aimed to demonstrate the effects of *Pinus Nigra* cone extract on human lung and breast cancer cells, as well as its effects on breast cancer cells treated with chemotherapeutic drugs *in vitro*.

**Methods:** After 2D seeding of A549 and MCF-7 cells, dose optimizations of *Pinus Nigra* cone extract (0.625 µM-1000 µM) and lenalidomide (1.5 µM-100 µM), ribociclib (1.5 µM-100 µM) and venetoclax (1.5 µM-100 µM) were performed. After 24 hours, the morphology of cancer cells was examined under a microscope and their metabolic activity was determined by 3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyl-tetrazolium bromide (MTT) assay at 570 nm wavelength.

**Results:** The IC50 values of *Pinus Nigra* cone extract and chemotherapeutic drugs lenalidomide, ribociclib, venetoclax applied to A549 and MCF-7 cancer cells were 160 µM, 48.63 µM, 13.59 µM, 6.55 µM, respectively.

**Conclusions:** *Pinus Nigra* cone extract has been observed to decrease the number of cancer cells and the activity of mitochondrial dehydrogenase enzyme in A549 and MCF-7 cell lines, while ribociclib and venetoclax showed similar effects specifically in MCF-7 cell lines. However, increasing the dose of lenalidomide did not prove effective.

**Keywords:** Lung cancer (A549), breast cancer (MCF-7), *Pinus Nigra*, chemotherapeutic drugs

## [OP-10]

**Six-year impression of risky health behaviors of risky health behaviors: 1<sup>st</sup>-year results**

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**Aims:** This study aimed at studying the changes in the health of medical students and the risk factors they were exposed to during their education.

**Methods:** This cross-sectional study included 144 students randomly selected from the first-year students of University of Health Sciences Türkiye, Gülhane Faculty of Medicine, University of Health Sciences Türkiye, between March 11 and 31, 2024.

**Results:** Of the participants, 40.9% (n=59) were female, 33.4% (n=48) were military students, 57.6% (n=83) did not eat regularly, and 4.1% (n=6) had a chronic disease. The proportion of never, ever, and current smoking was 84.7% (n=122), 4.1% (n=6) and 11.1% (n=16), respectively. Frequent and occasional alcohol consumption was reported by 2.7% (n=4) and 18% (n=26), respectively. The proportion of students living away from their families was 78.9% (n=75), who also reported that living away from their families negatively affected their mood. Previous antidepressant use was recorded by 14.5% (n=21) and 7.6% (n=11) of the participants reported that they had thought of suicide.

**Conclusion:** Educational activities are required for students on the dangers of smoking and alcohol use. In addition, students who are away from their families should be provided with psychological support.

## ORAL PRESENTATIONS

## [OP-11]

**The efficiency of transarterial chemoembolization therapy in hepatocellular carcinoma**

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**Aims:** This study investigated the efficiency of transarterial chemoembolization in hepatocellular carcinoma patients.

**Methods:** In Bilkent City Hospital between June 2022 and March 2023, transarterial chemoembolization therapy has been applied to 13 hepatocellular carcinoma patients. Doxorubicin emulsion and lipiodol were administered via the hepatic artery. The patients were evaluated after six months with abdomen computed tomography, serum albumin, bilirubin, hematocrit, prothrombin time, and alfa-fetoprotein levels.

**Results:** The mean age was 66.2 years. The etiological factors were hepatitis B in 9 and hepatitis C in 4 patients. The localization of the tumor was unifocal in 9, and multifocal in 3 patients. One patient had diffuse involvement. There were 6 lesions with a diameter >5. No complication was recorded in any patient. Type 3 and type 3 reactions were observed in 8 and 5 patients, respectively.

**Conclusions:** Transarterial chemoembolization therapy is generally the most frequently preferred method in hepatocellular carcinoma patients when surgical intervention is impossible. After catheterizing the artery that nourishes the tumor, the chemotherapeutic substance is mixed with lipiodol and is given to the hepatic artery. When transarterial chemoembolization therapy is combined with locoregional and systemic treatments, it may improve survival. Transarterial chemoembolization therapy is an efficient palliative treatment method in selected hepatocellular carcinoma patients when surgical intervention is impossible that provides local control of the tumor and increases survival.

**Keywords:** Transarterial chemoembolization, hepatocellular carcinoma, safety, efficacy

## [OP-12]

**Tumor excision and personalized cranioplasty**

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Decompressive craniectomy refers to the removal of a part of the skull to reduce brain and intracranial pressure in conditions such as subarachnoid hemorrhage, increased intracranial pressure, brain injury, tumor, brain edema, and skull fractures. Following decompressive craniectomy, cranioplasty surgery is performed to reconstruct the skull, restore protective barriers, improve intracranial physiology, and regulate cerebrospinal fluid and blood flow. Cranioplasty can be conducted using autologous bone, polymethylmethacrylate, polyetheretherketone, titanium, porous hydroxyapatite, and their derivatives. A planning phase is undertaken to perform tumor excision and placement of a personalized implant into the skull in the same surgical session. Before surgery, computed tomography scans are utilized to delineate the boundaries of the tumor to be excised. These scans are converted into 3D models using software like mimics or alternative programs to identify the resulting defect. The tumor boundaries may not be as clearly visible during surgery as they appear on the computer. Therefore, a surgical guide is designed using computer assistance, and an appropriate implant is tailored to fit the defect. Models of the patient's tumor, cranial structure, implant, and surgical guide are produced using 3D printers. Surgical rehearsals are conducted using these models. This process facilitates the simultaneous execution of two separate procedures and shortens the overall process. On the day before surgery, the incision site is planned. Surgery for tumor-bearing patients is guided by the surgical guide. Tumor excision is performed according to the guide, and the implant is placed over the defect with mini screws to achieve aesthetic harmony with the cranial structure. Post-operative checks are conducted via computed tomography scans. Common complications following surgery include infection, intracranial bleeding, extradural fluid collections, hydrocephalus, seizures, and bone resorption. The outcome of the surgery restores cranial integrity and cerebrospinal fluid dynamics. Psychosocial development and improved quality of life are observed in patients whose cranial integrity is restored aesthetically. The restoration of neurological functions is also presumed, although not definitively confirmed.

**Keywords:** Tumor, craniectomy, cranioplasty, software programs



**May 3<sup>rd</sup> - 5<sup>th</sup>, 2024**

**Abstract Supplement of Gülhane Faculty of  
Medicine Dr. Hikmet Boran National Medical  
Student Congress**

**POSTER PRESENTATIONS**

## POSTER PRESENTATIONS

## [PP-01]

**A newborn with encephalocele and Dandy-Walker variant**

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Dandy-Walker variant (DWv) is a congenital anomaly characterized by hypoplasia of the cerebellar vermis, cystic dilation of the fourth ventricle and a normal-sized posterior fossa. It is commonly associated with other brain malformations in most cases. Its association with occipital encephalocele is rare. Encephalocele is a diverticulum formation of brain tissue outward from a defect in the calvarium. It is a rare defect of the neural tube. A female infant was born at 37 weeks of gestation. Fetal magnetic resonance imaging (MRI) at 23 weeks of gestation demonstrated an anomaly of the central nervous system, described as an occipital encephalocele. On physical examination performed after birth, the patient had an encephalocele cyst of approximately 4 centimeters in the occipital region and a cleft lip. Additionally, postnatal MRI showed a cystic area with septation associated with the fourth ventricle, hypoplasia of the cerebellar vermis, and dilation of the lateral ventricle. These findings were considered as DWv. Encephalocele cyst was excised and duraplasty was performed at one day old. One month after birth, the patient had hydrocephalus. A cystoperitoneal shunt was performed. In the postoperative term, there was no wound defect. Growth in the head circumference stopped after the surgery. The coexistence of DWv and encephalocele is extremely rare and should be followed up multidisciplinarily because of the additional anomalies that may accompany it.

**Keywords:** Encephalocele, Dandy-Walker variant, hydrocephalus, congenital

## [PP-02]

**After acute ischemic stroke: Returning to normal life**

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A 61-year-old male with a history of rheumatoid arthritis presented to the emergency department with acute onset facial drooping and left-sided weakness. The patient, who had no history of antiplatelet or anticoagulant use, was routinely taking Methotrexate, plaquenil, and folate. Upon evaluation, he was conscious and oriented, exhibiting 1/5 muscle strength in the left upper and lower extremities and motor aphasia. Brain computed tomography (CT) and CT angiography revealed occlusions of the right internal carotid artery and right middle cerebral artery, leading to a diagnosis of acute ischemic stroke. Intravenous tissue plasminogen activator was administered, followed by a successful thrombectomy. During digital subtraction angiography, thromboaspiration was performed and a carotid stent was placed in the right internal carotid artery. A follow-up diffusion-weighted magnetic resonance imaging at 24 hours demonstrated a deep branch infarction in the right middle cerebral artery territory with concomitant hemorrhage. A brain CT scan confirmed hemorrhage in the infarct area. Due to the bleeding, the initial treatment with acetylsalicylic acid (ASA) 100 mg and clopidogrel 75 mg was modified to only clopidogrel 75 mg. Upon regression of the hemorrhage on subsequent brain CT, ASA 100 mg was reintroduced. The patient was subsequently transferred to the neurology clinic, where he was found to be conscious, cooperative, and oriented, with 4/5 muscle strength in the left upper and lower extremities, but with limited verbal response. This case highlights the complexities involved in the management of acute ischemic stroke with associated hemorrhage and emphasizes the need for individualized treatment strategies.

**Keywords:** Acute ischemic stroke, IV tPA, thrombectomy, thrombolytic

## POSTER PRESENTATIONS

## [PP-03]

**Artificial intelligence in studies related to programmed cell death protein PD-L1 in non-small cell lung cancer**

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Non-small cell lung cancer (NSCLC), the most common subtype of lung cancer, accounts for approximately 85% of all cases. Significant advances are being made in the diagnosis and treatment of NSCLC, especially with the help of molecular translational research. Programmed cell death ligand 1 (PD-L1) is an important cell surface protein that plays a central role in many types of cancer. It is considered the gold standard predictive biomarker for immunotherapy selection in advanced NSCLC patients. In clinical studies, protein profiling and immunofluorescence methods are promising for routine PD-L1-related tests and advances in this field have been accelerating with the help of artificial intelligence (AI). Machine learning (ML), a subset of AI, is defined as a method of analyzing sample data with a target task, parsing this data into predictive models and clustering it on its own, and then analyzing it by the computer. As the most used method for predicting efficiency and analyzing multi-omics data, ML has been one of the promising developments in evidence-based medicine. Many prediction models based on ML algorithms are used today due to the development and widespread use of digital images. Research shows that AI has made progress in early diagnosis and screening of NSCLC and in evaluating immunotherapy effectiveness and prognosis. It is anticipated that future research and AI methods will advance the diagnosis and treatment of NSCLC even with a single marker.

**Keywords:** Non-small cell lung cancer, immunotherapy, PD-L1, artificial intelligence (AI), machine learning (ML)

## [PP-04]

**Levodopa-carbidopa intestinal gel treatment as an alternative to oral therapy in Parkinson's disease**

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**Aims:** Parkinson disease is one of the most common disorders in the world. It is primarily distinguished by its motor symptoms, including bradykinesia, rigidity, and resting tremor.

**Methods:** In advanced Parkinson disease, the progressive multisystem nature of the disease becomes apparent. The motor and non-motor symptoms worsen, affecting the quality of life negatively. After getting treatment with oral levodopa, treatment-related complications such as motor fluctuations and dyskinesia are possible. Oral treatment options become less effective due to problems with oral absorption and associated dopamine pulsatile stimulations. This is why using device-aided therapies such as levodopa-carbidopa intestinal gel (LCIG) can be beneficial alternatives.

**Results:** LCIG is advantageous against absorption problems because the gel suspension is directly infused into the jejunum. LCIG also reduces both motor and non-motor fluctuations. Patients who have problems with nocturnal fluctuations, troublesome dyskinesia, and severe "off" times can benefit from LCIG. Evidence from different studies suggests that LCIG improves both motor and non-motor symptoms across multiple systems, improving the quality of life and lessening the caregiver burden.

**Conclusions:** Aside from the risks of the percutaneous gastrostomy, the downside of this treatment is usually device-related. Taking care of the device can raise problems during daily life activities. However, patients report that their quality of life is overall improved. However, the patients still need to be supervised during the treatment. In conclusion, LCIG therapy is advantageous in several aspects for advanced Parkinson disease; however, studies are ongoing.

**Keywords:** Intrajejunal, levodopa-carbidopa intestinal gel, Parkinson disease, motor symptoms, non-motor symptoms

## POSTER PRESENTATIONS

## [PP-05]

**Stem cells in pancreatic cancer: The key to treatment resistance and relapse**

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**Aims:** Pancreatic cancer (PC) is a severe public health problem due to its difficulty in early diagnosis and rapid metastasis. It is also highly resistant to chemotherapy and radiotherapy. However, a study has shown that one of the main factors leading to chemotherapy resistance in PC is cancer stem cells (CSCs) that express cell surface markers such as CD44, CD24, and epithelial-specific antigen. Additionally, these cells possess self-renewal and differentiation capabilities.

**Methods:** Recently, Feng et al. conducted a study to develop new strategies for the treatment of pancreatic ductal adenocarcinoma (PDAC) and to understand the epigenetic-based molecular mechanisms controlling CSCs. Accordingly, the inhibition of the BRD9 protein, a critical chromatin regulator in maintaining the stemness of pancreatic CSCs, significantly reduced tumorigenesis in mouse models and eliminated CSCs in tumors from PC patients. Thus, BRD9 has strong potential as a novel therapeutic target in PDAC treatment.

**Results:** Another study by Ferguson et al. found that SMARCD3, a SWI/SNF complex subunit, was highly expressed in pancreatic CSCs. However, stage-specific deletion of SMARCD3 in mice increased the sensitivity of established tumors to chemotherapy and, therefore, improved patient survival. This study revealed that SMARCD3, an epigenetic regulator, could be a potential therapeutic target for PC.

**Conclusions:** Identifying specific CSC markers in PC and elucidating the signaling pathways, epigenetics, and other molecular mechanisms that maintain these cells will enable the development of new and effective treatment strategies to suppress tumor growth and prevent relapse.

**Keywords:** Pancreatic cancer, cancer stem cell, relapse, treatment strategies

## [PP-06]

**Approach to chemical eye injuries: A case report**

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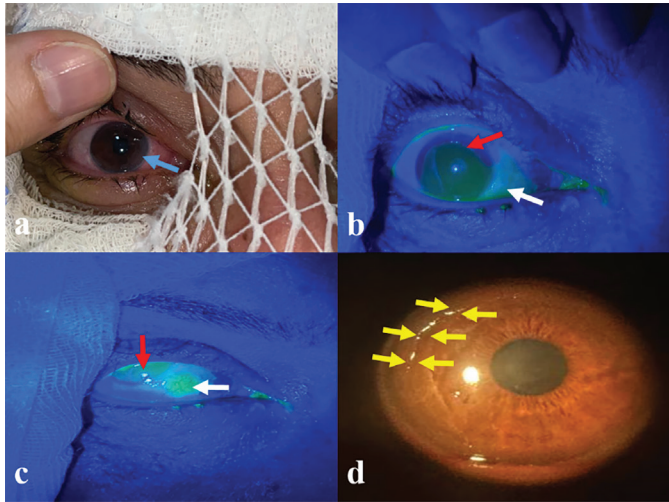
**Aims:** Chemical eye injuries are emergencies that threaten vision. The extent of damage depends on factors such as chemical concentration, pH, quantity, exposure duration, and type and timing of the first intervention. Chemical injuries can be caused by acid and alkali substances. Ammonia, lime from alkalis, hydrochloric acid, and sulfuric acid from acids are the most common. Alkaline substances penetrate tissues rapidly due to hydroxyl ions, primarily damaging the anterior segment. Acids denature proteins, affecting corneal epithelium and stroma layers. Acid injuries are more common due to their affordability. Many acids are used in industry, cleaning, and, as a current issue, hate crimes. Acidic injuries may lead to corneal epithelial necrosis, limbal vascular occlusion, limbal stem cell loss, delayed epithelial healing, ulcers, and corneal perforation. Correct intervention by emergency physicians is crucial for good visual prognosis and complication prevention. This involves eyelid opening, eye movement, and irrigation with at least 2 liters of saline solution for 30 minutes and particle removal. Substances like lime that react with water are exceptional. Buffering agents for alkaline/acids may be applied. Subsequently, a detailed ophthalmological examination is required, including eyelids, conjunctiva, corneal transparency, and epithelialization. Visual acuity, intraocular pressure, and anterior chamber inflammation should be assessed. The detailed recording of the examination is considered important from a medicolegal perspective. Treatment options include artificial tears, topical antibiotics for epithelial damage, topical corticosteroids for inflammation and oral antibiotics. Debridement, bandage contact lenses, and growth factor-rich cord blood can stimulate corneal epithelialization, while vitamin C supplementation may aid corneal healing. In severe cases, advanced ophthalmological interventions such as lid surgery, stem cell transplantation, and corneal transplantation may be necessary. Our purpose in this case report was to emphasize the importance of early interventions in chemical eye injuries.

**Case presentation:** A 41-year-old female presented with nitric acid exposure resulting in chemical trauma. She received water irrigation at the scene and saline eye wash was performed with 3L saline for 30 minutes in the emergency department. Examination revealed a normal left eye and right eye exhibiting hyperemic conjunctiva, limbal necrosis, and total epithelial defect in the cornea. Visual acuity was worse than 1/10 bilaterally. Epithelial debridement was performed, followed by topical antibiotics and corticosteroids, artificial tears, and vitamin C. By the second week, epithelial healing was achieved. The patient's cornea was transparent at the 10<sup>th</sup>-month follow-up.

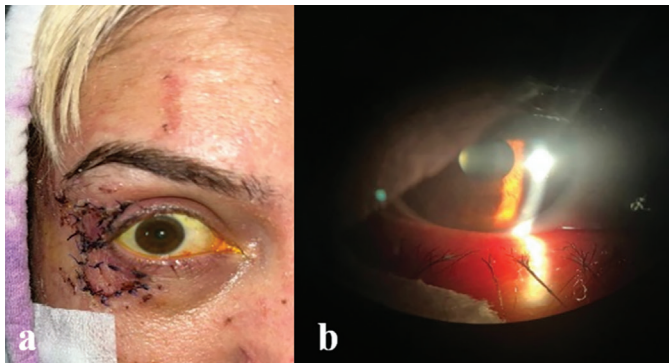
**Conclusions:** This case underscores the critical role of early and accurate intervention in chemical eye injuries ranging from simple irritation to organ and function loss.

**Keywords:** Chemical eye injury, acidic injury, corneal damage

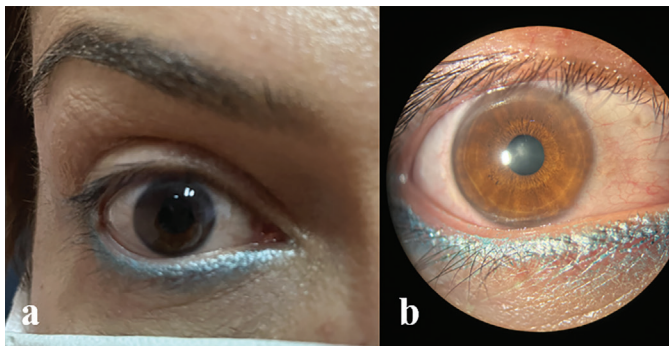
## POSTER PRESENTATIONS



**Figure 1.** (a) After washing, local examination reveals eyelash burns, conjunctival hyperemia, and epithelial edema in the cornea (blue arrow). (b) Before treatment, conjunctival (white arrow) and corneal epithelial damage (red arrow) are observed under fluorescein staining and blue light filter. Yellow color uptake indicates damage. (c) Conjunctival damage (white arrow) and corneal epithelial damage (red arrow) are observed. (d) Before treatment, the biomicroscopic photograph shows the temporal border of corneal epithelial defect (the area within the yellow arrows)



**Figure 2.** (a) Photograph at the second week of treatment, (b) photograph of the healed anterior segment at the second week of treatment



**Figure 3.** (a) The patient's photograph at the 10<sup>th</sup> month post-chemical injury, (b) the anterior segment photograph of the eye at the 10<sup>th</sup> month post-chemical injury

[PP-07]

**Artificial intelligence in pathology practice**Uğur Tanık<sup>1</sup>, Zafer Kocaman<sup>1</sup>, Nazif Alperen Yıldırım<sup>2</sup>, Gülçin Güler Şimşek<sup>3</sup><sup>1</sup>University of Health Sciences Türkiye, Gülhane Faculty of Medicine, Medical Student, Ankara<sup>2</sup>University of Health Sciences Türkiye, Gülhane Training and Research Hospital, Clinic of Pathology, Ankara, Türkiye<sup>3</sup>University of Health Sciences Türkiye, Gülhane Faculty of Medicine, Department of Pathology, Ankara

Artificial intelligence (AI) is revolutionizing pathology by enhancing diagnostic accuracy and efficiency. AI integration in pathology addresses interobserver variability, ensuring consistent and rapid processing of pathology specimens. Beyond diagnosis, AI predicts prognosis and patient outcomes, showing superior performance in various studies. For instance, AI has improved cancer detection accuracy by 7.3%, especially in small specimens, and in prostate cancer, AI algorithms match or exceed the diagnostic capabilities of senior pathologists, reducing the need for second opinions by up to 40%. In gastrointestinal diseases, AI achieves the same accuracy as pathologists in complex biopsy analyses. Additionally, AI-assisted immunohistochemistry staining shows a high correlation with pathologist scoring, with Spearman correlation coefficients of 0.88 and 0.90. AI's accuracy in diagnosing and classifying brain tumors reaches up to 88%, and in screening cervical cancer using whole slide images, AI attains 93.5% specificity and 95.1% sensitivity compared to trained pathologists. Despite these advancements, challenges remain in the clinical implementation of AI in pathology. The need for large datasets and storage space poses financial challenges for institutions. Data privacy, comprehensive validation, and avoiding over-reliance on automated systems are crucial to addressing ethical concerns. Ongoing education and training for medical staff are essential for effective adaptation to AI technologies. As AI evolves, it promises to significantly impact pathological services, leading to improved patient care and outcomes and reducing diagnostic times. The future of AI in pathology is promising, contingent on overcoming these challenges in the coming years.

**Keywords:** Digital pathology, oncopathology, artificial intelligence, machine learning, anatomic pathology

## POSTER PRESENTATIONS

## [PP-08]

**The use of virtual reality applications in managing symptoms related to chemotherapy: A systematic review**

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**Aims:** At the beginning of the 21<sup>st</sup> century, cancer has become one of the most common causes of death worldwide. Cancer ranks as the second-largest group of chronic and non-communicable diseases and is the third leading cause of death. Chemotherapy and medications are routinely used in cancer treatment, administered in two- to four-week cycles. They can lead to symptoms such as pain, loss of appetite, fatigue, vomiting, and nausea. Among cancer patients receiving chemotherapy, pain is a frequent issue. Pain can manifest across various types of chemotherapy. To manage chemotherapy side effects, numerous non-pharmacological or alternative methods are available. Research indicates that non-pharmacological treatments, including music therapy, acupuncture, massage, guided visualization, hypnosis, and virtual reality (VR) therapy, are also utilized.

**Methods:** This study aimed to systematically evaluate the use of VR in managing symptoms related to chemotherapy. A systematic review was conducted by searching articles in PubMed, Science Direct, Google Scholar, and Cochrane Library databases from February to March 2024. The search terms included combinations of chemotherapy, symptom management related to chemotherapy, VR use in oncology, and VR use in managing symptoms related to chemotherapy. A total of 2,050 articles were identified during the search. Among these, 20 studies were relevant to the topic. After screening, 5 articles meeting the study criteria were included in the evaluation.

**Results and Conclusions:** VR through human-computer interaction provides an immersive experience. Research has shown that VR interventions are more effective in anxiety and depression control compared to standard care. In a computer-generated real-time VR environment, participants can divert their attention from the real world and focus on VR content, thereby reducing their anxiety and cancer symptoms.

**Keywords:** Chemotherapy, symptom management related to chemotherapy, virtual reality use in oncology, virtual reality use in managing symptoms related to chemotherapy

## [PP-09]

**The human tail**

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**Aims:** The human tail is one of the most interesting and rare congenital malformations of neural tube defects. There are two types of tails known to originate from the distal remnant of the embryonic tail. The true human tail is a vestigial organ containing adipose tissue and other connective tissues without vertebrae. Pseudotails, which bear superficial resemblances to the true tail, may occur connected to an underlying pathology such as lipoma or teratoma and are more commonly observed in the lumbosacroccygeal region. It is often accompanied by spina bifida.

**Case presentation:** The first patient was a 19-month-old baby boy born with a 6 cm tail at the midline. A low-lying conus was detected on magnetic resonance imaging (MRI). Unlike the others, the lipoma did not perform intraspinal invasion and is accompanied by spina bifida. The second patient was a 4-month-old baby boy born with a 2 cm tail and dermal sinus at the lateral. MRI showed an intraspinal lipoma and a low-lying conus. The third patient was a 20-year-old male with a 1 cm tail at the midline. Intraspinal lipoma and low conus were seen on MRI.

**Conclusions:** Radiological evaluation is important in human tail cases. An MRI study should be performed to investigate the spinal pathologies of the lipoma accompanying the pseudotail and to determine if there is a nerve invasion.

**Keywords:** Tail, pseudotail, lipoma, spina bifida



## POSTER PRESENTATIONS

[PP-10]

**Sexual health after treatment in breast cancer patients: E-health applications**Zehra Akay<sup>1</sup>, Belgin Varol<sup>2</sup><sup>1</sup>University of Health Sciences Türkiye, Gülhane Faculty of Nursing, Ankara<sup>2</sup>University of Health Sciences Türkiye, Gülhane Faculty of Nursing, Department of Psychiatric Nursing, Ankara

**Aims:** The number one cause of cancer-related death in women worldwide is breast cancer. The survival rate for women with breast cancer changes every day. While the survival rates of breast cancer patients have increased compared to the past, post-treatment genitourinary and sexual health problems are more common today. The purpose of this review study is to examine the patient-centered treatment process for sexual health problems faced by patients after breast cancer.

**Methods:** For the study, 172 studies conducted between 2014 and 2024 with the keywords breast cancer, sexual health and patient-centered care were

examined using the PubMed database, and detailed analysis was performed on 32 of these studies.

**Results:** When we look at the studies conducted in the last decade, we see e-health (health information and communication technologies) applications to improve patient-centered cancer care. Among these applications, it has been observed that various patient-centered artificial intelligence and web-based systems have been developed to increase the quality of life and health outcomes of cancer patients after treatment. However, the content of personalized follow-up and consultancy services is not focused on solving sexual life problems. Current research on sexual health problems generally focuses on methods such as drug treatments, pilates, exercise and the use of lubricants. Studies that identify patients' physical and emotional needs regarding sexual health and solve the problems experienced with e-health are limited.

**Conclusions:** These technologies can provide patients with personalized information and support, improving their quality of life and helping them cope with sexual life problems. However, more research is also needed on the effectiveness and reliability of these technologies.

**Keywords:** Breast cancer, sexual health, nursing, patient-centered care