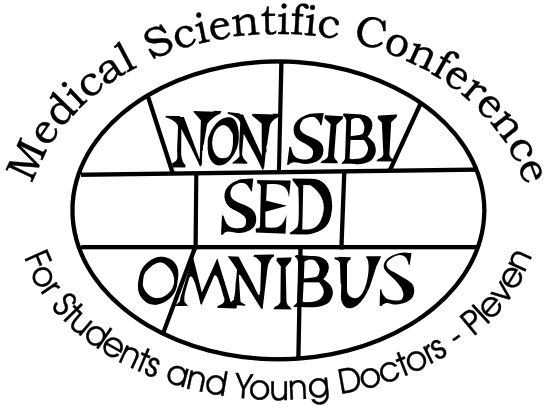
MEDICAL UNIVERSITY – PLEVEN, BULGARIA

XXI INTERNATIONAL MEDICAL SCIENTIFIC CONFERENCE FOR STUDENTS AND YOUNG DOCTORS
14 – 18 OCTOBER 2024

MEDICAL UNIVERSITY – PLEVEN, BULGARIA



ABSTRACT BOOK

Under the auspices of the Rector of Medical University – Pleven, Bulgaria

Prof. Dobromir Dimitrov, MD, PhD

WEBSITE:
www.mu-pleven.bg
www.mdsc.mu-pleven.bg

Publisher: Publishing Center Medical University – Pleven

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ISBN 978-954-756-349-0 (Book)
ISBN 978-954-756-350-6 (PDF E-book)

Dear students, young colleagues and friends,
Dear international guests,

It is a great pleasure and honour for me to invite you at Medical University – Pleven as participants and invited speakers of the XXI International Medical Scientific Conference for Students and Young Doctors under the **motto: The new generation: excellence and innovation.** The international student forum is a significant part of the festive calendar of our Alma Mater dedicated to the **50th Anniversary** from the foundation of the University.

This year we are celebrating 50 years of education and science in Pleven! This scientific event has been an emblem of Medical University – Pleven for 21 years as the most successful international student forum in Bulgaria attracting participants from all over world! I am extremely proud to be part of the history of the conference – 21 years ago as a medical student at our University; I was one of the first founding organizers of this significant international student forum. Therefore, I am perfectly aware of how much energy and hard work it takes to organize such kind of event entirely by our students for their colleagues.

Dear guests and colleagues,

There are at least three key factors for a successful scientific forum. The first one is the educational institution – Medical University of Pleven is a pioneer in robotic surgery, telemedicine, telepathology, 3D medicine, bioprinting and 3D printing constantly introducing advanced technologies in education and clinical practice. Although our university is small in size and young in age it is one of the most dynamically developing in the country attracting growing numbers of Bulgarian and international students.

The second and most important factor is the presence of our students. I am proud of these young people who are curious and brave, eager to study and discover; seeking new challenges and adventures; always motivated and committed.

The third key factor is the support – students need the support of their professors in order to stay motivated, devoted and inspired. That is why we, their professors and the international speakers, are here - to teach them, to support them, to show and to guide them along the way of medical science, knowledge and practice. Steve Jobs said: “Innovation distinguishes between a leader and a follower”. You are the next generation in medicine, healthcare and research – be dedicated, be curious, be pioneers and leaders!

We are looking forward to welcoming you at Medical University – Pleven for participation in the **XXI International Medical Scientific Conference for Students and Young Doctors!**

PROF. DOBROMIR DIMITROV, MD, PHD
RECTOR OF MEDICAL UNIVERSITY – PLEVEN, BULGARIA

DEAR TEACHERS,
DEAR COLLEAGUES AND FRIENDS,

Once again, it is our pleasure to welcome you to the **XXI International Medical Scientific Conference for Students and Young Doctors (MDSC)** with this year's motto "The New Generation: Excellence and Innovation".

The twenty-first edition of this inspiring forum of young scientists will take place on **14th October – 18th October 2024 at the University Telecommunication Endoscopic Center (TELEC) of MU-Pleven.**

It has been 21 years since one exciting beginning who set the first steps to infinite science and shared experience. These years are full of hard work, challenges and successes. Twenty one years of memories, new friendships and strong relations that will live through time!

It has been 50 years since Medical University – Pleven started giving us knowledge and wisdom! It is a fortress of future light in education and research and a path to good realization and modern training that brightens our professional dreams! And that is why we continue working with the same motivation, passion and curiosity which guided the very first Organizing Committee in the year of beginning 2002!

Following our tradition, we will tirelessly focus on bringing you again to the best lectures and workshops that we strongly believe will broaden your competence in the basic fields of medicine and health sciences.

We also put our efforts on organizing the **Ninth Autumn School on Innovations in Medicine** which has become a hallmark of MU-Pleven during the first conference days. This year, we will focus your attention on three main pillars: Pharmacogenetics, Pharmacotherapy and Oncology. Furthermore, we will cover a number of other innovative topics throughout the entire duration of the conference.

Like in any other remarkable event, your experience would not be completed without meeting new amazing people at our social programme, including a Welcome party and a trip to one of the many beautiful locations in Bulgaria. Therefore, stay tuned for more information.

We are filled with enthusiasm and are looking forward to meeting you all here in Pleven at the XXI International Medical Scientific Conference for Students and Young Doctors.

"The most beautiful things in the world cannot be seen or touched, they are felt with the heart." – Antoine de Saint-Exupéry, The Little Prince

Warmest regards,
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Medical University – Pleven
Pleven, Bulgaria

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10:00 - 14:00	**Registration - TELEC**
11:00 - 11:45	**SURGEONS DR. MOMCHILOVI - FROM STELLAR MOMENTS TO OBLIVION – Prof. Georgi Baichev, MD, PhD**
12:00 - 12:45	**IATROGENIC LESIONS OF THE EXTRAHEPATIC BILE DUCTS – THE ACHILLES HEEL OF LAPAROSCOPIC CHOLECYSTECTOMY – Prof. Kiril Draganov, MD, PhD**
13:00 - 14:00	Lunch breaĸ
14:00 - 14:30	**VASCULAR RESECTIONS IN PANCREATIC CARCINOMA – Prof. Nikola Vladov, MD, PhD**
14:40 - 15:15	**LIVER TRANSPLANTATIONS – Assoc. prof. Vassil Mihaylov, MD,** PhD, FACS
15:20 - 16:00	**L: THE ART OF DEPRESCRIBING: BALANCING RISKS AND BENEFITS IN THE MANAGEMENT OF PSYCHOTROPIC MEDICATIONS – Prof. Svetlana Puzhko, MD, MSc, PhD**
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11:30 - 11:45	Coffee break
11:45 - 12:30	**PLASTIC RECONSTRUCTIONS – Prof. Partha Vaiude MD, PhD**
12:40 - 13:20	**HEALTHTECH – SHAPING OUR FUTURE AS ENTREPRENEURS (IN PLEVEN) – Teodor Todorov**
13:20 - 14:00	Lunch break
14:00 - 14:45	**COLORECTAL CANCER SCREENING CT COLONOSCOPY – Gloria Adam, MD**
15:00 - 15:40	**Sleep in mythology and art – Assoc. prof. Kiril Terziyski, MD, PhD**

15:45 - 16:20	**OFFICIAL OPENING CEREMONY** **AL: DRUG INTERACTIONS WITH ALCOHOL AND TOBACCO – Corresponding Member of BAS prof. Georgi Momekov, MPharm, PhD**
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10:45 - 11:15	**PL: ERC FOR NEWBORN LIFE SUPPORT AND PEDIATRIC LIFE SUPPORT – Borislav Tsonev, MD**
11:15 - 12:45	**POSTER SESSION**
12:45 - 13:00	Coffee break
13:00 - 14:30	**SECTION: ”THE COLLISION OF THE PAST WITH THE FUTURE”** **Boris Tablov, MD** **Assoc. Prof. Polina Marinova, MD** **Ruja Gencheva, MD**
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15:00 - 16:00	**ORAL PRESENTATIONS BY SECTIONS: “VARIA”**
16:00 - 16:15	Coffee break
16:15 - 17:15	**ORAL PRESENTATIONS BY SECTIONS: “INTERNAL MEDICINE”**
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12:00 - 13:00	**ORAL PRESENTATIONS BY SECTIONS: “PHARMACY”**
13:15 - 14:45	**PL: A MULTIDISCIPLINARY APPROACH TO CSI AND DURING MEDICO-LEGAL INVESTIGATION – Yanko Kolev MD, PhD**
15:00 - 16:00	**KL 3: NOVEL THERAPEUTIC STRATEGIES IN THE MANAGEMENT OF SOLID MALIGNANCIES –** Assoc. prof. Zhelyazko Arabadzhiev, MD, PhD
16:15	OFFICIAL CLOSING CEREMONY

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NINTH AUTUMN SCHOOL INNOVATIONS IN SURGERY AND GENERAL PRACTICE INNOVATIONS IN PHARMACOLOGY AND MEDICINE

14 – 15 October 2024

14th October 2024

SURGEONS DR. MOMCHILOVI – FROM STELLAR MOMENTS TO OBLIVION

Baichev G., MD, PhD
Military Medical Academy, Sofia

Ivan Momchilov, the founder of the first Bulgarian class school, known as Daskalolivnitsa, (Elena, 1844) gave the beginning of the Momchilov family, from which the surgeons Ivan, Hristo and Petko Momchilovi descend.
All three graduated and specialized in well-known Western European universities. They loved Bulgaria and as military doctors take an active part in the wars for national unification. Their daily life was full of activities, dedication, difficulties and romanticism, they receive appreciation from society, but they have a tragic personal fate. They leave examples of charity, so characteristic of our post-liberation era.

IATROGENIC LESIONS OF THE EXTRAHEPATIC BILE DUCTS - THE ACHILLES HEEL OF LAPAROSCOPIC CHOLECYSTECTOMY

Draganov K.L.
Liver, Biliary, Pancreatic and General Surgery
Acibadem City Clinic UMBAL Tokuda

BACKGROUND
The incidence rate of iatrogenic bile duct lesions (IBDLs) has significantly increased after the rapid spreading of laparoscopic cholecystectomy (LC) worldwide. IBDLs are serious and life-threatening complications of different type, concerning mechanism of injury, location, severity, clinical presentation, time of detection and diagnosis. All these factors are the main determinants of the therapeutic approach.
AIM
Presentation of the experience of a single high-volume center in the diagnosis and treatment of IBDLs.
MATERIAL AND METHODS
A cohort of 81 patients with IBDLs were treated in our institution between 2009-2023. Endoscopic retrograde cholangiopancreatography (ERCP) was the main diagnostic tool and a method of treatment in 35 cases (Group 1.) with stenoses or minor injuries (bile leakage drained properly). The other 46 patients (Group 2.) had major lesions (total transection of the common hepatic/common bile duct with/ without structural defects) and received surgical repair. Time of detection (during/ after LC), clinical presentation and severity (peritonitis, SIRS, sepsis), ERCP-data, treatment procedure (endoscopic stenting or surgical reconstruction) and early results were collected and analyzed retrospectively.
RESULTS
There was no mortality in Group 1. Six patients (17.1%, n=6/35) had one or more episodes of cholangitis and needed re-ERCP, stent replacement and antibiotic treatment. Mortality and morbidity rates in Group 2. were 2.2% (n=1/46) and 17.4% (n=8/46) respectively. Late detection (more than 72 hours after LC), age above 65 years, male sex, major injuries and comorbidity were significant risk factors for worse results.
CONCLUSION
Once an IBDL has been caused it necessitates an adequate multidisciplinary approach but even in such cases the postoperative early and long-term results are often disappointing. That's why prevention of IBDLs should be aimed.

Keywords: *laparoscopic cholecystectomy; iatrogenic bile duct lesions; endoscopic retrograde cholangiopancreatography*

VASCULAR RESECTIONS IN PANCREATIC CARCINOMA

Vladov N.
Liver, Biliary, Pancreatic and General Surgery
Military Medical Academy, Sofia

LIVER TRANSPLANTATIONS

Mihailov V.
Department of Liver, Biliary, Pancreatic and General Surgery
Military Medical Academy, Sofia, Bulgaria

Liver transplantation (LT) is an established method of treatment for patients with end-stage liver disease (liver cirrhosis), metabolic diseases with a primary liver defect, primary liver tumors (hepatocellular carcinoma), as well as acute liver failure. Improvements in perioperative care, surgical technique and immunosuppression in recent years have led to its becoming a routine intervention with constantly improving results. The purpose of this presentation is to present the indications, surgical techniques and results of the liver results performed so far in the Military Medical Academy.

THE ART OF DEPRESCRIBING: BALANCING RISKS AND BENEFITS IN THE MANAGEMENT OF PSYCHOTROPIC MEDICATIONS

Puzhko S.
Department of General Practice and Family Medicine,
Medical School OWL, Bielefeld University, Germany

The increasing prevalence of polypharmacy among patients with multimorbidity, particularly those over 65 years of age, necessitates a critical evaluation of medication management, especially concerning psychotropic drugs. Taking multiple medications can lead to significant adverse effects, drug-drug and drug-disease interactions, and a decline in overall well-being. This presentation addresses the challenges and strategies associated with deprescribing inappropriate medications.
Physicians often face difficulties in deprescribing psychotropic and anticholinergic medications due to concerns about withdrawal symptoms and challenges in selecting the appropriate tapering and discontinuation regimen. To facilitate effective deprescribing, members of the German Deprescribing Network (GeDeN) are developing strategies to assist physicians in their decision-making processes and ensure successful deprescribing. This includes creating indicators for high-risk prescribing and overprescribing, evaluating strategies to enhance interprofessional collaboration among general practitioners, pharmacists, and specialists, as well as between health professionals and patients, and implementing educational interventions aimed at both healthcare providers and patients.
Current research projects, such as the COFRAIL and PARTNER trials, are evaluating the impact of improved communication strategies and tapering support tools on successful deprescribing outcomes. Ultimately, this multifaceted approach seeks to enhance the health and quality of life for older adults through careful medication management.

Keywords: *deprescribing, psychotropic medications, GeDeN*

15th October 2024

THE PHARMACY OF TOMORROW

Lebanova H.
Department „Pharmaceutical Sciences and Social Pharmacy“
Faculty of Pharmacy, Medical University – Pleven, Bulgaria

Pharmacists have played a crucial role in healthcare throughout history, evolving significantly over time. From ancient times, where their work was deeply intertwined with magic and religion, to the highly specialized, science-based profession of today, the role of pharmacists has changed to reflect advances in medicine, science, and society. In the 20th century, the pharmaceutical industry expanded rapidly, and pharmacists' roles evolved alongside technological and medical advances. Nowadays AI systems are expanding into all areas of healthcare including pharmacy The aim of the lecture is to present the different ways AI is likely to enhance and complement the pharmacy profession. These include streamlining drug discovery, personalizing medication therapies, optimizing supply chain management, and improving patient counseling through AI-driven decision support tools. As technology progresses, pharmacists will not only need to adapt to these innovations but also actively collaborate with AI to provide safer, more efficient, and more personalized care to patients.

PLASTIC RECONSTRUCTIONS

Vaiude P.
LSAD LJMU, Liverpool, UK
Surgical Art, UK

Where have we come from? Where are we going? A contemplation.
The worlds of science and art have taken their own paths, however, a thread connects. We will contemplate on these threads that have shaped modern medicine and how its relationships with the other worlds over time will guide us towards what is about to happen…

HEALTHTECH- SHAPING OUR FUTURE AS ENTREPRENEURS (IN PLEVEN)

Todorov T.
ClearWare Ltd, GgrowIT, Bulgaria

Join us for an inspiring session that delves into how cutting-edge advancements in Artificial Intelligence and Information Technology are revolutionizing healthcare and opening doors for medical professionals to become pioneers in health-tech entrepreneurship.

Led by a seasoned software engineer, product manager, health-tech enthusiast, and biohacker, this talk is designed to ignite your entrepreneurial spirit by showcasing how your medical expertise can be the catalyst for groundbreaking startups that make a real-world impact.

We will explore how to leverage AI and IT to identify and address gaps in the healthcare system, and introduce you to resources like our local startups incubator dedicated to nurturing visionary ideas into successful ventures.

By combining innovation with your passion for medicine, you can be at the forefront of shaping the future of healthcare, improving patient outcomes, and advancing global health.

Do not miss this opportunity to transform your career path and join us in harnessing technology to build a healthier future for all.

COLORECTAL CANCER SCREENING CT COLONOSCOPY

Adam G.
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BACKGROUND

Colorectal carcinoma is a significant worldwide problem as it is the third most common cancer and has a high mortality rate. Colorectal cancer screening is established as a standard screening program among others. In recent years, such screening has also been performed reliably with computed tomographic (CT) virtual colonoscopy, which is with proven high sensitivity and specificity.

DISCUSSION

CT virtual colonography for colorectal cancer screening is a safe and highly informative imaging method that can diagnose precancerous polyps or colorectal cancer at any stage. It is used as the method of choice for colorectal cancer screening when classic fiberoptic colonoscopy cannot be performed due to the patient‘s unwillingness or inability or if it is insufficiently informative. It is a non-invasive and quick imaging method that can assess accurately the size and location of the findings along the course of the colon, follow them in dynamics, decide the need for a biopsy, as well as evaluate changes in the surrounding tissues in the abdomen and small pelvis.

CONCLUSION

Computed tomographic colonoscopy is the only alternative imaging modality to standard colonoscopy for colorectal cancer screening. It could diagnose precancerous polyps of the colon and hinder the development of a malignant process, when the suspicious polyps are removed, or already formed malignant changes and through subsequent timely treatment, the survival and mortality can be improved.

SLEEP IN MYTHOLOGY AND ART

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Sleep has been fascinating people from the dawns of history and continues to do so nowadays. Its peculiar nature has served as inspiration to many painters, sculptors, writers, musicians, movie directors and other artists. They have immortalized it in their work of art. It is an integral part of our myths and religion. However, these works are not pure fiction. It turns out they reflect a lot of our knowledge of sleep.
This lecture will tell the story of sleep and some of its disturbances through those very sources who keep it as a part of our human intangible treasury – from the oldest written myth to the sci-fi movies of the 21st century.

LECTURES

ACADEMIC LECTURE

DRUG INTERACTIONS WITH ALCOHOL AND TOBACCO

Momekov G.
Department of Pharmacology, Pharmacotherapy and Toxicology
Faculty of Pharmacy, Medical University – Sofia, Bulgaria

PLENARY LECTURES

NEWBORN LIFE SUPPORT AND PEDIATRIC LIFE SUPPORT: WHY DO WE DO IT THIS WAY?

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This presentation aim to show students and young doctors how unique the pediatric and newborn population is. The author presents the basic principles of paediatric and newborn life support algorithms according to the European Resuscitation Council guidelines, compared to those for adults, and explain why specialists resuscitate in this way.
The key message is that understanding the anatomy, physiology and pathophysiology of newborns and young children, knowing the algorithms of the life support guidelines, working as a team and participating in clinical simulation trainings is the key to be prepared to save children‘s lives.

Keywords: *pediatric resuscitation, newborn life support, simulation training, European guidelines*

A MULTIDISCIPLINARY APPROACH TO CSI AND DURING MEDICO-LEGAL INVESTIGATION

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BACKGROUND AND AIMS
The examination of a crime scene is a crucial step in any investigation, distinguished by its importance and often irreplicable nature. The success of this process hinges on several factors and has a direct bearing on the ultimate goal of delivering justice. A meticulously conducted investigation, involving the careful identification and collection of trace evidence that can be analyzed and transformed into solid proof, can make or break a case. On the other hand, substandard investigative work can have detrimental effects on society, which depends on the justice system to ensure fairness.
METHODS
Complex crime scenes involving serious offenses require a multidisciplinary approach, with a coordinated team of specialists from various fields (such as forensic pathologists, criminologists, photographers, engineers, biologists, entomologists, technicians, digital technology experts, and others). Collaboration among these experts is essential, as is an understanding of each other‘s roles. While comprehensive expertise in all fields is unrealistic, having a broad knowledge of different disciplines and technologies is crucial for finding straightforward solutions to intricate problems. A lack of this understanding can lead to missed opportunities and compromised justice.
RESULTS
Drawing on modern crime scene investigation technologies, we illustrate various scenarios and approaches for fostering effective collaboration. The focus is on the search for biological traces and other evidence, proper collection, and accurate interpretation of data, as well as further processing during medico-legal investigations. The overarching aim is to provide investigators and the court with a clear reconstruction of events, allowing for an objective understanding of the crime‘s circumstances.
CONCLUSION
A well-coordinated team, seamlessly integrating their specialized expertise, is critical to answering all key questions in an investigation.

Keywords: *crime scene investigation, multidisciplinary approach, traces, reconstruction, medico-legal investigation*

KEYNOTE LECTURES

EVIDENCE OF IMPROVEMENT OF TIR PARAMETERS IN PATIENTS USING NEW GENERATION INSULIN COMBINED FORMULA IDEGASP

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Glycemic variability refers to intraday and interday variations in blood glucose leading to the risk of hypoglycemia or hyperglycemia[1] . Glycemic variability is a risk factor for complications of diabetes, increasing the risk of hyperglycemia and hypoglycemia even when the average blood glucose range is normal, increasing the risk of microvascular and macrovascular complications and mortality[2-3] .

HbA1C is important in monitoring and controlling blood glucose. However, the sole use of HbA1c for glycemic goals is not optimal, because HbA1c does not assess hypoglycemia or glycemic variability. Two patients with the same HbA1c level have different blood glucose variations and this is a sign of the risk of hypoglycemia[12] .

CGM with TIR, along with time below target glycemic range (TBR) and time above target glycemic range (TAR), can facilitate safe and effective treatment decision making. There is a strong correlation between HbA1c and %TIR, specifically a 10% change in TIR corresponds to a 0.8% change in HbA1c[16].

The new generation insulin combination formula IDegAsp‘s effectiveness in controlling blood glucose, improving TIR parameter and safety with minimizing the risk of hypoglycemia and glycemic variability have been proven through clinical studies[17-18].In addition, IDegAsp improved the rate of patients achieving >= 70% TIR, without TBR and achieving >=5% increase in TIR compared to IGlar U100[18] .

Besides the benefits of effectiveness and safety, IDegAsp has a flexible injection time with main meal(s)[19-20], reducing the number of injection pens - injections compared to basal-bolus [21], a new generation Flextouch injection pen with precise injection ability, reduces injection force[22], and increases patient satisfaction[23].

Thus, IDegAsp is an option to help comprehensively control diabetes including good blood glucose control, minimizing the risk of hypoglycemia and blood glucose fluctuations, improving TIR parameters and providing a simple & flexible treatment regimen.

TWIN-TO-TWIN TRANSFUSION SYNDROME

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Twin-to-Twin Transfusion Syndrome (TTTS) is a rare, life-threatening condition, affecting 5-18% of identical (monochorionic) twins. It occurs between 16 and 26 weeks of gestation due to blood vessel anastomosis which leads to an imbalance in the blood exchange between the twins. The staging system used for TTTS is the Quintero Staging System (I-V), based upon ultrasound and Doppler study findings, ranging from visible bladder of the donor (stage I) to the death of one/both twins (stage V).

The donor twin suffers from hypovolemia, anaemia, intrauterine growth retardation, and oligohydramnios as a result of oliguria/anuria.

The recipient has hypervolemia which causes increased urine production and therefore - an abnormal increase of amniotic fluid (polyhydramnios) and even heart failure. The syndrome can result in preterm labour, intrauterine fetal demise of one or both twins and the occurrence of potentially lethal conditions in the neonatal period.

At birth a huge weight (~20%) and haemoglobin level (>50g/l) difference can be noted between the donor and the recipient. The most common complications in the early neonatal period are: severe anaemia, hypovolemic shock (donor twin) and polycythemia, heart failure (recipient twin), all of which require immediate care in the NICU.

NOVEL THERAPEUTIC STRATEGIES IN THE MANAGEMENT OF SOLID MALIGNANCIES

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AIMS
This presentation analyses the development of novel therapeutic strategies in the treatment of solid tumors and their impact on overall survival. The goal is to analyse the effectiveness of emerging therapies, such as immunotherapy, targeted therapy, ADCs, compared to traditional methods and to evaluate improvements in patient outcomes.
METHODS
A review of recent literature was conducted to evaluate the efficacy of therapies like immune checkpoint inhibitors and targeted therapies. The role of combination therapies in improving outcomes was also assessed. Comparative studies between traditional and novel therapies were included to measure survival rates and treatment responses.
RESULTS
Findings show that novel therapies have significantly improved survival and QoL in patients with advanced or metastatic solid tumours. Immunotherapy and targeted therapies offer higher response rates and lower toxicity compared to traditional regimens. Multimodal treatments, which combine novel and conventional therapies, further enhance outcomes by reducing recurrence and resistance. Personalized medicine approaches also contribute to improve long-term survival.
CONCLUSION
Novel therapeutic strategies have revolutionized solid cancers treatment, offering more effective and less toxic alternatives. The integration of immunotherapy, targeted therapies, and personalized medicine has improved overall survival and quality of life for cancer patients. Future research should address treatment resistance and broaden the application of these therapies across different tumour types.

Keywords: *solid tumors, immunotherapy, overall survival, personalized medicine*

ERASMUS +

ERASMUS+ MEDICAL INTERNSHIP IN CATANIA: AN EDUCATIONAL JOURNEY BETWEEN THE LAVA AND THE WAVES.

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AIM

This presentation highlights my personal experience during an Erasmus+ medical internship in Catania, Italy. Erasmus+ offers medical students a unique opportunity to gain hands-on clinical experience while engaging in cultural exchange. During my time in Catania, I worked alongside local healthcare professionals, learned from diverse medical practices, and gained a deeper understanding of patient care in an international setting.

RESULTS

During the internship, I participated in clinical rotations in general surgery. One of the standout experiences was working in a high-intensity surgical unit, where I observed and learned a lot about robotic surgery. The exposure to different medical approaches broadened my clinical perspective. I had the opportunity to engage in supportive teamwork and learn from experienced physicians including some of the best in their fields and fellow international students. Beyond the medical training, the internship allowed me to immerse myself in Sicilian culture, improving my Italian language skills and forming valuable and lifelong connections.

CONCLUSION

The Erasmus+ medical internship in Catania was an invaluable experience that enhanced both my clinical skills and cultural awareness. It provided an opportunity to learn from a diverse healthcare system while nourishing personal growth through cultural immersion. This program emphasizes the importance of global medical collaboration and intercultural exchange, both of which are essential in shaping well-rounded healthcare professionals. I highly recommend Erasmus+ to any medical student seeking to expand their horizons academically, culturally and personally.

Keywords: *Erasmus+ medical internship, Catania, Italy*

INTERNATIONAL MOBILITY UNDER THE 2021-2027 ERASMUS+ PROGRAM: FOCUS ON THE STUDENT MOBILITY FOR TRAINEESHIPS 2024/2025

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We present the opportunities for student mobility in higher education in the frame of Erasmus+ program, for the academic 2024/2025 year. Medical University – Pleven is awarded with Erasmus Charter for Higher Education 2021-2027 by the European Commission, which provides the general quality framework for European and international cooperation activities.
Focusing on the bilateral agreements of Medical University – Pleven with universities from program and partner countries will elucidate the most important steps for effective administration of the student mobility for study and traineeships.
Incoming students from Italy, Poland and Georgia will share information about their home universities and the motivation to come to Medical University – Pleven. The experts from the Erasmus+ sector will explain application conditions, recognition, financial support, required documents and Inter-Institutional bilateral agreements.

Keywords: *"Erasmus+" program, student exchange, Medical University – Pleven.*

INFORMATION DAY

ERASMUS + PROGRAM: CAMPAIGN 2024/2025

STUDENT MOBILITY FOR TRAINEESHIPS

16.10.2024 (Wednesday) "Ambroise Pare" Hall, TELEC Medical University – Pleven		
14:00 – 14:05	***Useful guidelines on the effective administration of the student mobility for study and traineeship***	***Iliyana Ivanova*** *Expert* *International and Project Activity, MU-Pleven*
14:05 – 14:35	***Incoming Erasmus+ students, shared experience***	***Anna Modrzynska*** Poznan University of Medical Science, Poland ***Ottavia Lanati*** University of Sassari, Italy ***Mariam Pailodze*** Tbilisi State Medical University, Georgia ***Alessandro Coppede*** University of Pisa, Italy
14:35 -14:45	***Outgoing Erasmus+ students,*** ***shared experience***	***Abdul Arwani*** *University of Catania, Italy* ***Giogrio Pio Vindigni*** *Universidad Complutense de Madrid, Spain*

WORKSHOPS

WORKSHOP 1: SUTURING SKILLS WITH PRACTICE ON REAL TISSUES

Moderator: Dobromir Nguen, MD, Anislav Gabarski, MD
First Surgical Clinic, UMHAT „Dr. Georgi Stranski“ Pleven, Bulgaria

Surgical suturing and knot tying are one of the basic medical procedures which any doctor should be able to perform. This workshop will give the participants opportunity to practice different types of surgical sutures and different techniques for tying surgical knots.

WORKSHOP 2: MINIMALLY INVASIVE SURGERY

Moderator: Martin Karamanliev, MD, PhD, Meri Shoshkova, MD
Department of Surgical Oncology,
University Hospital “Dr. G. Stranski”, Pleven, Bulgaria

Minimally invasive surgery is the new surgical trend. Nowadays more and more laparoscopic and robotic surgeries are being performed for less traumatic outcomes for the patients. If you want to learn the intricate methods of laparoscopic surgery and how it differs from traditional open surgery, this workshop is for you! Participants will acquire the basic knowledge of minimally invasive surgery and will have the opportunities to practice it.

WORKSHOP 3: CHALLENGES IN ACNE TREATMENT

Moderator: Veronica Gincheva, MD, PhD
Department of Dermatology, Venereology
and Allergology, UMHAT “Dr Georgi Stranski” – Pleven, Bulgaria

Acne remains a major problem for many people, especially children and their parents. It is extremely important to choose the right emollient in order to succeed in treating the disease. In this workshop you will learn how to recognise different textures and emollients, and which one is better. We will learn more about the acne symptoms and we will focus mostly on treating pediatric patients.

WORKSHOP 4: BASICS IN ANESTHESIOLOGY AND RESUSCITATION: CENTRAL VENOUS SOURCE PLACEMENT AND INTUBATION

Moderator: Darislav Nikolov, MD
UMBALSM "N.I. Pirogov", Sofia, Bulgaria

Airway Provision and Endotracheal Intubation: Techniques, Instruments, Indications and Contraindications

WORKSHOP 5: GASTROINTESTINAL ENDOSCOPY

Moderator: Georgi Georgiev, MD
Department of Gastroenterology, UMHAT "Dr Georgi Stranski" – Pleven, Bulgaria

A glimpse into the world of Interventional Gastroenterology - this workshop will teach you the basics of endoscopy, its indications and uses for GIT bleeding, cancer screeing and so much more.

WORKSHOP 6: PLACE OF AI IN DIAGNOSTIC IMAGING NEW METHODS IN BREAST IMAGING IN BULGARIA- CONTRAST ENHANCED MAMMOGRAPHY

Moderator: Gergana Georgieva, MD
Department of Diagnostic Imaging, Acibadem City Clinic
Mladost Hospital, Sofia, Bulgaria

What is the place of artificial intelligence in diagnostic imaging? Can we fully trust it?
Let's look together at various chest X-rays from practice and answer the question - does artificial intelligence always have the right answers and can it replace radiologists?
Did you know that there are different types of mammograms? In World Breast Cancer Awareness Month, we will also talk about contrast enhanced mammography. Together we will make a comparison between 2D mammography and contrast enhanced mammography and understand the benefit and need for using this relatively new method for our country.

WORKSHOP 7: CYTOSTATICS IN ONCOLOGY: FROM THEORY TO CLINICAL PRACTICE

Moderator: Victor Petrov
Hospital pharmacy UMBAL „Sveta Marina“ – Pleven
Assistant in Technology of Pharmaceutical Forms,
Faculty of Pharmacy, MU-Pleven, Bulgaria

Workshop participants will learn the basics of cytostatic therapy, including mechanisms of action, types of cytostatics, their preparation and application in different types of cancer. The program combines theoretical training with practical case studies.

WORKSHOP 8: CLINICAL ECHOCARDIOGRAPHY

Moderator: Martin Lukanov, MD, PhD
Department of Cardiology, UMHAT “Dr Georgi Stranski” – Pleven, Bulgaria

In the workshop, you will learn closely about echocardiography on a patient and the difficulties you may encounter in the practice of an expert echocardiographer.

WORKSHOP 9: RESUSCITATION OF A NEWBORN AND FIRST AID IN INFANCY

Moderator: Gergana Stankova, MD, PhD
Department of Obstetrics and Gynecology, UMHAT “Dr Georgi Stranski” – Pleven, Bulgaria

Theoretical and practical training on a dummy to apply CPR for infants, where each of the participants will be able to apply the acquired knowledge on the test dummy.

VETERANS SECTION

INNOVATION IN HEMATOLOGY

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AIMS/OBJECTIVES

Hematology is an actively developing branch of medicine, managing blood disorders – benign and malignant ones. Regardless of prognosis, people with hematological diseases carry a lifelong burden. Bening hematological diseases are associated with different way of living since childbirth – for both children and parents. Malignant hematological diseases may be life-threatening.

METHODS AND RESULTS

Many novel diagnostic tools and treatment strategies are currently present or in clinical trials development to improve patients' quality of life and achieve better response rates. The fight to cure includes next generation sequencing and flowcytometry techniques, targeted and gene therapies, bispecific antibodies, chimeric antigen receptor techniques, etc.

CONCLUSION

With these new investigations and therapies people with hematological diseases have a better access to medical help, improved quality of life and increased overall survival.

Keywords*: hematology, new diagnostic tools, novel therapies*

LOCALLY ADVANCED CERVICAL CANCER IN A PATIENT WITH EPIDERMOLYSIS BULLOSA TREATED WITH CONCURRENT CHEMORADIOTHERAPY AND ELECTRONIC BRACHYTHERAPY

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AIM
The purpose of this report is to investigate the feasibility of combined modality treatment in a case of locally advanced cervical cancer in a patient with inherited epidermolysis bullosa as it is generally considered a contraindication for chemoradiotherapy.
MATERIALS AND METHODS
The patient was treated with image-guided external beam radiotherapy and concomitant chemotherapy to a dose of 45 Gy in 25 fractions with simultaneously integrated boost of 55 Gy in involved lymph nodes. The maximal skin dose was 34.09 Gy. Intracavitary electronic brachytherapy was applied to the uterine cervix in 4 fractions of 7 Gy and contributed no dose to the skin.
RESULTS
The treatment was tolerated well with no early toxicity. During the follow up of 6 months no adverse events of grade 2 or higher were detected and no exacerbation of skin lesions in the irradiated field was noted.
CONCLUSIONS
This is the first report of treatment of cervical cancer in a patient with inherited epidermolysis bullosa where combined concurrent chemoradiotherapy and intracavitary electronic brachytherapy demonstrated feasibility and safety.
Funding: This study is financed by the European Union-NextGenerationEU, through the National Recovery and Resilience Plan of the Republic of Bulgaria, project № BG-RRP-2.004-0003.

LET'S MAKE A TRIP TO THE FUTURE

Tablov B.
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The fields of anesthesiology and intensive care are on the verge of transformation, driven by technological advancements and novel therapeutic approaches. Artificial intelligence (AI) and machine learning are poised to revolutionize perioperative management, enabling predictive analytics for personalized anesthetic plans and early detection of complications. Enhanced monitoring techniques, such as non-invasive continuous hemodynamic monitoring and advanced neuromuscular function assessment, will further improve patient safety. In intensive care, developments in extracorporeal life support, organ support technologies, and precision medicine hopefully will optimize treatment for critically ill patients. These innovations, coupled with advances in telemedicine and automation, will enhance clinical decision-making, improve outcomes, and reduce the burden on healthcare providers. This presentation will explore some emerging trends and their potential to redefine standards of care in anesthesiology and critical care in the near future.

TELEPSYCHIATRY – MISSION POSSIBLE?

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Telemedicine is the process of providing health care from a distance through technology, mainly using videoconferencing. Telepsychiatry is part of telemedicine, used for psychiatric evaluations, therapy, patient education and medication assessment. Telepsychiatry is usually defined as the use of electronic communication and information technologies to provide or support clinical psychiatric care at a distance.

Telepsychiatry can involve direct interaction between a psychiatrist and the patient and family. It also encompasses psychiatrists supporting other clinicians, including primary care providers, with mental health care consultation and expertise. It involve recording medical information and sending this securely to a psychiatrist or other clinician.

Telepsychiatry helps meet patients' needs for convenient, affordable and accessible mental health services. It can benefit patients in a number of ways, such as:

Improve access to mental health specialty care that might not otherwise be available (such as pediatric care or care in rural areas).

Bring care to the patient's location.

Help integrate behavioral health care and primary care, leading to better outcomes.

Reduce the need for trips to the emergency room.

Reduce delays in care.

Improve continuity of care and follow-up.

Reduce the need for time off work, child and family care services, etc. to access appointments far away.

Reduce potential transportation barriers, such as lack of transportation or the need for long drives.

Reduce the barrier of stigma in accessing mental health care.

Enhance feelings of safety, security and privacy for many.

Telemental health services can be effective in improving symptoms and quality of life among people with mental health disorders. Compared to face-to-face care, telemental health services delivered via video-call can be as acceptable and effective in the short term as the former, and are sometimes reported to result in lower rates of missed appointments.

HOW TO PREDICT PERFORATION OF GALLBLADDER WALL IN PATIENTS WITH ACUTE CHOLECYSTITIS

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Perforation of the gallbladder wall leads to a local perivesical abscess or progression to biliary peritonitis. The purpose of the study is to analyze clinical, laboratory, and imaging indicators that have the strongest relationship with the presence of gangrenous cholecystitis and perforation of the wall and to create a predictive scoring system that highlights the risk of developing gangrenous cholecystitis with perforation. We performed a retrospective analysis of a total of 331 patients operated on during the 5 years 2016-2020 at the Department "Surgical diseases" of Medical University Pleven, with histologically verified chronic-120 (36.4%), acute 100 (30.1%) and111 (33.5%) patients with destructive cholecystitis. Statistical analysis identified 9 main factors that have the strongest statistical significance in patients with gangrene and perforation of the gallbladder wall: age >65, male gender, diabetes mellitus, cardiovascular pathology, tachycardia>90 bpm, WBC>14.10^9, the thickness of gallbladder wall > 4 mm with pericholecystic fluid, ASAT and ALAT > 40 UI, CRP>150 ng/l Total possible score is 11 points. The positive predictive value of the scale is 96% and find out the cases with micro-perforation and perivesical abbesses among the group with the highest total score.

KEYWORDS: gangrenous cholecystitis, predictors of gangrene and gallbladder wall perforation, score systems

VARIA SECTION

CHAIRMEN:

Assoc. prof. Dima Tsanova, MD, PhD

Assoc. prof. Armine Grigoryan, MD, PhD

SECRETARY:

Gergana Neykova, OC

Medicine cures diseases, but only doctors can cure patients.

Carl Jung

STUDY OF INFECTIONS CAUSED BY PSEUDOMONAS AERUGINOSA

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AIM

The aim of this study was to determine the main types of infections caused by Pseudomonas aeruginosa strains obtained from patients treated in the University Hospital "Dr. G.Stranski" - Pleven for a two-year period.

MATERIALS AND METHODS

The clinical specimens were cultivated using appropriate culture media. Identification of the isolated strains was performed by conventional methods. The antimicrobial susceptibility was tested with a disk-diffusion method.

RESULTS

A total of 349 patients with infections caused by P. aeruginosa were detected - 208 males (59.6%) and 141 females (40.4%). The age group was wide (ranging from 0 to 90 years), with an average age of 61.9, and the patients over 60 were dominant. The most common infections due to P. aeruginosa were wound infections and urinary tract infections, 123 (35,2%) and 112 (32.1%), respectively, followed by respiratory tract infections - 90 (25.8%) and others. Infection rates increased during the warmer seasons. There were observed differences in resistance to antimicrobial agents between strains isolated from urine samples and other materials. All strains were susceptible to Amikacin, Tobramycin and Colistin.

CONCLUSION

Our study indicates that P. aeruginosa commonly causes wound, urinary and respiratory tract infections. The isolated strains demonstrated decreased susceptibility or resistance to recommended antibiotics, which required the application of combined therapy.

Kew words: *Pseudomonas aeruginosa, types of infections, antimicrobial susceptibility*

RELATIONSHIP BETWEEN PLASMA CRP LEVELS AND FIBRIN FORMATION IN PLATELET CONCENTRATES OBTAINED FROM WHOLE BLOOD

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AIM
Investigating the relationship between plasma levels of C-reactive protein (CRP) in donors and the formation of fibrin in platelet concentrates derived from whole blood from these donors.
MATERIALS AND METHODS
The study included 17 control samples (standard platelet concentrates without fibrin 12 hours after production) and 43 standard platelet concentrates with fibrin present 72 hours after production.
Methods:
Laboratory methods: extraction of platelet concentrates from a standard unit of whole blood.
Measurement of CRP using the quantitative-qualitative NADAL CRP test method.
Retrospective analysis.
RESULTS
In the „Blood Donation Processing“ department at RHTC-Pleven, we observed an increase in the number of platelet concentrates produced in 2022 compared to 2021 by 16.87% and by 22.74% compared to 2020, represented in liters and units as follows: 328,800L and 4,110 units for 2020; 353,760L and 4,422 units for 2021; and 425,600L and 5,320 units for 2022. Proportionally, with the increased production of platelet concentrates, there was also an increase in the number of platelet concentrates with fibrin present at 72 hours, which were unsuitable for clinical use, as follows: 84,480L and 1,056 units for 2022; 72,000L and 900 units for 2021; and 66,160L and 827 units for 2020. The percentage increase for 2022 was 14.77% compared to 2021 and 21.68% compared to 2020.
CONCLUSION
The formation of fibrin in platelet concentrates derived from whole blood correlates with elevated CRP levels in plasma. Pre-testing CRP levels in donors—a relatively inexpensive and quick method—could be employed during the production of platelet concentrates from whole blood to limit the amount of products unsuitable for clinical use.
Keywords: *C-reactive protein; fibrin; platelet cells*

PROCRASTINATION - A MYTH OR REALITY

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AIMS/OBJECTIVES
To present an analysis of results of our research on procrastination among students of different years and specialities in Medical University Pleven.
MATERIALS AND METHODS
The research includes 201 anonymous participants who took part in it through an online survey. The questionnaire consisted of a few demographic questions and The General Procrastination Scale. With 23 items it aims to measure procrastination in four dimensions – academic, work, medical and civic responsibilities. Each item is rated on a 5-point scale ranging from 1 to 5 and the total score reveals a Procrastination Quotient (PQ) that can vary between 23 to 115.
RESULTS
The research includes 147 women and 54 men in 10 different specialities and all 6 years of education in MU-Pleven. Their age ranges from 18 to 46 years old with an average of 23.52. In regard to the PQ, we received results in a wide variety anywhere between 50 and 98 points, the average score of them all being 68.95, which is in the above average category regarding measuring procrastination. Yet 126 people (62.68%) score in that same category or in the high one, which points to significant procrastination levels among the student body of MU-Pleven.
CONCLUSION
Significant levels of procrastination were measured in more than half of the participating in our research students which is alarming, considering all the negative effects it can have in regards to their academic performance, mental and physical health, social relations and many other spheres in their lives.

Keywords: *procrastination, The General Procrastination Scale, students*

STAGING OF COLORECTAL CARCINOMA- ADVANTAGES AND DISADVANTAGES OF DIAGNOSTIC IMAGES AS A METHOD OF DIAGNOSING

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AIMS
Colorectal cancer is the third most common cancer and the second leading cause of cancer-related deaths worldwide. The incidence and social impact of colorectal cancer can be significantly reduced by implementing primary prevention strategies, one of which is the early detection through screening. The aim of this study is to present the current consensus in medical imaging on the diagnostic approach of colorectal carcinoma and to highlight possible ways of improvement.
MATERIALS AND METHODS
Medical reports and meta-analyses were searched for the aim of the study. The papers were specifically chosen to clarify the place of diagnostic imaging for diagnosing colorectal carcinoma and to show its importance for non-invasive staging of the tumor.
RESULTS
The research showed that diagnostic imaging can be utilized to stage the primary tumor. Also, CT may be useful for predicting *KRAS/NRAS/BRAF* status of patients with colorectal cancer and thus have the potential to aid in determination of therapeutic strategies. But even with its high sensitivity and accuracy, it still remains inferior to colonoscopy, which is the golden standard for diagnosing colorectal carcinoma.
CONCLUSION
Medical imaging can be used not only for local stages to examine the extent of invasion of the tissues, but also for down- or upstaging patients with suspicion of distant metastatic disease.

KEYWORDS: Diagnostic imaging, colonoscopy, staging, colorectal carcinoma

COMPARISON OF HEART DOSES IN LEFT CHEST WALL RADIOTHERAPY WITH FREE BREATHING VERSUS DEEP INSPIRATION BREATH HOLD

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AIM
To evaluate the benefit of volumetric modulated arc therapy (VMAT) and deep inspiration breath hold (DIBH) when irradiating the left chest wall in breast cancer patients as there is a known relationship between heart doses and ischemic cardiac disease in breast cancer survivors.
MATERIALS AND METHODS
12 patients who had undergone left mastectomy were simulated with computed tomography for radiotherapy planning both in free breathing and in DIBH. Left chest walls were defined as target volumes and the left anterior descending arteries (LAD) were contoured according to the atlas of Duane. The prescribed dose in the target volume was 50 Gy in 25 fractions. Dosimetric planning was performed with the planning software Monaco 5.1 with 6 MV photons. 24 treatment plans were generated following the same constraints for target coverage and doses in organs at risk. The mean (Dmean) and maximum (Dmax) doses in the heart and the LAD were compared as well as the volumes receiving 10, 25, and 30 Gy (V10, V25, V30).
RESULTS
All patients demonstrated a reduction in Dmax in the heart in DIBH, Dmean in the heart as well as V10, V25, and V30 were reduced in 83.33% of patients. The same patients had lower Dmax in the LAD, and lower Dmean in LAD was observed in 75%. DIBH contributed the most in V30, where in statistical analysis a significant difference was noted (p= 0.01).
CONCLUSION
Use of VMAT and DIBH technique ensured target coverage, immobilization during treatment and lower heart doses.

Keywords: *Heart doses; breast cancer; radiotherapy*

A RETROSPECTIVE STUDY: NEW-ONSET HYPERGLYCEMIA IN THE PATIENTS WITH ACUTE COVID-19 INFECTION. IS THIS A PATHOLOGICAL EFFECT OF THE VIRUS OR THE RESULT OF AN ANTIVIRAL TREATMENT?

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INTRODUCTION
The recent Covid-19 pandemic has further exacerbated the existing global epidemic of diabetes. Since COVID-19 infection alters metabolic equilibrium, it may induce pathophysiologic mechanisms that potentiate new-onset DM. So, we evaluate this issue and its reasons.
AIMS
The aim of the first phase of our two-part retrospective study was to determine the correlation between SARS-CoV-2-induced hyperglycemia and the pathogenesis of DM in patients without a history of it. As for the second stage of the research, it aims to determine whether the mentioned result was caused by the pathological action of the virus or was a side effect of the antiviral treatment.
METHODS
The first stage of the research showed that in the post-covid period, new-onset DM was diagnosed in 13% of 64 patients. As for the second stage of the research, we selected 44 patients, who were treated with dexamethasone and solumedrol.
RESULTS
After discharge from the clinic, hyperglycemia was compensated in 32 patients (73%), the clinical diagnosis of DM was formed in 12 patients (27%). Additionally, it was found that 6 of the latter were treated only with dexamethasone, while the remaining 6 were treated with both medicines .
CONCLUSION
Since within our study uncompensated single cases of hyperglycemia were still detected in patients who are not treated with these medications, we can conclude that the manifestation of this complication is a joint result of the pathogenic action of Covid-19, as well as, the side effect of the medicines (especially corticosteroids) involved in the treatment.
Keywords: *COVID-19; New-onset DM; Corticosteroids.*

TRAINING OF STUDENTS FROM THE MEDICAL UNIVERSITY– PLEVEN WITH HIGH- TECH METHODS

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AIM

The goal is to outline and analyze the methodologies of high-tech training opportunities for medical students at the Medical University – Pleven.

MATERIALS AND METHODS

Using the principle of interpretive analysis, conventional methods are compared to modern ones, highlighting the key advantages of new technologies and the improved practical preparation for future doctors.

RESULTS

The introduction of virtual reality, augmented reality, 3D bioprinting, and simulator-based training for student preparation creates conditions for gaining higher expertise during both theoretical and practical classes in the medical course. This enhances the future practice of students. The refinement of practical training through virtual environments provides students with experience before clinical activities. The simulation environment, which mirrors the real world, is an educational method evolving in the modern world.

CONCLUSION

The current generation of students uses IT technologies with ease as they are a part of their daily lives. Artificial intelligence and online resources offer a comfortable environment, providing them with access to a global network for expanding their knowledge, as well as virtual practice for greater precision in their preparation. In this sense, the simulation environment of virtual technology is a useful and interesting method for building knowledge.

Keywords: *E-learning environment, virtual reality, training, medicine*

INTRATUMORHETEROGENEITY IN A BREAST TUMOR AND RELATION TO ITS TREATMENT – CASE REPORT

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INTRODUCTION

Immunohistochemistry in clinical pathology is a useful tool for the purposes of accurate diagnostics as well as oncological treatment selection and prognosis prediction.

AIM

To present a case of progressive ductal carcinoma with heterogeneous immunoprofile in a female patient in the 6th decade.

MATERIALS AND METHODS

The patient presented with an axillary lymph node positive for breast cancer metastasis both histologically and PET CT following neoadjuvant chemotherapy and left mastectomy. Further evaluated on H&E stained slides and immunostained slides with ER, PR, HER-2, S100, CK5/CK6, SOX10, Vimentin, MelanA.

RESULTS

Present histological findings significant for different components including basal cell carcinoma mimicking malignant melanoma as well as luminal type carcinoma which correlates with the breast lesion.

CONCLUSION

Immune Heterogeneity presents not only a diagnostic difficulty as well as a therapeutic one. Similar tumors should be approached with extreme care to identify therapeutic targets in both components . A systemic follow-up should be applied in order to avoid tumor progression, which is likely to occur.

***Kew words**: Breast cancer, immune heterogeneity, diagnostic approach*

SURGERY, UROLOGY & ORTHOPEDICS SECTION

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The life so short, the craft so long to learn.

Hippocrates

AUDIT OF FRACTURE NECK OF FEMUR IN EMERGENCY DEPARTMENT

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AIM/OBJECTIVE
Benchmark the current performance in Emergency Department against the standards, allow comparison, Identify areas in need of improvement in the management of fracture neck of femur.
METHODS
Data from Emergency Department was collected from April 2024 to July 2024. The sample size was 35 patients where all of them were 18 years and above. The data was collected in a timely manner regarding pain score on arrival, prompt analgesia administration and revaluation, imaging including x-rays, fascia iliaca block and admission. The data collected was then compared with the standard guidelines/ recommendations set by the Royal college of Emergency Medicine and also with the previous audit cycle of Emergency department.
RESULTS
The obtained results proved to be better than the previous ED audit cycle meaning there have been improvements in providing care but no fundamental standards set by the Royal college of Emergency Medicine were met. 67% prompt imaging/x-rays on time within 2hrs was achieved which was the closest to Royal college of Emergency Medicine recommendation of 75%.
CONCLUSION:
Better documentation needed, pain score evaluation should be made mandatory, more training for Fascia iliaca block and prompt analgesia administration would be beneficial. Better time management in terms of faster imaging and admission would be beneficial.

Keywords: *Pain score, analgesia, imaging admission*

RENAL COLIC: SURGICAL AND RADIOLOGY PATHWAY AND RELATED PARATHYROID DIAGNOSIS (URO-RADIOLOGY PRESENTATION WITH ENDOCRINE THEME)

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AIMS/OBJECTIVES

The British Association of Urology (BAUS) guidelines state that patients presenting with renal colic should have their stone cleared or definitively managed within 4 weeks. Currently we fall well behind this target, and one key reason is a delay in the initial paperwork reaching the urology department/pod. Further to this given the relationship between kidney stones and parathyroidism we wanted to evaluate the correlation and if this was being looked into for each patient. Our aim is to cut down this time to ensure we meet targets according to BAUS guidelines. Our objective is to first collect the necessary data to evaluate whether we are meeting the 4 week deadline or not. Next we would identify steps in order to minimise the number of patients that breach his four week threshold. Standard - To prove our initial hypothesis we needed to use a cohort of minimum 50 patients and over a time span of minimum 3 months in the past year to ensure, sufficient sample size, quantity and recency.

METHODS

Data collected included personal details, date of referral, date referral reached urology team, date of 1st and 2nd clinic appointments, what scans they have, management post clinic and details about the stone. Data was collected from both A/E referral forms and documentation from cerner (our local computer operating system). This allowed the time delays from each step to be measured. Further to this we looked at patients who had PTH or Calcium requested as part of Parathyroidism investigation or if they had previous parathyroidism diagnosis.

RESULTS

The mean number of days it took for the referral to be made in A/E and reach the urology team was 9 days.The mean number of days it took for the time from referral to completion of treatment was 5.7 weeks.

CONCLUSION

The hospital was falling short of meeting the The BAUS guidelines of patients presenting with renal colic having their stone cleared or definitively managed within 4 weeks. In addition under investigation of potential parathyroidism in patients was noted.

Keywords: *Urology, radiology, parathyroidism, renal colic*

ANALYSIS OF COMPLICATIONS OF PEPTIC ULCER DISEASE IN SINGLE CENTER FOR 5 YEAR PERIOD

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INTRODUCTION

Peptic ulcer (PU) is a gastrointestinal disease which develops due to disbalance between the aggressive factors and weakening of the protective factors of the gastric mucosa. Risk factors are NSAIDs use, H. pylori infection, smoking, alcohol abuse and alimentary factors. Bad management of PU can lead to acute surgical complications- bleeding and perforation.

AIMS

To analyse the acute surgical complications - perforation and bleeding of PUD for a 5-year period.

METHODS

We conducted a retrospective monocentric cohort study for 746 patients with bleeding and perforated PU, treated in the General Surgery department of UMHAT "Dr G. Stranski"- Pleven between 2019 and 2023. Bleeding PU were diagnosed with fibrogastroduodenoscopy. To diagnose the perforated PU was used abdominal X-ray or CT-scan.

RESULTS

In total, 746 patients with perforated or bleeding peptic ulcer were treated. 457 of them were with stomach localization, 286 with duodenal, 3- unidentified localization. Bleeding ulcers were 684, 55 with perforation and 7 with both of bleeding and perforation. Surgical treatment was performed in 124 patients - 96 patients with perforation (85 with stomach localization and 11 with duodenal) and 28 patients with bleeding (16 from the stomach and 12 from the duodenum). Among the operated patients there were 20 deaths (2,7%) mainly in the group of bleeding PU because of the hemorrhagic shock.

CONCLUSION

The acute surgical complications of peptic ulcer are a serious challenge and require proper diagnostic and adequate and emergency surgical, conservative or endoscopic treatment.

Keywords*: PUD, complications, bleeding, perforation*

SPECIES DISTRIBUTION AND ANTIMICROBIAL SUSCEPTIBILITY OF MICROORGANISMS ISOLATED FROM BRONCHOALVEOLAR LAVAGES

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AIMS
To determine the species distribution and antimicrobial susceptibility of bacteria isolated from bronchoalveolar lavages (BALs) of critically ill patients.
METHODS
The study includes 134 positive BALs from 101 patients on mechanical ventilation, treated in Intensive care units at the University hospital "Dr. G. Stranski" - Pleven. The number of the viable bacterial cells was determined by the spread plate method. The specimens were inoculated on blood agar,chocolate agar and EMB agar plates using a calibrated loop. The cultures were incubated at 37°C for 72 h, and the colony forming units were calculated. Identification of the isolates and their susceptibility to antimicrobials were carried out by conventional methods and the automated system Vitek-2 Compact (*Bio Merieux*, *France*).
RESULTS
A total of 152 microbial strains were isolated, and 116 (76,31%) of them were Gram-negative rods. The majority of them included species *Acinetobacter baumannii* and *Pseudomonas aeruginosa* –60 and 22 isolates, respectively. The rest of the Gram-negative bacteria were enterobacteria, mainly group *Klebsiella-Enterobacter-Serratia (KES)*. The isolated strains *Acinetobacter* and *KES* showed high resistance to antimicrobials. Among the Gram-positive bacteria *Corynebacterium* species were dominant – 13 strains, followed by *S. aureus* and enterococci. *Candida* species were rarely isolated. In about 30% of the patients microbial associations between Gram-positive, Gram-negative and fungi were observed.
CONCLUSION
The respiratory tract of patients on mechanical ventilation was commonly colonized or infected with highly resistant Gram-negative bacteria that limited the options for therapy.

Keywords: *BAL, mechanical ventilation, resistant bacteria*

SMART SCALPEL: HOW AI IS SHAPING THE FUTURE OF SURGERY

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INTRODUCTION

Artificial Intelligence (AI) holds transformative potential for the field of surgery, promising to enhance precision, reduce operative times, and improve patient outcomes. As AI technologies advance, their integration into surgical practice could redefine how procedures are performed, with applications ranging from real-time data analysis to adaptive decision-making.

THE CASE PRESENTATION

This presentation explores hypothetical scenarios where AI could revolutionize surgical techniques. For instance, AI-enhanced robotic systems might assist in complex liver resections by providing real-time imaging and guiding tissue dissection, potentially reducing blood loss and speeding recovery. Another scenario considers AI optimizing suture placement during bariatric surgery to ensure even tension and minimize postoperative complications. These examples illustrate the significant possibilities AI offers for improving surgical precision and patient care.

CONCLUSION

Though full AI integration in surgery is not yet realized, its potential is substantial. AI could play a pivotal role in shaping the future of surgical practice by enhancing precision and supporting personalized care. Addressing current challenges and advancing technology will be key to unlocking AI's benefits in surgery, leading to safer and more effective procedures.

Keywords: *AI, surgery, advancement, laparoscopic surgery , robotic surgery*

LAPAROSCOPIC – ASSISTED TRANSVERSUS ABDOMINIS PLANE (TAP) BLOCK – A NEW TECHNIQUE FOR POST-OPERATIVE ANALGESIA

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INTRODUCTION

Nowadays, laparoscopic surgeries constitute a major part of performed surgical interventions, which is due to the considerably accelerated recovery of the patient after the operation. Despite the reduced invasiveness of the procedures, patients still experience pain, which requires treatment by various methods. Laparoscopic-assisted transversus abdominis plane **(**TAP) block is a newly proposed method for post-operative pain relief, performed by the surgeon at the end of the surgical intervention.

AIMS

Our aim is to present this innovative method for post-operative pain relief in patients who have undergone laparoscopic interventions.

METHODS

At the end of elective laparoscopic procedure a Ropivacaine solution is applied by the surgeon under direct camera visualization into the transversus abdominis muscle plane. This is done unilateral on two locations. After the procedure we monitor the need for additional application of analgesics.

RESULTS

Compared to a group of patients following standard protocol for post-operative analgesia patients who received the L-TAP block did not require additional pain relief during their post-operative recovery period. Also a large percentage of the symptoms that could be justified by the presence of post-operative pain were significantly reduced in the first group compared to those in the second group, where the technique was not applied.

CONCLUSION

L-TAP block is an effective strategy to improve early and late pain at post-operative period and to reduce the need for post-operative pain treatment after laparoscopic surgical procedures.

Keywords: *L-TAP block, laparoscopic cholecystectomy, post-operative pain relief*

LIFE-THREATENING COMPLICATIONS OF INFLAMMATORY BOWEL DISEASE (IBD) WITH PRESENTATION OF TWO CASES

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INTRODUCTION

Inflammatory Bowel Disease (IBD) is a group of diseases with constantly increasing frequency due to the modern lifestyle. Although they are chronic and with slow-progressing, some acute life-threatening complications can occur.

CASE PRESENTATION:

Patient №1 is a 34-years-old female admitted to 1st Surgical clinic, UMHAT "Dr. Georgi Stranski" with signs of abdominal pain and septic shock. Patient had histologically confirmed chronic Ulcerative Colitis. Computed Tomography (CT) was performed which showed signs of Toxic Megacolon. A series of 20 abdominal operations were performed, including Miles Procedure, and patient was discharged on day 126 after the first intervention.

Patient №2, a 25-years-old female diagnosed with Crohn`s Disease and low rectal cancer was admitted to 1st Surgical clinic, UMHAT "Dr. Georgi Stranski" with signs of perforation of the rectum. The patient suffered an abdominoperineal resection, along with radical hysterectomy and subtotal vulvectomy. Another 12 abdominal revisions were necessary due to intraabdominal sepsis. Patient was discharged on day 84 after the initial intervention.

CONCLUSION

Patients with IBD have an increased risk of developing life-threatening complications from their existing condition. Due to the underlying disease, these patients usually require multiple surgical interventions and prolonged hospital stay.

Keywords: *IBD, abdominoperineal resection, hysterectomy, vulvectomy*

IMPROVED COMPLIANCE WITH INTRAVENOUS FLUID PRESCRIPTION FOR NIL BY MOUTH PATIENTS ON THE EMERGENCY THEATRE LIST: A TWO-ROUND CLINICAL AUDIT

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OBJECTIVES
Clinical audits are essential for evaluating and improving the quality of care in daily practice. They involve measuring clinical processes against evidence-based standards to identify areas for improvement. In surgical cases, preoperative dehydration has been shown to negatively affect postoperative outcomes. This audit aimed to assess the number of Nil by Mouth (NBM) patients on the emergency theatre list without prescribed intravenous (IV) fluids, implement interventions, and reassess for improvement.
METHODS
Data was collected during weekday morning ward rounds by reviewing drug charts of general surgical patients scheduled for emergency theatre, either overnight or the day before. The interventions, based on ‚National Institute for Health and Care Excellence (NICE) guidelines on IV fluid therapy in adults in hospital‘, included teaching sessions, posters, and enhanced communication to emphasise the importance of IV fluids. A re-audit was conducted after implementing these changes.
RESULTS
In the first audit (27 patients), 26% had IV fluids prescribed, while 74% did not. After implementing the interventions, the second audit (15 patients) showed an improvement, with 73% receiving IV fluids and 27% without.
CONCLUSION
The audit demonstrated significant improvement in IV fluid prescription rates after targeted interventions. It highlights the value of regular clinical audits in ensuring adherence to best practices and enhancing the quality of patient care in healthcare systems.

Keywords*: Clinical audit, quality improvement, evidence-based medicine, perioperative care, fluid prescription*

POSTERIOR APPROACH IN ROBOT-ASSISTED RADICAL PROSTATECTOMY

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INTRODUCTION

Prostate carcinoma is a socially significant disease. Prostate cancer is the second most common cancer in men in the world and first in Bulgaria with 24.4% /4983 patients/, in Europe 20.2%. /2020 National Cancer Registry/. Surgical treatment is the first method of choice for locally limited prostate carcinoma. For the first time in Bulgaria, open radical prostatectomy was performed in 1995.

AIMS/OBJECTIVES

To raise awareness about prostate carcinoma and present the most common operative technique used in the territory of the city of Pleven - a posterior approach for robot-assisted radical prostatectomy.

MATERIALS AND METHODS

After the introduction of robot-aassisted radical prostatectomy in 2010, for 14 years, various operational techniques have been applied in Pleven. In 2013, a posterior approach was used for prostate gland dissection for the first time. Over the years, in addition to it, anterior approach, Retzius preserving access, extraperitoneal access, etc. have been applied.

RESULTS

Over a period of over 10 years, more than 500 robot-aassisted radical prostatectomies where performed with a posterior approach. Intraoperative and postoperative outcomes, including console time, hemotransfusion, positive margins, and complication rates did not differ significantly among the different surgical approaches.

CONCLUSION

An advantage of the posterior approach is the excellent visibility of the rectum and vascular-nerve bundles. The posterior approach provides quick and easy dissection of the vas deferens and seminal vesicles. Compared to the anterior approach, it reduces the risk of blind damage to the rectum when searching for these structures.

Keywords: *robot-assisted radical prostatectomy, posterior approach, prostate carcinoma*

RENAL CARCINOMA RESEMBLING ANGIOMYOLIPOMA BY IMAGE DATA- CASE REPORT

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INTRODUCTION

Angiomyolipoma is a rare benign tumour of the kidney with a frequency of 0.3% to 3% of all renal neoplasms. Renal carcinoma is the most common malignant neoplasm of the kidney.

CASE PRESENTATION

Our aim is to present a clinical case of a 61-year-old patient in whom angiomyolipomas of the kidneys were found bilaterally during an ultrasound examination. CT-scan was performed with a contrast agent confirming the diagnosis. Two years later, a follow-up ultrasound revealed a suspected malignant component of the angiomyolipoma of the right kidney. A control CT-scan was performed with data on the growth of the formations bilaterally without describing malignant potential of the formation on the right. Due to the sonographic evidence of malignancy, a percutaneous biopsy was performed. Histological result- clear cell carcinoma. A decision was made for a radical surgical treatment- robot-assisted radical nephrectomy. Histological examination of the entire specimen confirmed clear cell carcinoma without an angiomyolipoma component.

A literature overview was carried out. Cases of angiomyolipoma imitating renal carcinoma are described more often. On the other hand cases of renal carcinoma with imaging evidence of angiomyolipoma are rare.

CONCLUSION

Performing a CT-scan is not always sufficient to make a correct diagnosis and in rare cases additional histological verification is needed. The conclusion of the presented clinical case is that despite the performed imaging studies and the diagnosis made by them, the urologist must have an empiric individual approach towards the patient.

Keywords: angiomyolipoma, renal carcinoma, percutaneous biopsy, radical nephrectomy

APPENDICULAR CARCINOMA WITH BLADDER WALL INVASION

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INTRODUCTION

Primary appendicular malignant cases are extremely rare, with frequency of 0.12/1 000 000 cases per year, making less than 1% of all gastrointestinal neoplasms
Primary appendicular cancer with bladder wall invasion has been described in only few clinical cases worldwide literature.

THE CASE PRESENTATION

Man, 84-years old with episodes of intermittent haematuria, with no symptoms of gastrointestinal system, undergoes elective cystoscopy. Suspicious lesion on the right bladder wall 40 mm in diameter is identified and biopsy is taken. Histology result comes back as adenocarcinoma of intestinal type. The patient then undergoes colonoscopy and no malignant or aberrant process is described. PET/ CT scan is appointed and result of witch is metabolically active formation in intestinal structure adherent and invading into bladder wall, contrast CT also confirms it. Chest X-Ray is taken to rule out metastasis. Patient is then taken into surgery and had his appendix and part of bladder wall removed, with 2.5cm in healthy tissue, en-block. Histology comes back as sessile serrated adenoma (SSL) with high grade dysplasia, transitioning in parts to low grade(G1) adenocarcinoma with muscularis propria invasion. Patient is discharged without complications and appointed with colonoscopy in 6 months and CT in 3 months

CONCLUSION

Taking into account the performance status of the patient and his age, having negative resection lines, the team decided against right hemicolectomy, continuing active screening.

Keywords: *Haematuria, biopsy, PET/CT, partial resection*

MANAGEMENT OF EXCESSIVE CALCULI FORMATION DUE TO PROLONGED STAY OF A FOREIGN BODY IN THE URINARY TRACT: CASE REPORT

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INTRODUCTION

This case involves a 25-year-old female diagnosed with left-sided hydronephrosis, a cast stone in the right kidney, and bladder calculi. She was admitted in December 2023, following a history of right kidney hydronephrosis treated with a double J stent in 2021. No follow-up occurred after the initial procedure.

THE CASE PRESENTATION

On her 2023 admission, clinical evaluation revealed multiple bladder stones (32 mm and 35 mm) and a large cast stone (62 mm) obstructing the right kidney. Imaging confirmed severe right-sided hydronephrosis with cortical thinning and impaired excretory function. The left kidney showed second-degree hydronephrosis, left ureteral dilation, and smaller calculi (up to 9 mm). Laboratory tests indicated mild anaemia and elevated C-reactive protein (CRP), signalling inflammation**.** Endoscopic lithotripsy was performed to remove the bladder calculi, and a double J stent was placed in the left ureter. The patient's urinary drainage improved, with spontaneous urination and stable renal function postoperatively. A radical nephrectomy was successfully performed on the right kidney with curative effect and the left sided double J stent was removed.

CONCLUSION

This case demonstrates the complexity of managing bilateral hydronephrosis with large renal and bladder stones. The prior 2021 treatment highlights the need for consistent follow-up to avoid complications. Timely surgical interventions in 2023 were essential for improved patient outcomes.

Keywords: *Bilateral hydronephrosis, nephrolithiasis, bladder stones, ureteral obstruction, JJ stent*

NEUROLOGY, NEUROSURGERY & PSYCHIATRY SECTION

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Medicine is a science of uncertainty and the art of probability.

William Osler

LAUGHING GAS-INDUCED NEUROTOXICITY: A CASE REPORT

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INTRODUCTION

Nitrous oxide (NO), also known as laughing gas, is a commonly used anesthetic in routine clinical practice. Upon inhalation, nitrous oxide can produce short-term euphoria or relaxation. The chronic use of laughing gas results in vitamin B12 inactivation followed by a decrease in myelin formation. Recently, the number of young people abusing NO for recreational purposes has increased drastically.

CASE PRESENTATION

We present a case report of a 19-year-old female patient who was admitted to the Neurology Clinic of UMHAT "Dr Georgi Stranski" – Pleven with a subacute onset of progressive limb numbness and objective weakness, gait impairment and imbalance. She reported inhalation of approximately 100 balloons of NO per week in the last years. Neurological examination revealed flaccid quadriparesis, generalized areflexia, impaired nociceptive and proprioceptive sensation. Cerebrospinal fluid analysis was insignificant. Cervical MRI showed evidence of focal T2-hyperintensive lesions at C5-Th2 levels. The patient was treated with vitamin B12 replacement, corticosteroids and intravenous immunoglobulins.

CONCLUSION

NO-related neurotoxicity may present with various signs and symptoms, laboratory and neuroimaging findings. Despite the increasing number of significant neurological complications, nitrous oxide abuse is escalating and should not be underestimated.

Keywords: *nitrous oxide, abuse, vitamin B12, myelopathy*

A CASE OF RAPIDLY PROGRESSIVE COGNITIVE DECLINE IN A YOUNG ADULT

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INTRODUCTION:

Adult-onset subacute sclerosing panencephalitis (SSPE) is a rare, lethal complication of measles infection . Typically affects children and young adults following measles infection in childhood.

THE CASE PRESENTATION:

32 year old male patient presented with 3 month history of progressive cognitive decline, inability to perform daily tasks, memory deficits, slowness of mentation, reduced speech output and occasional visual hallucinations. He had worsening of symptoms with progressive weakness of limbs and altered behaviour leading to complete mutism.

Examination revealed Glasgow Coma Scale of 8/15 with akinetic mutism, roving eye movements, spastic quadriparesis with brisk reflexes and bilateral extensor plantar responses. The clinical picture showed rapidly progressive dementia with bipyramidal signs localizing to the bilateral prefrontal cortex with subcortical involvement.

Vasculitis markers were negative. CSF analysis was normal. EEG showed generalised slowing with frequent bursts of periodic sharp wave complexes. MRI showed confluent multifocal hyperintensities involving bilateral frontal lobes,right parieto occipital regions and subcortical structures. CSF for measles antibody was strongly positive. Brain biopsy showed focal perivascular cuffing of lymphocytes and histiocytes.

Patient was treated with Ceftriaxone, Acyclovir ,anticonvulsants and corticosteroids considering possible encephalitis. Symptoms worsened and repeat imaging showed spread of lesions bilaterally. He later succumbed to secondary infection.

CONCLUSION:

Though SSPE is primarily a disease of children, adult onset of cases with rapid progression are reported to occur, mostly with history of measles in childhood. Most patients have poor prognosis and mean life span of less than one year. Treatment options are limited and disappointing so far.

Keywords: *Subacute sclerosing panencephalitis, cognitive decline*

GAMMA KNIFE STEREOTACTIC RADIOSURGERY AS NON-INVASIVE TREATMENT METHOD FOR TRIGEMINAL NEURALGIA

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AIMS
Trigeminal neuralgia (TN) is a painful neurological condition associated with malfunction of the trigeminal nerve or one of its roots. Although not life-threatening, it can be debilitating. Most frequent cause is vascular or tumorous compression. Less frequently it is idiopathic or a multiple sclerosis complication.
Our aim is to present the Gamma Knife (GK) Stereotactic Radiosurgery (SRS) as a non-invasive contemporary treatment for TN and our experience with the method at the first GK facility in Bulgaria.
METHODS
6 TN patients were treated with GK SRS from 2020 to 2024 – 3 female and 3 male, age: 45-70. In 4 TN was caused by vascular compression, 1 was idiopathic and 1 case was a multiple sclerosis complication. None had satisfactory response from previous medical (all) and surgical (1) treatments.
RESULTS
3 (of 6) patients had excellent response, 2 of them within 24 hours. 2 patients had notable improvement and 1, with previous failed microvascular decompression, did not respond to the GK treatment.
CONCLUSION
GK SRS is a well-established primary option for medically refractory TN and the ultimate salvage option when other modalities have failed. It is non-invasive and much safer than all neurosurgical options, painless, with no blood loss, no sedation and no extended hospital stay. In over 50% of the patients pain relief is achieved in the hours following the procedure. Disadvantages include common latency period to pain relief, decreased effectiveness in patients with prior neurosurgery, reported recurrences in long-term follow-up.

Keywords: *Trigeminal neuralgia, Stereotactic Radiosurgery, Gamma Knife*

A CASE OF 7TH FLOOR JUMPING – A LUCKY SURVIVAL

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INTRODUCTION
Falls from significant heights are extremely dangerous, with survival rates drastically decreasing at certain heights. This case report describes a rare survival after a fall from the 7th floor, highlighting severe injuries and the importance of a multidisciplinary approach, including spinal stabilization and neurological rehabilitation.
THE CASE PRESENTATION
We report a 23-year-old patient who fell from the 7th floor and was transported to the ER. The reason for the fall was unclear. The patient was diagnosed with compressive-rotational fractures of Th6 and L1-L3 vertebrae, C7 spinal process fractures, left rib fractures (I-V), hemothorax, and contused lungs (TLICS Scale = 9, Frankel Classification- Grade C). Treatment included hemothorax drainage, bed immobilization, and surgical screw stabilization. Postoperatively, the patient experienced tibial and fibular paresis and hyperesthesia in the S1-S4 dermatomes, followed by three months of physical therapy. Follow-up over one year showed no neurological deficits.
CONCLUSION
A fall from the 7th floor results in life-threatening injuries such as spinal fractures and hemothorax. This case underscores the necessity of immediate, multidisciplinary intervention—including trauma management, spinal stabilization, and rehabilitation—to optimize recovery and improve outcomes, particularly in patients with neurological impairments.

Keywords**:** *high-impact fall, spinal fractures, haemothorax, multidisciplinary approach, neurological rehabilitation*

AGGRESSIVE BEHAVIOUR IN PSYCHIATRIC PATIENTS

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AIMS/OBJECTIVES
To present an analysis of data showcasing the prevalence of destructive and aggressive behaviour, including violence towards other people and objects, or towards oneself (auto-aggression), among psychiatric patients in First Psychiatric Clinic, UMHAT,'Georgi Stranski", Pleven.
METHODS
The analyzed data has been gathered from hospital information system and medical documentation on all hospitalized patients in First Psychiatric Clinic, UMHAT ,'Georgi Stranski" - Pleven, between 2019 and 2023. The risk behaviour is measured by the aggressiveness' assessment scale according to Psychiatric medical standard.
RESULTS
We investigated 2597 patients, 1250 of whom were males (mean age 44.66) and 1347 females (mean age 48.41). Of them 1257 patients were assessed with risk of displays of destructive and aggressive behaviour upon admission (705 males and 552 females). The most assessed risk behaviour by an overwhelming margin (84.73%) was psychomotor agitation and aggression, followed by suicide risk (11.38%) and auto-aggression (3.98%). The most common diagnosis of the patients assessed with risk of aggression, according to the International Classification of Diseases-X, was Schizophrenia (60.62%), followed by Mood (affective) disorders (12.49%), Disorders of adult personality and behavior (6.05%), Intellectual disabilities (5.65%) and Mental and behavioral disorders due to psychoactive substance use (4.93%).
CONCLUSION
In the span of the last five years nearly half of all hospitalized patients have shown signs of conflict-aggressive and destructive behaviour which indicates a significant increase, proving the seriousness of the evermore challenging task of securing the safety of staff and community.

Keywords: *Aggression, behaviour, risk*

SUCCESSFUL INTERDISCIPLINARY MANAGEMENT OF NSCLC PATIENT WITH MULTIPLE BRAIN METASTASES WITHOUT WHOLE-BRAIN IRRADIATION

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INTRODUCTION

Lung cancer is one of the most common oncological diseases, characterized by high mortality and recurrence. Non-small cell type (NSCLC) is the most prevalent. Brain metastases (BMs) occur in >1/2 of cases. Incidence and prevalence of BMs are increasing due to the diagnostic and therapeutic advances. Systemic therapies are generally ineffective against BMs. They remain a leading cause of death. Historically whole-brain radiotherapy (WBRT) was standard of care, but in the era of precision medicine, stereotactic radiosurgery (SRS) gains momentum in their management.

THE CASE PRESENTATION

61-year-old female with NSCLC of the left lung, diagnosed October 2018, staged cT4c Nxc M0, EGFR+, had upper lobectomy. April 2019: recurrence on PET/CT, treated with radiosurgery. Initiated Gefitinib, 13 courses conducted. May 2020: new lesion in left lung, treated with radiosurgery. Second line drug therapy initiated. December 2021: brain lesion, verified as BM (craniotomy). Patient refused WBRT. Linac-SRS performed on cavity and 2 BMs. After 10 months: local control, 10 new BMs, treated with Gamma Knife radiosurgery (GKRS). Follow-up MRI on roughly 6 months. Several new BMs and recurrences treated with GKRS. Sept 2024: local control and no disease progression on last two MRIs.

CONCLUSION

SRS enables successful BM management in more patients with lower rates of side effects compared to "classic" modalities. GKRS is can be performed successfully even in complex cases of more than 10 BMs and reirradiation, and can provide effective local control, survival benefit and quality of life preservation.

Keywords: *lung cancer, brain metastases, SRS, radiosurgery, gamma knife*

AN ASYMPTOMATIC CASE OF LUMBAR SPONDYLOLISTHESIS: CLINICAL PRESENTATION, DIAGNOSTIC APPROACH, AND MANAGMENT

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INTRODUCTION

Falls from significant heights are extremely dangerous, with survival rates drastically decreasing at certain heights. This case report describes a rare survival after a fall from the 7th floor, highlighting severe injuries and the importance of a multidisciplinary approach, including spinal stabilization and neurological rehabilitation.

THE CASE PRESENTATION

We report a 23-year-old patient who fell from the 7th floor and was transported to the ER. The reason for the fall was unclear. The patient was diagnosed with compressive-rotational fractures of Th6 and L1-L3 vertebrae, C7 spinal process fractures, left rib fractures (I-V), hemothorax, and contused lungs (TLICS Scale = 9, Frankel Classification- Grade C). Treatment included hemothorax drainage, bed immobilization, and surgical screw stabilization. Postoperatively, the patient experienced tibial and fibular paresis and hyperesthesia in the S1-S4 dermatomes, followed by three months of physical therapy. Follow-up over one year showed no neurological deficits.

CONCLUSION

A fall from the 7th floor results in life-threatening injuries such as spinal fractures and hemothorax. This case underscores the necessity of immediate, multidisciplinary intervention—including trauma management, spinal stabilization, and rehabilitation—to optimize recovery and improve outcomes, particularly in patients with neurological impairments.

Keywords: *high-impact fall, spinal fractures, haemothorax, multidisciplinary approach, neurological rehabilitation*

POST-COVID-19 POLYMYOSITIS: CASE REPORT

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INTRODUCTION

Polymyositis is an idiopathic inflammatory myopathy that should be considered in patients presenting with symmetrical, proximal muscle weakness. It is an autoimmune disorder potentially triggered by a viral infection and/or another inflammatory condition, with molecular mimicry possibly initiating a pathological immune response. Symptoms of polymyositis typically develop gradually in adult patients, predominantly middle-aged women. Recent literature has identified inflammatory myopathies associated with COVID-19, with only 8 reported cases of polymyositis following COVID-19 infection up to 2022. Experience suggests that COVID-19 may be an etiological factor for polymyositis. Consequently, we report a case of a 45-year-old male who developed polymyositis following a COVID-19 infection.

CASE REPORT

45 y/o male presenting with a 10 day history of progressive muscle weakness and myalgias, symmetrically effecting the groin area, radiating down the lower limbs at first, and the upper extremities at a later stage. Approximately 10 days prior the onset of the symptoms he experienced a mild, flu-like illness of unknown origin. Following these initial symptoms, he described his myalgias as persistent muscle fatigue, weakness, and soreness, which worsened with repeated muscle use. The patient has a positive Sars-CoV 2 antigen test and meets 6 of the Diagnostic Criteria for Polymyositis established by The Myositis Association - symmetric muscle weakness in the lower limbs and trunk, elevated serum levels of skeletal muscle-related enzymes, spontaneous muscle pain, typical electromyographic changes, signs of systemic inflammation, and muscle biopsy results.

CONCLUSION

Polymyositis following COVID-19 is a rare complication and should be considered as a differential diagnosis for any patient recovering from coronavirus infection who later develops symptoms typical of polymyositis.

Kew words: *COVID19, polymyositis, myopathies*

ARNOLD-CHIARI MALFORMATION (ACM)

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INTRODUCTION

Arnold-Chiari malformation (ACM) is a congenital anomaly characterized by herniation of the cerebellar tonsils through the foramen magnum, often leading to neurological symptoms.

THE CASE PRESENTATION

We present a case report of a 15 year old male patient who presented with symptoms: alternating hectic and subfebrile temperature, cough, inspiratory stridor, difficulty breathing and swallowing, pain in the front of the chest, ultimately diagnosed with ACM, along with other pathologies such as encephalitis, myelitis, upper respiratory tract infections, pneumonia, acute respiratory failure and gastroesophageal reflux disease, through Laboratory and Instrumental methods. The report details the patient‘s clinical presentation, diagnostic approach, treatment interventions, and subsequent outcomes.

CONCLUSION

Emphasizing the complexities of ACM management, this case underscores the significance of early recognition and comprehensive care to optimize patient outcomes and quality of life.

Keywords: *Arnold-Chiari malformation, neurosurgery, neurology, ACM, cerebellar tonsils, dysphagia, Spontaneous strabismus*

OBSTETRICS AND GYNECOLOGY & PEDIATRICS SECTION

CHAIRMEN:

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From caring comes courage.

Lao Tzu

INTERSTITIAL PREGNANCY - FROM DIAGNOSIS TO TREATMENT: CASE REPORT

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INTRODUCTION

Ectopic pregnancy is a rare condition of implantation of fertilized ovum outside the uterine cavity and represents a leading cause of first-trimester related maternal death. Interstitial pregnancy is a kind of tubal pregnancy, counting 2-4% of all ectopic pregnancies, where the embryo implants in the interstitial part of the fallopian tube and can lead to different complications such as excessive haemorrhage due to significant vascularity of this area.

Many risk factors are described but ipsilateral salpingectomy is the only specific one for interstitial pregnancy. Given the rare and complex nature of interstitial pregnancies, diagnosis and management are difficult.

Transvaginal ultrasound is the most specific instrumental tool for early diagnosis. There are various surgical and non-surgical methods for treatment of interstitial pregnancy. The choice of method depends on the gestational age, whether the pregnancy is intact or ruptured and the patient's desire for future fertility.

THE CASE PRESENTATION

We present a case report related to a 38-year old multiparous woman with amenorrhea and ultrasonographic findings corresponding to criteria for interstitial pregnancy who underwent through laparoscopy confirming the diagnosis.

CONCLUSION

Our aim is to emphasize the importance of early diagnosis of intact interstitial pregnancy in order to avoid possible complications such as rupture and severe haemorrhage and risk of future infertility in case of misdiagnosis.

Keywords: *ectopic pregnancy; diagnosis; management; treatment*

UNVEILING COVID-19'S LASTING IMPACT: A CASE REPORT ON THE RARE COVID-19 COMPLICATIONS; MULTY-SYSTEM INFLAMMATORY SYNDROME IN CHILDREN

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INTRODUCTION

Multi-system Inflammatory Syndrome in Children (MIS-C) is a rare but serious complication associated with COVID-19. The exact cause remains unclear, but it's suspected it may result from a delayed immune response leading to an overactive immune system. Diagnosis is made through a method of exclusion, characterised by a history of previous COVID-19 infection, persistent fever, and blood tests indicating high levels of inflammation markers. Additionally, patients must exhibit at least two of the following symptoms: heart problems, red bloodshot eyes, redness or swelling of the lips and tongue, redness or swelling of the hands or feet, abdominal pain, vomiting or diarrhea, coagulation problems, or shock.

CASE PRESENTATION

We present the case of a 4-month-old boy with a complex array of symptoms, including persistent fever, severe electrolyte imbalance, and metabolic acidosis. Notable haematological findings include microcytic hypo-chromic anaemia (haemoglobin level of 62 g/L) and thrombocytopenia (platelet count of 49 x 10^9/L). Liver function tests revealed abnormalities, such as elevated alanine aminotransferase (120 U/L), gamma-glutamyl transferase (82 U/L), and alkaline phosphatase (157 U/L). The patient also showed non-pitting edema and proteinuria. His positive IgG COVID-19 status suggests a post-infectious inflammatory response contributing to multi-system involvement.

CONCLUSION

MIS-C is a rare but manageable complication. However,Covid-19 continues to present new challenges, therefore it is imperative that we also advance our knowledge and learn more about the cause, prevalence and how to manage COVID-19 complications appropriately

Keywords: *COVID-19, multisystem-inflammatory syndrome, paediatrics, complication*

MICROORGANISMS ISOLATED FROM LOCHIA OF FEMALES WITH POSTPARTUM INFECTIONS

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INTRODUCTION

Postpartum infections are rare but serious and life-threatening for the mother as well as the fetus.

AIM

This study aims to analyze the species distribution of microorganisms isolated from lochia of females with postpartum infections.

MATERIALS AND METHODS

Overall 43 materials were collected from 36 females treated in the Clinic of Obstetrics and Gynecology at the University Hospital "Dr. G. Stranski" – Pleven from 2021 to 2024. The predominant part of patients were with Cesarean section, endometritis, and/or sepsis. Cultivation of the specimens was performed on blood agar plates, differential media, enrichment broths in aerobic conditions, and on Schaedler agars, thioglycolate broths in anaerobic conditions. Identification of the isolates was performed by conventional methods and the automated system Vitek-2 Compact (*Bio Merieux*, *France*).

RESULTS

Gram-positive and Gram-negative aerobic bacteria were isolated at similar rates. The Gram-positive bacteria included enterococci and staphylococci, 15 and 5 isolates, respectively. From the group of Gram-negative bacteria *Escherichia coli, Klebsiella pneumoniae, Enterobacter specie*, and *Proteus mirabilis* were dominant. The obligate non-spore forming anaerobes were *Prevotella bivia, Fusobacterium nucleatum*, and *Propionibacterium species*. All yeast-like fungi were identified as *Candida albicans*. In 11 (20,75%) patients microbial associations between Gram-positive and Gram-negative bacteria or between bacteria and fungi were found.

CONCLUSION

The most frequently detected microorganisms from lochia are *Enterococcus spp.* and *E.coli*. These were isolated as a single pathogen as well as microbial associations.

Keywords: *microorganisms, lochia, postpartum infections*

A RARE CASE OF MULTIPLE HETEROTOPIC PREGNANCY

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BACKGROUND

Heterotopic twin pregnancy is a rare condition characterised by a simultaneous presence of intrauterine pregnancy and extrauterine (ectopic) pregnancy (1). Due to its rarity, reports in medical literature are limited.

CASE DESCRIPTION

A 37-year-old female, G8P5 (vaginal deliveries), after spontaneous conception, presented at 5 weeks of gestation with abdominal pain. An initial ultrasound revealed an intrauterine gestational sac with a normal developing embryo. She was prescribed spasmolytics for pain and discharged.Despite treatment, the pain continued and at 7 weeks and 6 days, the patient returned with severe abdominal pain. A repeat ultrasound confirmed a normally developing intrauterine pregnancy but also showed free fluid in the Douglas Pouch and lower abdomen, raising suspicion for hemoperitoneum with unknown aetiology. A diagnostic laparoscopy confirmed a right tubal rupture due to ruptured ectopic pregnancy. A salpingectomy was needed, and the intrauterine pregnancy was maintained undisturbed. The pregnancy progressed normally, and she delivered vaginally at 38 weeks.

DISCUSSION

Heterotopic pregnancies occur in fewer than 1 in 30,000 pregnancies conceived naturally. With assisted reproductive techniques, the incidence increases up to 1 in 1,500 (2). The rarity of this condition and the presence of a normal intrauterine pregnancy often delay diagnosis. Early detection is essential in preventing complications, such as tubal rupture and internal haemorrhage.

CONCLUSION

Heterotopic pregnancy should be considered as a differential diagnosis in patients presenting with abdominal pain. The presence of an intrauterine gestational sac doesn't exclude the possibility of an ectopic pregnancy and thorough examinations should be routinely performed.

Keywords: *Heterotopic pregnancy, intrauterine pregnancy, ectopic pregnancy, differential diagnosis, laparoscopy.*

ASSOCIATION BETWEEN SLE AND PRE-ECLAMPSIA IN PREGNANCY: A CASE-BASED LITERATURE REVIEW

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OBJECTIVES
Systemic lupus erythematosus (SLE) is an autoimmune disease affecting predominantly women in their reproductive age. SLE can flare up during pregnancy, leading to adverse pregnancy outcomes including pre-eclampsia, hypotrophy of the fetus, preterm birth and fetal loss. We report a clinical case of a patient first diagnosed with SLE in 2013, who subsequently had pregnancy-related complications. Our aim is to emphasize the necessity of careful monitoring of pregnant patients with concomitant autoimmune diseases in order to avoid possible complications.
METHODS
A 38-year-old woman, Gravida 4, Para 2 (G4P2), with long-standing SLE and high levels of ANA, anti-dsDNA, anti-Ro/SSA, anti-Sm and anti-RNP antibodies, presented to the Department of Obstetrics and Gynecology with early pre-eclampsia and persistent hypertension with no response to maximal anti-hypertensive therapy. Fetal monitoring detected normal intrauterine development but with the presence of brain-sparing phenomenon. Due to fetal distress, an elective C-section was performed at the 30th week of gestation. Patient‘s history showed two spontaneous abortions in early gestational age and one preterm delivery of a dead hypotrophic fetus due to uncontrolled pre-eclampsia, which resulted in placental abruption in the 32nd week of gestation.
RESULTS
Patients with SLE who had their disease under control prior to, during and after a planned pregnancy were shown to have better outcomes.
CONCLUSION
There is a higher prevalence of hypertensive complications and stillbirths in SLE-related pregnancies, therefore careful interdisciplinary monitoring and treatment planning is essential.

Keywords: *pregnancy, pre-eclampsia, SLE*

INTERNAL MEDICINE SECTION

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Assoc. prof. Vanya Slavcheva, MD, PhD

SECRETARY:

Dzhemile Isuf, OC

The good physician treats the disease; the great physician treats the patient who has the disease.

William Osler

EFFICACY AND SAFETY OF FACTOR XI INHIBITORS FOR THE PREVENTION OF VENOUS THROMBOEMBOLISM: A META-ANALYSIS

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OBJECTIVE
Venous thromboembolism (VTE) has become a global concern as a hospitalization complication which is the third most common cause of heart attack and stroke. A novel anticoagulant agent, factor XI inhibitors, has been further explored to prevent thromboembolism and preserve hemostasis in response to vascular injury. This study aims to evaluate the efficacy and safety of factor XI inhibitors for the prevention of venous thromboembolism.
METHODS
We conducted a systematic review and meta-analysis of randomized controlled trials based on PRISMA methods. The analysis of primary outcomes, including the incidence of VTE and major or clinically significant nonmajor bleeding, were carried out using Review Manager 5.4 software.
RESULT
A total of nine studies involving 5010 patients at risk of VTE. Factor XI inhibitors in the class of antisense-oligonucleotides, monoclonal antibodies, and small peptidomimetic molecules were compared with LMWH, DOAC (Factor Xa inhibitors), and placebo. Overall analysis shows that factor XI inhibitors prevent the incidence of VTE significantly superior to the comparators with the protective ratio of 0.40 (p=0.003). The subgroup analysis showed that factor XI inhibitors were significantly better at preventing VTE compared to LMWH and small molecules inhibitor showed the best protection. Factor XI inhibitors also showed better safety in preventing major or clinically significant nonmajor bleeding in overall comparison 0.40 (95%CI: 0.18-0.92), compared to LMWH, and factor Xa inhibitors (DOAC).
CONCLUSION
Factor XI inhibitors effectively prevent VTE incidence with a low risk of major or clinically significant nonmajor bleeding

Keywords*: Anticoagulant, factor XI inhibitors, major or clinically significant nonmajor bleeding, venous thromboembolism*

VALUES OF SERUM ALBUMIN IN CASES WITH LIVER CIRHOSIS

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AIM
To determine the relationship between the presence of hypoalbuminemia and late complications in liver cirhosis.
MATERIAL AND METHODS
Retrospective study of newly diagnosed hospital cases with liver cirrhosis for the period 2017-2021. A total of 361 individuals were included: 258 (71%) man and 103 (29%) women in mean age 57±11.4 years with etiology alcohol in 262 (72.5%) of them. All were graded by Child-Pough score and MELD Na. Hypoalbuminemia is defined as a level of Serum Albumin was lower than 35 g/l. We used IBM SPSS 26 and Exel statistics. A value of p0.05 is accepted as a level of significance.
RESULTS
Serum albumin values progressively decrease with increasing Child-Pough stage and MELD Na score (p=.000). There is a statistically significant difference between group with and without ascites (p=.000). The ROC analysis established a cut-off value of 31.850g/l, predicting the appearance of ascites (Area under ROC .757, Sensitivity 82%, Specificity 66%). There is a statistically significant difference between cases with and without PSE (p=.000). The ROC analysis established a cut-off value of 34.32g/l as a predictor of PSE (Area under ROC .745, Sensitivity 63%, Specificity 83%). There is a statistically significant difference between cases with and without kidney function abnormalites (p=.000). The ROC analysis established a cut-off value of 27 g/l, predicting the appearance of HRS (AUR ,706, Sensitivity 59%, Specificity 70%).
CONCLUSION
The appearance of hypoalbuminemia is associated with advanced liver cirrhosis and closely related to the late complications: ascites, encephalopathy, and abnormalities in renal function.

Keywords: *serum albumin, MELD Na, Child-Pough, liver failure*

CANDIDA SPECIES – MAIN TYPES OF INFECTIONS AND RISK GROUPS PATIENTS

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AIMS
The aim of this study is to determine the main types of infections due to *Candida species* isolated from patients treated at University hospital "Dr. G. Stranski" - Pleven over a two-year period and to look for some of the predisposing factors for the development of candidiasis.
METHODS
Overall, 324 *Candida* strains were analyzed, collected from 316 patients treated in different clinics. The cultivation of the urine samples were performed on DiaPlate CHROMAgar (DIACHIM) or on blood agar, EMB agar and enrichment broth – for all materials excluding urine and feces. The species identification of the isolates was performed on DiaPlate Chromogenic Candida or by automated system VITEK-2 Compact (*Bio Merieux, France).*
RESULTS
In the analyzed group of patients 128 suffered from urinary tract infections (UTIs), 89 – respiratory tract infections (RTIs), 63 – wound infections and rarely infections in other body sites. Identification to species level was done for 233 of the strains. Among them, *C. albicans* were predominant - 171, followed by *C. tropicalis*, *C. glabrata*, *C. krusei*, *C. parapsilosis* and less often other species. The remaining 91 were identified to the genus level. Different risk factors for the development of candidiasis were found in patients with UTIs. The main risk factors are: female sex, age over 50 years and diabetes. In patients with infections in other sites: diabetes and perforations of gastric and duodenal ulcers.
CONCLUSION
The most common type of candidiasis are UTIs, RTIs and wound infections. Risk groups of patients for the development of candidiasis include - diabetes, age over 50 years, abdominal surgery, trauma and oncological diseases.

Keywords: *Candida infections, risk factors*

COEXISTENCE OF TUBERCULOSIS AND NON-CMALL CELL CARCINOMA: A CASE REPORT

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INTRODUCTION

The rare combination between lung tuberculosis and non-small cell carcinoma is considered to be a serious diagnostic challenge, despite the common occurrence of each condition individually.

Lung tuberculosis is a socially significant disease, impacting a third of the population, especially those in the developing counties. It is tied to the bad hygiene, protein hunger, malnutrition as well as epidemics of alcoholism and drug use.

Lung cancer is the most common cancer in the world. It is most often found in men between 50-70 years. In the 1970s the ratio between male and female cancer patients was 7:1, in favor of men, but with the increase in female smokers said ratio has gone up to 2:1.

AIMS

Presenting this case has the objective of delivering the information about the diagnostic method and follow up of the non-small cell adenocarcinoma in combination with lung tuberculosis.

METHODS

Anamnesis, physical examination, clinical examination, x-ray imaging, CT imaging.

CONCLUSION

Lung tuberculosis continues to be a disease, which needs profound examination and a continuous follow-up. In combination with lung cancer is considered to be a real threat to the patient‘s life and well-being.

Keywords: *tuberculosis, lung cancer, infection*

IPOSOMAL VYXEOS IN THE TREATMENT OF SECONDARY AML – CURRENT THERAPEUTIC CHALLENGES IN CLINICAL PRACTICE

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INTRODUCTION

Acute myeloid leukemia (AML) is a dominating disease among older people and has a
heterogeneous genetic profile, leading to a different patient survival. In the revised WHO 2016 classification of myeloid malignancies the so-called secondary AML was presented as a separate disease entity. Patients with this AML subtype usually have shorter survival.

AIMS

Aim of this report is to present a short view on Vyxeos application and our clinical practice in the treatment of two patients with secondary AML.

METHODS

To achieve this aim we selected some Medline reports and current patients' records.

RESULTS

The two presented cases were the first patients, treated with Vyxeos in our institution. Unfortunately, the disease course was not satisfactory in both.

CONCLUSION

Multiple factors influence survival in patients with secondary AML. Amongst them is the
substitutive therapy with biological products. Our limited experience with liposomal Vyxeos could not possibly give us the opportunity to evaluate medication effectiveness and draw significant conclusions.

Keywords: *therapy, acute myeloid leukemia, Vyxeos liposomal*

A CASE OF ACUTE PYELONEPHRITIS IN THE POSTPARTUM PERIOD

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INTRODUCTION

Postpartum infections are infections connected to pregnancy that develop in the period between the rupture of the amniotic sac and the 42nd day after birth. Urinary tract infections (UTIs) are the second most frequent type of postpartum infection, following endometritis. Their frequency is from 2 to 4%, including both lower UTIs and pyelonephritis. Around 75% of the postpartum UTIs develop in the first 15 days after delivery and the primary risk factors include operative delivery, bladder catheterization during birth, complications during pregnancy, etc.

CASE PRESENTATION

This is a case of a 32-year-old female patient, admitted to the Clinic of Nephrology and Dialysis at University Hospital "Dr. Georgi Stranski", Pleven, with clinical signs of UTI (left-sided lumbar pain, dysuria, fever, nausea and vomiting). A month before that the patient gave birth to a healthy child from a normal pregnancy. The results of the urine culture showed significant bacteriuria with isolated Staphylococcus epidermidis. The patient had ultrasound data for left-sided hydronephrosis. After antibiotic treatment, with temporary termination of breastfeeding, the patient's condition improved and she was discharged with no further complications.

CONCLUSION

UTIs should not be underestimated, especially in the postpartum period, as they can impact the recovery of women after giving birth. Antibiotic treatment should be performed carefully and a temporary termination of breastfeeding is recommended during treatment.

Keywords: *UTIs, pregnancy, postpartum period*

LIVING WITH IDIOPATHIC PULMONARY FIBROSIS: A CASE REPORT

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INTRODUCTION

Idiopathic pulmonary fibrosis (IPF) is characterized by progressive bilateral interstitial fibrosis. It usually presents with the gradual onset and signs such as nonproductive cough, progressive dyspnea and "velcrolike" crackles on auscultation. Cyanosis, cor pulmonale and peripheral edema may develop in later stages of the disease.

CASE PRESENTATION

We present a case of a 70-year-old female admitted in Pulmonology Department with complaints of progressive fatigue, shortness of breath and cough. The patient was ex-smoker with total exposition of 5 pack years. She used to work as a polygrapher in a printing office. The first evidence for pulmonary fibrosis was observed 1 year ago after CT scan with subpleural reticulations and honeycombing that are typical for usual interstitial pneumonia (UIP) pattern. Controlled radiological studies revealed progression on the CT scan. Pulmonary function testing (PFT) identified restrictive pattern with decreased diffusion capacity and the patient was diagnosed with IPF. Antifibrotic treatment was started and regular follow-up visits were scheduled to monitor disease progression and response to treatment.

Despite the optimal treatment results the therapy was stopped in 2022 due to side effects with increased levels of liver enzymes and gastrointestinal symptoms. After short period of recovering antifibrotic drug was changed and the dose was optimized due to new side effects. The development of respiratory failure led to the implementation of supplemental oxygen therapy to optimize lung function and improve her physical capacity. Although disease progression was delayed, PFT showed deterioration of lung function over time.

CONCLUSION

Idiopathic pulmonary fibrosis is a complex and challenging disease. Antifibrotics play important role in IPF management as they could delay disease progression. Follow up with close monitor of lung function is important for better management. Early diagnosis and complex care are crucial for improving prognosis and quality of life in these patients.

Keywords: *Idiopathic pulmonary fibrosis, antifibrotic therapy*

EFFICACY OF HUMAN MONOCLONAL ANTIBODIES IN THE TREATMENT OF ASTHMA: A COMPREHENSIVE CASE REPORT

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INTRODUCTION

Asthma is a chronic inflammatory disease of the airways characterized by hyperresponsiveness, inflammation, and obstruction. Despite advances in corticosteroid therapies, a significant proportion of patients remain inadequately controlled, highlighting the need for novel therapeutic strategies.This case report evaluates the role of human monoclonal antibodies (mAbs) in the management of asthma and impact on patient quality of life.

THE CASE PRESENTATION

52-year-old woman with a long history of bronchial asthma presented a challenging case due to frequent exacerbations and inadequate response to standard inhalation therapies. Diagnosed over 15 years ago, she had been using a combination of long-acting beta-agonists, inhaled corticosteroids, and short-acting beta-agonists as needed. Despite her adherence to this regimen, she experienced recurrent episodes of worsening symptoms, often requiring systemic corticosteroids and resulting in several hospitalizations each year. The patient did not report any accompanying diseases, was a non-smoker and non-drinker, and had no known allergies. Her symptoms included chronic wheezing, significant shortness of breath—especially at night and during exertion—a persistent cough, and an overall decline in quality of life. Given the persistence of her symptoms and the frequency of exacerbations, she was referred for biological therapy after a comprehensive evaluation. Five months ago, she started treatment with a monoclonal antibody designed to target specific inflammatory pathways involved in asthma. The response to this new therapy was remarkable. Within the first month, she noted a significant reduction in exacerbations, leading to fewer emergency department visits and no hospitalizations during the treatment period. Her reliance on rescue inhalers diminished, and she reported substantial improvements in sleep quality and daytime activity levels. After five months, spirometry tests showed an improvement in FEV1, indicating better lung function. Overall, the patient experienced enhanced symptom control, showcasing the potential effectiveness of biological treatments in severe asthma cases.

This case highlights the importance of personalized treatment strategies for patients with refractory asthma. Continued monitoring and potential adjustments to her

therapy will be crucial in maintaining her improved condition. Interdisciplinary collaboration among healthcare providers, along with thorough patient education, will further support her ongoing management and enhance her quality of life.

CONCLUSION

Human monoclonal antibodies represent a transformative approach in asthma management, offering targeted therapy for specific phenotypes. Their integration into treatment algorithms has the potential to improve outcomes for patients with severe asthma.

Further research is needed to refine patient selection and optimize long-term management strategies.

Keywords: *asthma, monoclonal antibodies, treatment efficacy, airway inflammation*

MULTIDISCIPLINARY APPROACH IN THE TREATMENT OF A BREAST CANCER PATIENT

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INTRODUCTION

This case highlights the importance of a multidisciplinary approach in the management of cancer patients, demonstrating its pivotal role in achieving optimal treatment outcomes.

CASE PRESENTATION

We present the case of a 48-year-old woman diagnosed with breast cancer five years prior. Following a positive CT scan, the clinical committee recommended a modified radical mastectomy with Gefreer, which confirmed invasive ductal carcinoma, triple-negative, with a high proliferative index. The patient underwent adjuvant chemotherapy and postoperative radiotherapy.

Three years later, she was readmitted to the surgical department due to a painful mass in the left breast and skin changes resembling „orange peel“ (peau d‘orange). Echomammography revealed a retroareolar abscess and a fibrous mass in the lower left quadrant. The abscess was surgically drained, and a biopsy of the tumor was performed. Pathological examination identified invasive lobular carcinoma, hormone receptor-positive with a high proliferative index. The patient received neoadjuvant chemotherapy, followed by another modified radical mastectomy after PET-CT evaluation. Postoperatively, she was prescribed adjuvant chemotherapy, targeted therapy, and radiotherapy. Throughout treatment, follow-up scans showed no evidence of recurrence or metastatic spread.

CONCLUSION

To date, the patient remains in complete remission with no signs of disease progression, illustrating the success of a coordinated, multidisciplinary approach in managing complex cancer cases.

Keywords: *breast cancer, chemotherapy, CT, radiotherapy, modified radical mastectomy, targeted therapy*

PHARMACY SECTION

CHAIRMEN:

Assoc. prof. Nadia Veleva, PhD

SECRETARY:

Rostislava Kushleva, OC

It is easy to get a thousand prescriptions, but hard to get one single remedy.

Chinese proverb

DESIGN, SYNTHESIS AND BIOLOGICAL EVALUATION OF NOVEL DPP-IV INHIBITORS

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AIMS/OBJECTIVES

The current research is focused on the synthesis and structure optimization of novel dipeptidyl peptidase-IV (DPP-IV) inhibitors containing benzo[a]quinolizidine fragment and evaluation of their inhibitory activity and cytotoxicity.

MATERIALS AND METHODS

The binding mode of the synthesized compounds at the active site of the human DPP-IV enzyme is investigated using molecular docking. The results from the study are used to guide the structure optimization process.

The synthetic method for the preparation of the target compounds is based on the reaction between enolizable anhydrides and 3,4-dihydroisoquinolines, which is a variety of Castagnoli-Cushman reaction.

The inhibitory activity of the synthesized compounds on human DPP-IV was measured using Sitagliptin-like positive control. The cytotoxicity of all synthesized compounds on human mesenchymal stem cells was also evaluated.

RESULTS

Two series of compounds with analogous structure but with different substituents and heteroatoms have been successfully synthesized in moderate to excellent yields. The molecular docking indicated that the obtained compounds were in contact with the most important selectivity cliffs in the active site of DPP-IV.

One of the synthesized compounds was found to display inhibitory activity in the micromolar range similar to that of Sitagliptin. All compounds were shown to be non-cytotoxic.

CONCLUSION

The molecular docking approach allowed successful optimization of the structure of the benzo[a]quinolizidine inhibitors and to outline the necessary modifications to increase their potency as DPP-IV inhibitors. This synthetic methodology could provide a route to new heterocycles with potential biological properties.

Keywords: *cytotoxicity, inhibitor, docking, diabetes, synthesis*

ROLE OF BLOOD PROTEINS IN THE DIAGNOSIS OF OVARIAN CARCINOMA

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INTRODUCTION

Ovarian carcinoma is not common, but it is nevertheless the fifth leading cause of cancer death among women worldwide. Globally, more than 200,000 women are diagnosed with ovarian cancer each year.

AIMS

Unfortunately, there is no adequate screening program for its early detection and as a result this diagnosis eludes clinicians. In Bulgaria, according to data from the National Cancer Registry, it is in fifth place in terms of frequency among malignant tumours in women and in sixth place as a cause of death.

METHODS AND MATERIALS

The blood proteome contains an invaluable store of proteins that show predictable changes in response to a developing malignancy and represent a good tool for their diagnosis.

RESULTS

The development of an assay or algorithm to provide a more accurate and simplified approach to ovarian malignancy risk assessment in cases of ovarian tumours has been a long-sought goal. Achieving this goal would significantly reduce mortality from this disease.

CONCLUSION

By determining the concentrations of five proteins - prealbumin, albumin, transferrin, fibrinogen and β_2 microglobulin, we aimed to evaluate their role in the diagnosis of women with ovarian carcinoma.

Keywords: *ovarian cancer, proteins, diagnosis, disease*

PAIN THRESHOLD EVALUATION IN RATS WITH EXPERIMENTAL TYPE 2 DIABETES MELLITUS

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INTRODUCTION

Diabetic neuropathy is peripheral nerve dysfunction and it is a common complication of diabetes. Symptoms depend on the site of nerve damage and can include motor changes such as weakness, and sensory symptoms such as numbness, tingling, and pain.

AIM

The aim of the study was to test the pain threshold in rats with a high-fat diet and streptozotocin (HFD/STZ)-induced type 2 diabetes.

MATERIALS AND METHODS

The study was conducted on 75 male Wistar rats. Animals were fed a high-fat diet for 4 weeks and then injected with low-dose STZ intraperitoneally. Diabetic rats were divided into 2 groups: treated with metformin orally and without metformin. The control group was injected only with citrate buffer and on a normal diet. Pain threshold testing was performed at week 6, and week 16 after the beginning of the experiment. Randall-Selitto test was used to assess pain thresholds to mechanical pressure stimulation.

RESULTS

When performing the test before the induction of diabetes, no statistical difference was found in the pain threshold in the groups. At 6 weeks a statistically significant difference in pain threshold was found – lower in the diabetic groups compared to the control group. At week 16, a higher pain threshold was found in the diabetic group, compared to the control group, but with no statistical difference between the control group and the metformin-treated diabetes group.

CONCLUSION

By using Randall–Selitto test was discovered a difference in pain threshold in rats with HFD/STZ-induced type 2 diabetes. At week 6 after the beginning of the experiment was found a lower pain threshold in the diabetic group and after 16 weeks the pain threshold was higher.

Keywords: *high-fat diet, neuropathy, pain threshold, Randall-Selitto test, streptozotocin*

MACROSCOPIC AND MICROSCOPIC EXAMINATION OF HEDERAE FOLIUM

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INTRODUCTION

Hedera helix L. (Araliaceae) is a perennial, evergreen climbing shrub or tree. The pharmacologically valuable part of the plant is its leaves, containing active components such as: triterpene saponins, flavonoids, and phenolic acids.

AIM

This study aimed to perform macroscopic and microscopic observations of the basic morphological and anatomical structures of *Hederae folium*.

MATERIALS AND METHODS

The methods of examination followed the official methods outlined in the European Pharmacopoeia.

RESULTS

The study describes the shape and dimensions of the leaf petiole, the base and tip shapes of the leaf margin, and the overall appearance, colour, and consistency of the leaves. The plant exhibits heterophily; the leaves on flowering branches are elliptic, while stem leaves are 3-5 lobed with triangular, entire lobes. The powdered ivy leaf appears dark green. Microscopic examination reveals characteristic features such as stellate trichomes, calcium oxalate drusen, and fragments of both the lower and upper epidermis, including stomata, as well as spongy and palisade parenchyma.

CONCLUSION

Although *Hederae folium* is included in the European Pharmacopoeia, this examination provides additional data, supported by photographic material highlighting significant morphological and anatomical features of the plant.

Keywords: *Hedera Helix, Microscopic and Macroscopic Examination*

POSTER SECTION

CHAIRMEN:

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Assoc. prof. Mariela Kamburova, MD, PhD

SECRETARY:

Theodora Bozhinova, OC

Observation, Reason, Human Understanding, Courage; these make the physician.

Martin H. Fischer

P.1 TRANSLOCATION (6;9)(P23;Q34.3) IN THE MALE PARTNER FROM A COUPLE WITH 3 MISSED ABORTIONS

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INTRODUCTION

Recurrent spontaneous abortion refers to the loss of two or more consecutive pregnancies, typically before 20 weeks of gestation. Balanced translocation (exchange of fragments between two non-homologous chromosomes without loss or gain of genetic material) in either partner is one of the most important causes of recurrent miscarriage.

THE CASE PRESENTATION

A couple (female – 35 years old; male – 34 years old) was referred to a genetic counsellor due to a history of 3 missed abortions (at 7 weeks of gestation), following a normal pregnancy resulting in a healthy child. Cytogenetic analysis of lymphocyte cultures from peripheral blood of both partners established a normal female karyotype (46,XX) and an aberrant male karyotype (46,XY,t(6;9)(p23;q34.3)). The result revealed that the male partner is a carrier of a balanced reciprocal translocation which could be linked to the couple's reproductive failure. Based on literature data, carriers of reciprocal translocations, even though phenotypically healthy, have an empirical risk of 20-30% for miscarriage and 3-5% for birth of a child with chromosomal aberration. In the presented case, based on the reproductive history of three missed abortions, the expected risk for a subsequent miscarriage is approximately 30-40%. Genetic counselling recommended application of prenatal diagnosis or preimplantation genetic diagnosis (in case of ART procedure).

CONCLUSION

Cytogenetic analysis provides the opportunity for identifying couples with a genetic cause for reproductive failure and allows proper genetic counselling and preventive measures for subsequent reproduction.

Keywords: *Missed abortions, Balanced translocation, Cytogenetic analysis, Genetic counselling*

P.2 ANTERIOR SPINAL ARTERY SYNDROME - A RARE CAUSES OF QUADRIPARESIS

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INTRODUCTION

Spinal Cord infarction secondary to Anterior Spinal Artery Syndrome is a very rare condition. We present here a rare case of a 64 year old patient who presented with acute onset of quadriparesis and was found to have Anterior Spinal Artery syndrome.

THE CASE PRESENTATION

This 64 year old patient- a known case of hypertension on treatment, presented with sudden onset of pain over the front of the chest followed by weakness of both lower limbs initially, followed by both upper limbs. He was unable to walk and had bladder incontinence. Clinical examination revealed flaccid quadriparesis-power Grade 1-2 in all four limbs with absent reflexes , bladder involvement and decreased sensations of pain and temperature over the body from D2 level downwards. A clinical diagnosis of a cervical cord infarction secondary to anterior spinal artery syndrome was made. MRI scan of the spinal cord done within 24 hours was normal. MR Angiogram of the Aorta and the cerebral vessels done showed no evidence of Aortic dissection or aneurysm. Repeat MRI done after 48 hours showed hyperintensity involving the anterior aspect of spinal cord from C3 to C7 levels suggestive of spinal cord infarction. The patient was managed conservatively with high dose pulse corticosteroids, low molecular weight Heparin, antiplatelet agents and statins and had improvement in motor power in lower limbs after initiation of physiotherapy.

CONCLUSION

Anterior spinal artery syndrome with spinal cord infarction is a rare cause of quadriparesis and a high index of suspicion is essential for prompt diagnosis.

Keywords: *Spinal cord infarction, quadriparesis , anterior spinal artery syndrome*

P3. MICROORGANISMS ASSOCIATED WITH CENTRAL VENOUS CATHETERS

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AIM
To analyze the spectrum of microorganisms isolated from central venous catheters (CVCs) of patients treated in the University hospital "Dr. G. Stranski" – Pleven for a three-year period.
MATERIALS AND METHODS
Microbiological data of 46 positive CVC samples from overall 44 patents were analyzed. The cultivation of the catheter segments was performed by the semiquantitative method of Maki. The identification of the isolates was carried out with conventional methods and the automated system Vitek-2 Compact (*Bio Merieux*, *France*).
RESULTS
In the group of 44 patients, 23 were adults and 21 were newborns. A total of 48 strains were isolated from CVCs – 46 bacteria and 2 yeasts belonging to genus *Candida*. The Gram-positive bacteria were the most commonly observed – 34 (70.83%), and the coagulase-negative staphylococci (CoNS) were predominant – 31 (64.58%). Among them, mainly *S. epidermidis*, followed by *S. haemolyticus* and *S. hominis* were identified. The Gram-negative bacteria constituted a smaller relative rate (12 strains, 25%), mostly members of family *Enterobacteriaceae*. The coagulase-negative staphylococci were a significant part of the isolates in newborns, whereas in adults *S. aureus* was an important species.
CONCLUSION
The Gram-positive cocci were the most frequently isolated bacteria from CVCs with differences in the spectrum of causative agents in adults and newborns.

Keywords*: central venous catheters, coagulase-negative staphylococci*

P.4 GASTROINTESTINAL MANIFESTATIONS OF MULTISYSTEM INFLAMMATORY SYNDROME IN CHILDREN: A SINGLE- CENTER OBSERVATIONAL STUDY

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AIM
Our retrospective observational study summarises digestive symptoms and gastrointestinal involvement in children diagnosed with multisystem inflammatory syndrome in children (MIS-C).
MATERIALS AND METHODS
We present clinical, laboratory and imaging data of 51 children with MIS-C hospitalised in a single center from 25.11.2020 to 24.04.2021, focusing on gastrointestinal involvement.
RESULTS
From the 51 children, 46 (90.2%) reported at least one abdominal symptom, with abdominal pain being the most common (86%, n=44). Most children were older than 5 years (n=40, 78%) and male (n=37, 72.5%), with a mean age of 8.82 ± 4.16 years. We observed a tendency for lymphopenia, neutrophilia, and elevated levels of C-reactive protein (CRP), D-dimer, and ferritin in patients with abdominal pain (R-squared = 0.188, F-statistic = 11.9, p = 0.00122). A statistically significant linear relationship was found between neutrophil percentage (NEU%) and length of hospital stay. Elevated transaminase levels were more frequent in older children (65% over 5 years vs. 27.3% under 5 years; p = 0.0583). No significant associations were found between digestive symptoms and either age or the predominant SARS-CoV-2 variant.
CONCLUSION
Most MIS-C patients presented with abdominal pain, often alongside other gastrointestinal symptoms. These findings suggest that MIS-C should be considered in children presenting with abdominal pain and recent COVID-19 contact. Larger studies are needed to further explore gastrointestinal involvement in MIS-C.

Keywords: *MIS-C, SARS-CoV-2, children, gastrointestinal involvement, abdominal pain, gastrointestinal symptom, lymphopenia, laboratory markers*

P.5 FORMING INTERCULTURAL TOLERANCE IN MEDICAL UNIVERSITIES AT BULGARIA

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INTRODUCTION

Establishing a healthy living environment, as a fundamental principle of health promotion, suggests developing strategies that address the places which people inhabit and live in complex interaction with the surrounding physical and psychosocial environment. An example of the practical expression of this idea is the project "Universities for health".

Aim of this study, as an initiative part of a larger research project for forming intercultural tolerance in medical universities in Bulgaria, is to investigate its importance for students' adaptation to the university environment, fulfilling their value needs and improving their academic performance.

METHODS

Content and comparative analysis of literature sources on the topic.

RESULTS

Intercultural tolerance as a professional moral quality gains importance in all spheres of public life, including training and healthcare. The rapid adaptation of students to the psychosocial educational environment defines their academic performance, personal and professional development and their health self-assessment. The initiative for the creation of the network "Universities for health" requires a thorough research process with appropriate analysis and evaluation tools. Expected results of the project:

- Forming intercultural tolerance at universities
- Joining Medical university Pleven to the web of "University for health"
- Improving the academic performance of students

CONCLUSION

Medical universities are a suitable environment for conducting such research, as they train students from different countries. Creating an inclusive psycho-emotional and social environment in the university community based on cultural tolerance is essential to achieving a sustainable university environment and good academic outcomes. This requires a thorough research process with appropriate analysis and evaluation tools.

Keywords*: health promotion, intercultural tolerance, universities for health*

P.6. ERYTHTOPOIETIN HYPORESPONSIVENESS IN PATIENTS ON HEMODIALYSIS AND CONTINUOUS AMBULATORY PERITONEAL DIALYSIS

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INTRODUCTION
Chronic kidney disease (CKD) is a social and worldwide problem. Erythropoietin resistance is very common due to different reasons in patients with CKD, anemia on dialysis therapy.
AIM
This prospective study was carried out to evaluate the serum erythropoietin and ferritin levels in patients with CKD treated with dialysis within the scientific project №8/2024, funded by Medical University – Pleven.
METHODS
A total of 84 patients treated with hemodialysis and 16 patients treated with peritoneal dialysis (CAPD) were included. An analysis was made of the correlations between the serum levels of endogenous erythropoietin and ferritin levels with haemoglobin doses of recombinant exogenous erythropoietin, serum creatinine, URR and renal disease. The anti-erythrocyte antibodies were also examined.
RESULTS
The results show that serum erythropoietin and ferritin levels are much lower in patients undergoing hemodialysis treatment than in CAPD patients. There is no significant difference between the serum erythropoietin levels in patients from both genders. It was noticed that patients with lower EPo and ferritin levels are receiving higher doses of erythropoietin but lower doses of iron weekly.
In patients treated with CAPD, serum erythropoietin levels vary between 3.5 and 62.7 U/l. The average level of serum erythropoietin is significantly higher and the average age and duration of renal replacement therapy is significantly shorter compared to patients on hemodialysis.
We noticed versatile relations between the level of serum erythropoietin and the main markers for chronic renal failure and dialysis treatment. Patients undergoing treatment with CAPD have higher serum levels of epoetin, even higher levels of ferritin, and better markers for renal replacement therapy. Anti-erythrocyte antibodies have not been discovered in any patient.

Keywords: *erythropoietin, renal anaemia, chronic kidney disease, dialysis*

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