



POSTER DISPLAY DURING THE ENTIRE CONFERENCE AND ADDITIONAL ORAL PRESENTATION OF THE POSTER AT A GO AROUND POSTER SECTION

Concurrent Session C6A

SATISFACTION WITH STUDY ASPECTS AND GENERAL SATISFACTION AMONG GRADUATING STUDENTS OF MEDICINE AT THE UNIVERSITY OF RIJEKA

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Background: In recent years, the University of Rijeka collected data and tracked the level of satisfaction of graduating students at all faculties, including the Integrated Undergraduate and Graduate Study of Medicine (Medicine).

Aim: The aim of this research was to present the satisfaction of graduating students of the Medicine Study for the academic years 2017/2018, 2018/2019, 2019/2020, and 2020/2021. Various parameters of satisfaction with study aspects and general satisfaction with the study were monitored.

Materials and Methods: Data from the Center for Quality Assurance and Enhancement and institutional research of the University of Rijeka were used. The collected data were processed using the statistical software package IBM SPSS Statistics version 25.0 (IBM Corporation, 2017), with standard tools of descriptive and inferential statistics. The reliability analysis using Cronbach's Alpha (0.945) confirmed the high level of reliability of both scales. The responses to each set of statements were separately analyzed and their suitability for factor analysis was confirmed. The survey of student satisfaction was conducted in accordance with the instructions for using the student satisfaction questionnaire and the Manual for Quality of Studying at the University of Rijeka. A Likert-type scale of 5 levels was used to assess satisfaction with study aspects (1-not satisfied at all to 5-completely satisfied).

Results: Research measured the index of satisfaction with study aspects at MEDRI, student satisfaction with the availability of IT resources, the ability to use various forms of support at the University of Rijeka, satisfaction with the work of the student council and student organizations, and general satisfaction with the study. The average rating for all aspects was 3.87. The general satisfaction with the study monitored satisfaction with the expected study, contribution to personal development, ability to work in the profession, motivation for further learning, preparation for continuing education and entering the job market, overall satisfaction, and recommendation of this study to others. The worst rated area was the ability to work in the profession (3.55), while the best was the contribution of the study to personal development (4.28).

Conclusion: From the data presented, it is evident that graduating students of the Medicine Study at the University of Rijeka rate the availability of IT resources, contribution to personal development, and motivation for further learning the highest, while the ability to work in the profession and student satisfaction with the ability to use various forms of support at the University of Rijeka received lower ratings.

Key Words: Faculty of Medicine; Medical student; Research; Student satisfaction

STUDENT ASSESSMENT OF TEACHERS' COMPETENCIES AT THE FACULTY OF MEDICINE IN RIJEKA

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Background: In light of recent extensive efforts to improve the quality of teaching at the Faculty of Medicine in Rijeka, a comprehensive research was conducted for the first time to determine the current state of teachers' competencies at the Faculty.

Aim: The main objective of this research was to assess the quality of teachers' competencies at the Faculty of Medicine in Rijeka by medical students of all study years.

Materials and Methods: The study involved students from all years of the Integrated Undergraduate and Graduate University Studies at the Faculty of Medicine in Rijeka, who anonymously and voluntarily completed an online questionnaire in the academic year 2021/22. The questionnaire consisted of four groups of questions: general information about the respondents; lesson planning (syllabi, learning objectives and outcomes, planned course content); learning methods; student assessment. All questions included grading from 1 to 5 on a Likert scale.

Results: A total of 136 students from all years of study participated in answering the questionnaire. The questions on lesson planning were answered with an average grade of 3.1, with a clear trend towards a decrease in grades in the later years of study. The questions on learning methods, which relate to the actual delivery of classes, received the same average grade of 3.1. In addition, in this part of the questionnaire, respondents assessed the degree of interactivity, individualization, and relevance of the course content in the different forms of teaching, with practicals receiving the highest average grade (3.6) and lectures the lowest (2.3). The average grade obtained for the questions on student assessment was 2.8.

Conclusion: The obtained results underline the importance of conducting education of medical educators with the aim of improving the quality of the teaching process, as well as teachers' competencies.

Key Words: faculty development; medical education; quality assessment; quality improvement; teachers' competencies

SPECIFICITIES OF CLINICAL TEACHING: STUDENT ASSESSMENT OF TEACHERS' COMPETENCIES

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Background: In light of recent extensive efforts to improve the quality of teaching at the Faculty of Medicine in Rijeka, comprehensive research was conducted for the first time on students of the last three years of Medical studies to determine the current state of teachers' competencies in clinical teaching at the Faculty of Medicine in Rijeka.

Aim: The main aim of this study was to investigate the medical students' attitudes towards currently existing clinical teaching strategies and teachers' competencies at the Faculty of Medicine in Rijeka.

Materials and Methods: The study was conducted with 4th, 5th, and 6th year students of the Integrated Undergraduate and Graduate University Study Medicine at the Faculty of Medicine in Rijeka, who voluntarily and anonymously completed an online questionnaire in the academic year 2021/22. The questionnaire consisted of 3 questions about the general characteristics of the respondents and 9 questions about the methodology and

specificities of clinical teaching at the Faculty of Medicine in Rijeka. All questions on specificities of clinical teaching included grading from 1 to 5 on a Likert scale.

Results: A total of 54 students from the last three years of study participated in answering the questionnaire. The average grade for all questions on the specificities of clinical teaching was 2.4. The highest grade of 3.7 was given for the question “To what extent is the scope of the course material too detailed or too specialized for medical students?”, while the lowest grade of 1.5 was given for the question “Do teachers assess the different levels of clinical competences in students at the beginning of courses?”.

Conclusion: Considering the low average grade with which students answered all questions on the specifics of clinical teaching, this survey highlights the importance of continuous education for medical educators to improve teachers’ competencies, as well as the overall quality of the teaching process.

Key Words: clinical teaching; faculty development; medical education; quality assessment; quality improvement; teachers’ competencies

Concurrent Session C9A

REVIEW OF STUDENT SATISFACTION AT THE FACULTY OF MEDICINE, UNIVERSITY OF RIJEKA

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Background: Student satisfaction can be defined as an attitude arising from students’ subjective evaluation of educational environment, services, and facilities available through the higher education institution (HEI). Students make the most important contributors of the educational system and are therefore the most relevant internal indicators of its success and development. Over the years, surveying students has helped identify oversights as well as give examples of good practice, and better direct the work of the University and the Faculty staff. Through examination of student satisfaction with the most demanding course at the studies, we hope to present overall student contentment at the Faculty.

Aim: The aim of this analysis is to depict student satisfaction at the Faculty of Medicine of the University of Rijeka throughout two academic years, 2019/2020 and 2021/2022.

Materials and Methods: Data collection was done through the Faculty’s internal Student Evaluation Forms containing both open-ended and Likert 5-point scale questions, and questions with suggested answers. To objectify findings, only responses from closed-ended questions were processed. All Student Evaluation Forms were filled out through an online Microsoft Forms application and further quantified in Microsoft Excel.

Results: The evaluation survey of the Anatomy course was conducted in academic years 2019/2020 and 2021/2022. At the beginning of 2019/2020, an exceptionally high 83, 33% of students showed great interest while the average grade of the course at that time was 2,0. In 2021/2022 however, 75,93% of students showed great interest in the course, while the course was graded 4,5.

Conclusion: There is a significant difference in the average grade of the 2019/2020 and 2021/2022 Anatomy courses. It can be concluded that the course did not meet the initial expectations of the majority in the academic year 2019/2020. Such low rating can be attributed to online classes conducted during the pandemic. Additionally, a slight decrease in the percentage of students with great interest in the course is visible. A more in depth surveying of students should be done to further strengthen our interpretation of the results.

Key Words: Higher education institution; Student satisfaction; Survey

STUDENT SATISFACTION AT THE MEDICAL STUDIES IN ENGLISH, UNIVERSITY OF RIJEKA

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Background: Medical Studies in English at the University of Rijeka was pioneered in 2017. As the first of its kind at the Medical Faculty, student satisfaction has been a crucial contributor to further development of the studies. Student satisfaction can be defined as students' subjective experience of academic environment encompassing services and facilities accessible through the institution of higher education. Over the span of six years, evaluation of student satisfaction surveys has helped steer the work of the Faculty and University staff, tailoring the program to its students.

Aim: The aim of this review is to portray and help follow a trend in student satisfaction at the Medical Studies in English of the University of Rijeka. **Materials and Methods:** Students filled in Faculty's internal Student Evaluation Form through an online Microsoft Forms application. The Evaluation Form consists of 20 questions out of which three have suggested answers and the rest are Likert 5-point scale questions. For the sake of conciseness, five questions from the survey with the highest turnout were selected and quantified in Microsoft Excel for this review. Grades averaging to < 3,5 were characterized as student dissatisfaction.

Results: Over the course of academic year 2021/2022, on a 5-point scale, students evaluated quality of the lectures of the evaluated course, with an average grade of 3,8. Evaluation of the seminars had a similar score of 3,7. Practicals had the lowest average score out of the three, with a score of 3,5. Student satisfaction with teaching staff affability was graded with an average of 4,2. Finally, student overall satisfaction with the conducted course averaged to 3,3.

Conclusion: Intangible products of the studies i.e., affability of the teaching staff, remain the main satisfiers. Assessment of the overall course conduction highlighted an area for improvement. Despite results showing general student satisfaction, more in-depth evaluation of student experience is needed to underpin current results.

Key Words: Evaluation forms; Medical studies in English; Student satisfaction

Concurrent Session C12B

BETTER HEALTH THROUGH INNOVATION IN EDUCATION – PERSONALIZED MEDICINE INQUIRY-BASED EDUCATION – PROMISE

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Background: Oxygen glucose deprivation (OGD) presents the most used model to study ischemic stroke in vitro. Since mitochondria play the key role in cell metabolism, they are very sensitive to reduction in glucose and oxygen levels which indicates the change of their network. Constant fusion and fission cycles regulate their shape which could be divided into tubular, intermediate and fragmented mitochondria.

Aim: The main goal of this study was to establish the adequate tool for automatic morphological analysis of mitochondria and analyse the influence of OGD on mitochondrial shapes of differentiating cells.

Materials and Methods: Neural stem cells (NSC) isolated from the telencephalic wall of 14.5 days old mouse embryos were cultivated in differentiation medium. On days 1, 7 and 14 of differentiation they were exposed to 24 hours long OGD treatment. Immunocytochemistry was performed using Tomm20, mitochondrial outer

membrane marker. Our in-house made tool, LUSCA, was used to analyse mitochondrial morphology. Experiments were repeated 3 times and statistical analysis were performed in GraphPad Prism using T-test and ANOVA.

Results: Image analysis algorithms which are automated and require less user input are preferred because they are less biased. LUSCA, running in the open access software platform FIJI (ImageJ), provides a reliable, accurate and fully automated analysis of mitochondrial shapes implementing machine learning. We successfully segmented tubular, intermediate, and fragmented shapes of mitochondria due to their configuration differences. Our analysis revealed OGD treatment decreases the total Tomm20 positive area in maturing NSC compared to the control group. Moreover, the control group manifested more tubular filaments while the OGD group had an increase of intermediate and fragmented mitochondria.

Conclusion: So far, we successfully applied LUSCA for mitochondria, vessel, and neuron analysis. The changes of mitochondrial shape reported here indicate that OGD stimulates fission cycles while fusion cycles were more present in the control group.

Key Words: image analysis, machine learning, morphology of mitochondria, oxygen glucose deprivation

MACHINE LEARNING IN MEDICAL STUDIES: WHAT DOES MITOCHONDRIA SHAPES TELL US?

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Key Words: image analysis, machine learning, morphology of mitochondria, oxygen glucose deprivation

NON-MEDICAL COURSES OFFERED BY EUROPEAN MEDICAL SIMULATION CENTRES: AN OVERVIEW OF WEB CONTENT

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Background: All advanced healthcare education programmes strive to deliver high-quality and interesting professional content using modern teaching methods, including simulation. High-quality implementation of simulation content in the work plan requires a review of existing and well-functioning simulation centres.

Aim: The review was conducted to evaluate the best practices of simulation centres in Europe.

Materials and Methods: In January 2023, a review of the two largest healthcare simulation databases in Europe was conducted. The Society for Simulation in Europe (SESAM) and the Society for Simulation in Healthcare (SSH) database were examined to identify simulation centres that provide training for healthcare professionals and other professions in addition to medical education. Inclusion criteria also included a sufficiently informative website.

Results: The final review included 58 health simulation centres. Of these, 27 were located at universities, 17 were located at general hospitals or university hospitals, and 14 were independent. Most simulation centres that met the inclusion criteria were located in France and the United Kingdom, followed by Germany, Switzerland, and Italy. The content most commonly offered by centres for nonmedical personnel is divided into health professions and “other professions”. For non-healthcare professions, simulation centres offer first aid courses at various levels for officers, navy, army, civil protection, firefighters and other professions. For healthcare professions, most courses focus on clinical skills (peripheral venous catheterisation, endotracheal intubation, management and administration of blood products...), crisis management training (teamwork and communication), first aid and emergency medical care (basic and advanced life support, triage), and “train the trainer” courses.

Conclusion: In Europe, there is a wide range of high-quality simulation centres that offer a diverse range of training for healthcare professionals and other professional profiles. Further research is needed on the financial sustainability of simulation centres and the extent of simulation content in university curricula.

Key Words: healthcare education; simulation centre; simulation courses.

STUDENTS' SATISFACTION, ADVANTAGES AND DISADVANTAGES OF HYBRID AND ONLINE TEACHING DURING COVID-19 PANDEMIC

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Background: The research shows that the satisfaction with the quality of teaching affects the student academic achievement additively and cumulatively. During the COVID-19 pandemic, all Croatian universities switched to online and hybrid learning.

Aim: To investigate the level of satisfaction in clinical year students in period of online and hybrid learning during COVID-19 pandemic at The Faculty of Medicine of the University of Rijeka.

Materials and Methods: The study was conducted from April to May 2021 among 4th to 6th-year medical students (N=150) at the Medical Faculty of the University of Rijeka. An online questionnaire of 40 questions was sent to the target population of students through Facebook groups on three occasions, two weeks apart.

Results: Even 60% of the students believe that they will have worse knowledge with this type of teaching methods, while 80% of them believe that they will have worse practical knowledge. The level of student satisfac-

tion with hybrid and online learning was graded 2,84 (SD=1,16) and 2,71 (SD=0,99) with lectures and seminars. The practical online learning was graded 1,9 per average compared to face to face practicals that were graded 2,7 (P<0,001). Students rated listening to classes from their homes and more flexible use of study time as the biggest advantage, while the biggest disadvantage was the lack of practical training and too much sitting. When asked what they would keep from online learning, the most chosen answers were lecture recordings and recordings/instructions for exercises. When compared, students who volunteered at the COVID center were equally satisfied with hybrid and online teaching (P>0.05) as students who did not volunteer.

Conclusion: The students were satisfied with online lectures and seminars but believed that practical classes should be in conventional live form. In general, we can conclude that the students were satisfied with the hybrid and online lectures given during the COVID-19 pandemic and would prefer to keep certain forms of teaching in classic teaching forms, such as online lectures and recorded instructions for clinical training.

Key Words: COVID-19; distance education; medical; students; teaching method

EXAMINATION OF THE SATISFACTION OF TEACHERS OF THE FACULTY OF MEDICINE OF THE UNIVERSITY OF RIJEKA WITH DIFFERENT ASPECTS OF THE TEACHING PROCESS IN THE PERIOD FROM 2020 TO 2022.

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Background: At the level of the University of Rijeka, a satisfaction survey of all stakeholders involved in the teaching process, including teachers who teach in different study programs, has been conducted.

Aim: The aim was to show the satisfaction of teachers who hold classes at the integrated undergraduate and graduate study of Medicine, Medicine in English, and at the undergraduate and graduate study of Sanitary Engineering from 2020 to 2022. Various parameters of satisfaction with aspects of studying, assessment of student development and acquisition of skills, and applied teaching measures were monitored.

Materials and Methods: Data from the Center for Quality Assurance and Improvement and Institutional Research of the University of Rijeka were used. Processing of the collected data was carried out using the statistical program package IBM SPSS Statistics version 25.0. Reliability analysis using Cronbach's Alpha confirms the high level of reliability of scales. The survey of teacher satisfaction was conducted in accordance with the instructions on the application of the questionnaire and the Handbook for the quality of studies. To assess satisfaction with aspects of studying, a 5-point Likert-type scale was used.

Results: The teachers are most satisfied with the organization of the course, and the least satisfied with the cooperation with students. Regarding the assessment of student development and the acquisition of skills, they rated the acquisition of learning outcomes the best, and the issue related to the skills of making conclusions and decisions was the lowest. The set of questions referred to the evaluation of the teaching measures. Teachers are most satisfied with interactive lectures, and least satisfied with students' practical work.

Conclusion: The above data clearly indicate the fact that there is room for additional improvement in teacher satisfaction, especially in the segment related to communication with students and the development of practical skills.

Key Words: Evaluation forms; Medical Faculty; Teachers satisfaction

ATTITUDES OF MEDICAL STUDENTS FROM THE WESTERN BALKANS ON FACTORS INFLUENCING THE EFFECTIVENESS OF PUBLIC HEALTH ACTIONS

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Background: In recent years, there have been significant changes in the way people get information about health. The role of modern technologies is significantly increasing in everyday lives, and the current methods of educating medical students about how to promote a healthy lifestyle among general populations have proved not to be aligned with the ongoing social changes.

Objectives: The aim of this study was to determine attitudes of medical students about effectiveness of public health actions (PHA).

Methods: The cross-sectional study was conducted among 2452 students from 14 medical faculties in 5 countries of the Western Balkans (Slovenia, Croatia, Bosnia and Herzegovina, North Macedonia and Serbia). As a research instrument an online survey questionnaire was used.

Results: The largest number of students (81.4%) did not recollect PHA they last encountered. Students declared that PHA did have low impact on them (mean score=2.5 (max=5)). PHA success factors stated by students were: content creativity (51.9%), visibility (18.4%), adequate target group selection (17.6%), regulations adoption (5.9%), formal (3.9%) and informal education (2.3%). Almost 95% of students stated that PHA should be more adapted to the time we live and to the generation they are intended for. Female students inform about health on internet significantly more often than male students and stated that would use mobile applications for help to improve their lifestyle. Older in comparison to younger year students stated more often that in order to increase health of general population, it is necessary to introduce mandatory health education for general population, health education subjects in primary and secondary schools, as well as that trained peer educators could significantly improve knowledge on healthy life habits between members of the same generation.

Conclusion: In order to increase the effectiveness of PHA, it is necessary to adapt PHA to modern information technology channels of communication.

Key Words: medical students; public health; young adults; Western Balkans

TEACHERS ALSO PROMOTE HEALTH

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Teacher Education students at the University of Zagreb believe they are not properly educated about health and therefore will not be able to pass this knowledge on to their future students. Because of this, they designed the preventive project called "Teachers Also Promote Health" within the Student Union's Healthy University program at the University of Zagreb. The project has been designed and is being executed by students of Medicine, Dental Medicine, Nutrition, Kinesiology, Psychology, and Social Pedagogy. The task of the peer educators is to provide lectures on the topic to future teachers so they can acquire knowledge that will benefit both their personal health and their future work. Therefore, they will feel more confident in dealing with specific health-related situations. Lectures are conducted through three workshops with topics on physical and oral health, the importance of balanced nutrition and physical activity, sexual health, mental health, as well as most common conditions in children. During the workshops, attendees had a chance to acquire not only theoretical knowledge but also practical skills, such as basic life support. After two cycles of workshops and fifty students finishing the program, the results were evaluated and they have shown that the project was found beneficial by the attendees. The average grade for both the topics and approach was 4.75, and 98.4% of attendees agreed that such a project

was much needed and should be continued. Education of future school educators on the topics is also relevant for public health as a whole because they can have a great role in health promotion and contribute to the prevention and early detection of disorders or difficulties. A holistic approach to education and health lays the foundation for raising healthy future generations and building a healthier society in general.

Key words: Future Teachers; Health Promotion; Peer Education

EARLY IMPLEMENTATION OF A “FLIPPED CLASSROOM” MODEL IN PRECLINICAL MEDICAL EDUCATION OR ATTEMPTING TO SELL A BIG MAC TO VEGANS

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Background: The “flipped classroom” (FC) approach is a relatively novel strategy of teaching that foregoes the standard “ex-cathedra” teaching in favor of using the class time for active learning. This is enabled by pre-recorded video lectures, the viewing of which is mandatory prior to attending class, as well as self-evaluation tests that assist students with identifying potential knowledge gaps.

Aim: This study tries to achieve the following objectives: RQ1. to investigate students’ perception of the FC approach and RQ2. find out whether there are any significant differences in students’ perceptions between students having FC approach and students having mixed but mostly classical approach to teaching.

Materials and methods: For RQ1 the survey was performed among the 2nd year of medical students. For testing RQ2 two groups of students attending the physiology course were randomized to either the “classical” or the FC approach. The students were required to complete seven pre- and postseminar surveys on the various aspects of the education provided, as well as their self-perceived levels of preparedness and enthusiasm for participating in seminars.

Results: This study showed that the student’s perceptions of the usefulness of FC approach in our school were high. 75% of students see the FC approach as more useful than the classical approach. Comparison between the two examined student groups showed that the FC-group provided statistically significantly higher ratings for the quality of learning outcomes and self-evaluation tests provided to them. In general, the FC approach motivated students to study more and to become active rather than passive participants in the classroom.

Conclusion: FC approach facilitates students’ level of preparedness for the seminars and gives them a significantly higher level of autonomy over the education process. The students in our study reacted positively to this change, showing a significant preference for having learning outcomes and self-evaluation tests available before the actual seminar.

Key Words: E-learning; Flipped Classroom; Modern Teaching

Concurrent Session S12B

HOW TO CONNECT DON QUIJOTE AND CHRISTMAS – A DIFFERENT APPROACH TO TEACH DEMENTIA

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Dementia is defined as a neurocognitive disorder characterized by the presence of marked impairment in two or more cognitive domains, which represents a decline from the individual's previous level of functioning. Due to the rapid increase in the incidence of dementia, it's considered an epidemic of the 21st century. Knowing this, the Student Section of Psychiatry (SSP) of the School of Medicine, University of Zagreb, founded in October 2022, chose dementia as its first topic to try a different educational approach.

The first step is to repeat everything learned so far through lectures. The first lecture, held by the mentor of SSP, professor Ninoslav Mimica, at the Psychiatric Hospital "Vrapče" was about Alzheimer's disease in which he included a movie with a true representation of a patient and a discussion about it. Afterward, professor Nenad Bogdanović, from the Karolinska Institute, held a lecture where he explained the connection between Robin Williams, Don Quijote, and Scooby-Doo which is Frontotemporal dementia. Although technology with classic lectures would often be enough, SSP decided to go further and connect two essential things – practice and charity. This was achieved with the humanitarian action called "U vaše živote kap naše dobrote" held in December which included users of homes for the elderly and patients with dementia. In this action, more than 50 students and professors bought gifts according to the user's wishes and visited them. More than 300 users of five homes in Zagreb, one in Pakrac, one in Pleternica, and numerous socially vulnerable individuals from these areas were covered.

This way of teaching through a combination of lectures, discussions, movies, and visiting the elderly gave everyone a valuable and unforgettable lesson. Also, this raises a question of the need to create a volunteer network that would include students which is a future goal of SSP.

Key words: Alzheimer's disease; Dementia; Education; Holidays

BUILDING A FOUNDATION FOR FUTURE GASTROENTEROLOGISTS: THE STUDENT SECTION FOR GASTROENTEROLOGY AND HEPATOLOGY AT THE UNIVERSITY OF ZAGREB

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The student section for Gastroenterology and Hepatology was founded in 2019 and has been active at the University of Zagreb, in person and online. Our main goal is to provide students with practical and theoretical knowledge. This review offers insight into our results and achievements over the past year.

During the course of one year, we organized multiple workshops. Organizing in-person workshops, which included Ultrasound as well as History Taking and Physical Examination Workshops, in small groups (up to 4 students) has shown to be the best-acclaimed method. Small groups enable an individualistic approach and enhance teamwork. Both types of workshops were conducted in hospitals with doctors and student tutors. We educated 60 students during 15 History Taking and Physical Examination Workshops and 50 students during 7 Ultrasound Workshops in a year. Afterwards, students were surveyed about satisfaction. Overall, students were pleased with the workshops and were most delighted with the small-group concept. Organizing workshops doesn't require much funding, as they utilize the resources already available at the hospitals, making them easier

to conduct. However, since we mostly depend on lecturers' goodwill, we are also limited by the number of them as well as their free time.

Over the period we held numerous online lectures as well. Some were formed interactively, so the students could join in solving different cases of uncommon patients. Other courses mainly included listening to different endoscopic treatments, rare diseases, and new types of drugs in gastroenterology and hepatology. After the lectures, the students were surveyed on their satisfaction. Although students found the lectures useful, they weren't as satisfied as with interactive case-solving projects.

We successfully provided practical and theoretical knowledge to students through workshops and online lectures. Our small-group workshops and interactive case-solving projects have been particularly effective in enhancing student learning.

Key words: workshop, ultrasound, history taking, small group

A MULTIDISCIPLINARY APPROACH TO VOICE THROUGH THE CELEBRATION OF WORLD VOICE DAY.

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As members of the Student Society for Otorhinolaryngology and Head and Neck Surgery, we are excited to celebrate World Voice Day every year on April 16th. This special occasion began in Brazil in 1999 and has since become a global event, involving voice groups, medical experts, and people worldwide to raise vocal health awareness. Each year, World Voice Day has a different theme that focuses on various aspects of vocal health and care. We understand the importance of the voice in human self-expression, communication, and identity, as well as its impact on physical health and well-being. Therefore, for the third year running, we are hosting a multidisciplinary celebration of World Voice Day, working with students from different faculties like the Music Academy, Academy of Dramatic Art, Faculty of Education and Rehabilitation, Faculty of Education, and Faculty of Philosophy. To provide a comprehensive diagnosis and treatment for vocal issues, we believe in a multidisciplinary approach that includes experts from different professions such as speech-language pathology, otolaryngology, music, and theater. Our approach acknowledges that the voice is a complex system involving the respiratory system, vocal tract, articulators, and larynx. Our week-long program involves lectures, workshops, panels, and round tables where we share our experiences and knowledge on vocal health and provide advice on what to do if voice issues arise. Our awareness week also highlights the value of prevention and focuses on peer education. We host leading experts in vocal health to share their insights, and we act on the public health level to ensure that the message reaches as many people as possible. We also emphasize the challenges faced by laryngectomy patients and ensure their voices are heard.

Key Words: education ; multidisciplinary; otorhinolaryngology; voice

LETTER DISSEMINATION – A QUANTITATIVE STUDY OF MEDICAL STUDENT ENGAGEMENT WITH LETTERS TO THE EDITOR IN INTERNATIONAL MEDICAL EDUCATION JOURNALS

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Background: Letters to the Editor offer readers opportunities to engage with authors' publications bringing useful perspectives to the discussion. Letters are the shortest manuscript for medical students to publish and medical-education journals are best suited. UK Training Programmes reward achievement of publications with PubMed IDs. We hypothesise this is a motivation for medical students submitting Letters.

Aim: To analyse number and origin of Letters published by medical students in medical education journals.

Methods: A review of 15 international medical education journals with an impact factor was conducted to identify numbers, percentages and affiliation of Letters to the Editor by medical students between July 2018–June 2020.

Results: Over a two-year period, 299 Letters were published of which 45.9% were by medical students; with 60% increase in Letters by medical students published in the latter 12 months. 86% of Letters published by medical students were from UK medical schools. Five schools accounted for 60.5% of these Letters. The three medical schools with highest numbers of Letters published were King's College London, Imperial College London and University of Oxford.

Conclusion: The increase in Letters published by students, may represent greater awareness of Letters to the editor as means of dissemination amongst medical students. UK medical schools published many Letters, perhaps reflecting increasing importance to students of publications impacting on subsequent jobs. Results from our quantitative research reveal many Letters are written by medical students, with an overrepresentation of UK medical students, supporting our hypothesis that medical students are publishing Letters to achieve PubMed IDs. Further qualitative research is required to prove our hypothesis. Medical schools should have modules dedicated to academic training to highlight the importance behind research, to boost students' interest. Journals should find ways to encourage non-UK medical students to engage with their literature for a more diverse range of opinions.

Key Words: Letters to Editor; Medical Education; Medical Student; Research; UK Medical Schools

SHIELD YOUR SKIN, SAY NO TO DISEASES

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As summer approaches, exposure to the sun and UV rays increases significantly, as do the risks of burns and skin cancer. We chose this topic based on the increase in melanoma cases in our country. During this interaction we will aim to educate about sun exposure and ways to protect our skin and health. I'm not saying that sunlight is bad for you, as it is required for the production of vitamin D. There is more than one way to protect our skin while still enjoying the sun or the beach. First and foremost is wearing sunscreen. SPF stands for sun protection factor and the higher the number is, the longer and better the protection is. We have to use it every day, summer and winter, because UV rays always pass through clouds. We apply it on the face, neck, scalp and hands in winter and everywhere in summer. Also, clothing can be an excellent barrier against UV rays. Its protection is consistent over time and doesn't wear off like a sunscreen that you have to reapply every few hours. But the best protection is to combine the two and stay in the shade as long as you can. Tanning beds are banned because they increase the risk of aging and skin cancer more than actual sunlight. Early detection is also crucial in protecting our skin as it can result in less consequences and a faster recovery. We hope to leave an impact and encourage the protection of our health.

Keywords: UV rays, skin cancer, melanoma, SPF, early detection

HOW DOES SLOMSIC LJUBLJANA COMPLEMENT CLINICAL KNOWLEDGE AND PRACTICAL SKILLS OF FUTURE MEDICAL DOCTORS?

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Background: SloMSIC Ljubljana is an association of students from the Faculty of Medicine in Ljubljana. It encompasses 20 projects with active medical student participation, our presentation will focus on projects in the field of medical education.

Aim: Our aim is to present the activities and highlight the academic importance of 3 medical educational projects of SloMSIC Ljubljana: Emergency Medicine, Ultrafest Ljubljana and Surgical Suturing.

Materials and Methods: Emergency Medicine educates medical students on Basic trauma life support, Advanced life support, Rapid trauma assessment in the form of educational workshops. In 2022, the project members were awarded 1st place in the national Best CPR team competition. Ultrafest Ljubljana aims to improve the clinical skills of medical students in the area of imaging techniques, by organizing interactive workshops. In 2022 the first Slovenian book on Point-of-Care Ultrasound was published, authored by project members and clinical specialists. Surgical Suturing tackles the lack of practical knowledge in the surgical field by teaching medical students the basics of suturing and operating room etiquette. Every activity is followed by an evaluation in order to assess the contribution of the activity to clinical knowledge of students.

Results: Jointly, these projects reach around 470 students yearly through the organized activities. The participants of the last four ultrasound workshops rated their knowledge with an average score of 2 out of 5 before, and 3,8 out of 5 after the workshop. The last three ALS workshops were evaluated with an average score of 9,4/10. The practical workshop How to go to the operating room was rated with an average score of 9.6/10.

Conclusion: Medical educational projects of SloMSIC Ljubljana provide practical education for medical students, enriching their knowledge, acquired during the official courses. Evaluation has demonstrated that students' clinical skills benefit as a result of attending the workshops

Keywords: Clinical knowledge and skills; Emergency medicine workshop; Medical education; Surgical suturing workshop; Ultrasound workshop

Poster display during the entire conference and joint discussion at the Concurrent Session S12C: Poster Section

CAN WEED MAKE YOU BLEED? A CASE OF A RARE CAUSE OF HEMOPTYSIS ASSOCIATED WITH MARIJUANA CONSUMPTION: CASE REPORT

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Background: There are several sources of bleeding within the lung and bronchi responsible for hemoptysis. Bleeding from a bronchial artery may cause life-threatening hemoptysis in 90 percent of cases.

Aim: We present a case of a 34-year-old patient with cryptogenic hemoptysis associated with the menstrual cycle and cannabis consumption.

Case presentation: A 34-year-old female patient presented to the emergency department due to recurrent hemoptysis. Hemoptysis had increased in severity over the last few days, around 50–100 mL of blood per day. The patient mentioned being in physical contact with her grandmother who had tuberculosis. Tests allegedly came back negative. She reported the bleeding to be related with the menstrual cycle, always occurring as pre-menstrual or during menstruation. Among the habits, she pointed out the consumption of marijuana for the purpose of pain relief. She was admitted to the hospital for diagnostic purposes. X-ray findings were normal and CT angiography excluded pulmonary embolism. Thoracic MSCT showed a larger area of ground glass opacities in the apicoposterior segment of the left upper lobe. Given the history, it was considered as catamenial hemoptysis, a rare manifestation of intrathoracic endometriosis. An emergency bronchoscopy identified the source of bleeding from the apical segment of the left upper lobe of the lung. Digital subtraction angiography was performed. It showed a tubular serpiginous structure along the left bronchial artery that corresponds to an arterio-venous malformation (AVM). Surgical treatment in the form of segment resection or upper lobectomy was indicated.

Conclusion: There have been 7 reported cases of cannabis-associated hemoptysis so far. 4% of pulmonary AVMs are considered to have systemic arterial supply. Rarely the bronchial artery can be the vessel feeding the

AVM. It is still unclear whether cannabis was a trigger for this patient's symptoms. Bronchial arteriovenous malformation should be considered as a potential cause in patients presenting with cryptogenic hemoptysis.

Keywords: hemoptysis; endometriosis; arteriovenous malformation, Case Report

NEUROLOGICAL COMPLICATIONS OF EPSTEIN-BARR DISEASE REACTIVATION

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Background: Infectious mononucleosis (IM) is an acute disease caused by Epstein-Barr virus (EBV) infection which affects adolescents and young adults. Clinically, IM is manifested by fever, lymphadenopathy and tonsillar pharyngitis. Neurological complications of IM include cranial nerve palsy, encephalitis, aseptic meningitis, transverse myelitis, peripheral neuritis, optic neuritis, encephalomyelitis, and rarely Guillain-Barré syndrome (GBS), especially the so-called overlapping/atypical variants, which in some cases can be life-threatening.

Aim: The aim was to present a very rare and educational example of neurological complications during isolated reactivation of EBV infection in 15-year-old previously healthy girl. During hospitalization, she developed very serious neurological complications, as well as mesial temporal sclerosis and a minor cognitive deficit upon recovery.

Case report: A 15-year-old girl was admitted for hospital treatment on the third day of a febrile illness with symptoms of viral meningoencephalitis. On the sixth day of hospitalization, she developed a series of generalized onset motor tonic-clonic seizures. A brain MRI showed diffuse meningitis and encephalitis localized in the left temporal region. EBV was proven from the cerebrospinal fluid. Other possible infectious causes were excluded. From the 14th day of hospitalization, the treatment was complicated by the development of Gullian-Barre syndrome and Miller-Fischer syndrome. Immunological processing was normal. Anti-MOG, antiganglioside antibodies, aquaporin antibodies, and panel for autoimmune encephalitis were negative. The therapy consisted of antiviral and anti-inflammatory medications and 8 cycles of plasmapheresis and levetiracetam as an anticonvulsant drug. With physical therapy there is no motor deficit, but she has learning difficulties, and mesial temporal sclerosis on the control brain MRI.

Conclusion: With this clinical presentation it was necessary to exclude optic neuritis, multiple sclerosis, acute disseminated encephalomyelitis and myelin oligodendrocyte glycoprotein antibody-associated disease. Clinical monitoring, prevention of epileptic seizures with properly chosen antiepileptic therapy, and well-chosen timing of neurosurgical intervention will be especially demanding.

Keywords: Epstein-Barr virus, epilepsy, Gullian-Barre syndrome, mesial temporal sclerosis, Miller-Fischer syndrome

WHEN PNEUMOTHORAX IS MORE THAN MEETS THE EYE: A CASE REPORT OF LUNG CANCER DIAGNOSIS

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Background: Spontaneous pneumothorax is a rare manifestation of lung cancer with a frequency rate of 0.03 – 0.05%. Most often the cause is unknown, although this condition can arise from the mechanism of tumor necrosis or the rupture of emphysematous bullae. It can be the first sign of lung cancer but occurs primarily in an advanced tumor stage.

Aim: To highlight the importance of considering lung cancer as a potential cause of spontaneous pneumothorax.

Case Report: Our 46-year-old male patient, a smoker (40 pack years), comes to the emergency department because of severe pain in the right hemithorax after physical exertion. An X-ray of the heart and lungs was done, which showed an extensive right-sided pneumothorax. As a treatment, the thoracic drain was placed. However, the pneumothorax hadn't resolved and it remained on the control radiograph. Consequently, a chest CT scan was performed. In addition to the pneumothorax, bilateral bullae and a 28 mm spicular lesion in the right upper lobe were described. Although the conducted bronchoscopy findings seemed negative, the cytological analysis showed non-small cell carcinoma. The patient underwent VATS lobectomy of the right upper lobe with dissection of the mediastinal lymph nodes and resection of the bulla in the middle lobe. In the pathohistological findings, adenocarcinoma was constituted, staged T2N1M0. This led to oncological treatment with chemotherapy being started.

Conclusion: Spontaneous pneumothorax is one of the rarest presentations of lung cancer. Underlying malignancy as a cause of spontaneous pneumothorax should be considered in patients who have a history of being smokers, had chronic bronchitis/emphysema, and especially in whom a complete lung re-expansion does not occur after thoracic drainage. Following these parameters increase the chances of an earlier diagnosis and a better prognosis of the malignancy, as was the case with our patient.

Key Words: Bronchoscopy; Lung Neoplasms; Spontaneous Pneumothorax, Case Report

PERIANASTOMOTIC STENOSIS FOLLOWING SURGICAL MANAGEMENT OF CONGENITAL ESOPHAGEAL STENOSIS WITH A PUNCTIFORM OPENING IN AN INFANT

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Background: Congenital esophageal stenosis is a rare condition that can lead to life-threatening complications.

Aim: Highlighting the challenges in managing congenital esophageal stenosis.

Case Report: Our case report describes the experience of an 8-month-old girl who presented to our emergency room with acute onset dysphagia and regurgitation after just a few sips of milk. The patient had a history of delayed growth and slight hypertonicity but was otherwise healthy. The mother reported that the patient had experienced similar incidents, with the first occurring one month prior after ingesting vegetable soup. The patient had asymptomatic periods but also experienced multiple episodes of symptoms, including choking on saliva. Upon contrast imaging, we discovered a stenotic, barely patent esophagus at the level of the acromioclavicular junction, with pre-stenotic dilatation of 12–13 mm in diameter. During esophagoscopy, we observed a constricted part with a small, <1mm wide punctiform opening at the end. Due to an inability to scope, we performed a CT scan to determine whether the finding was a stenosis or a membrane. The constricted part was found to be 2 cm long, and we ultimately decided on a transthoracic surgery with termino-terminal anastomosis. After surgery, food was gradually introduced, but unfortunately, 2 weeks after the surgery the patient started to vomit solid food. We discovered perianastomotic stenosis upon contrast imaging and performed an esophagoscopy with endoscopic balloon dilatation. The dilatation was repeated after 6 weeks. The child recovered and 6 weeks later the adult scope could pass the stenotic part, therefore no further dilatation was needed.

Conclusion: This case highlights the challenges of managing congenital esophageal stenosis and the importance of ongoing monitoring and management even after surgery. It also emphasizes the need for increased awareness of this rare condition among doctors, as early diagnosis and intervention can significantly improve outcomes.

Keywords: esophageal stenosis, congenital abnormalities, dysphagia, esophageal dilation, surgical anastomosis, Case Report

AN ATYPICAL PRESENTATION OF CLEAR CELL SARCOMA METASTASIS IN THE MYOCARDIUM – EXPECT THE UNEXPECTED: A CASE REPORT

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Background: Clear cell sarcoma (CCS) is a rare type of soft tissue tumor that typically affects adolescents and young adults. CCS most commonly develops in the muscles or tendons of the extremities, particularly of the foot and ankle. Treatment of CCS typically involves surgical removal of the tumor, as it is often resistant to chemotherapy and radiotherapy. CCS can metastasize to other parts of the body, including the lymph nodes, lungs, liver, bones, and brain.

Aim: To report an atypical location of CCS metastasis in the heart muscle.

Case Report: A 39-year-old female reported to the ER due to cough and pain under the left costal arch in respiratory movements that had lasted for seven days. Six years prior, the patient had a below-knee amputation as she was diagnosed with CCS located in the left foot. The following year the patient had a PET-CT scan that showed no pathological uptake. Upon admission, laboratory results showed slight elevation of inflammatory parameters. A CT of the thorax was performed, demonstrating multiple solid nodes bilaterally in lung parenchyma as well as an irregular heterogenous soft tissue lesion in the apex of the myocardium. The lesion measured 5x3 centimeters. Pericardial effusion was also noted. Due to the findings, a fine needle aspiration biopsy of a lung lesion was undertaken, characterizing the lesion as a CCS metastasis. Echocardiography was also performed without any pathological findings. Considering the risks of myocardial biopsy and its indications it could only be assumed that the myocardial mass was indeed a CCS metastasis. The patient was referred to an oncologist for further treatment.

Conclusion: Due to a high metastatic potential, early detection and aggressive treatment of metastatic disease is important for improving outcomes in patients with sarcoma.

Key Words: Clear Cell Sarcoma; Heart; Metastasis

THE IMPORTANCE OF A COMPREHENSIVE APPROACH TO THE PATIENT – AN EXAMPLE OF THE DIAGNOSTIC TREATMENT OF A PATIENT WITH AN AUTISM SPECTRUM DISORDER

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Background: Early communication disorders, especially autism spectrum disorders (ASD) are manifested by permanent disturbances in social communication with limited, repetitive behavior patterns and activities, frequent absence of speech development and motor deviations. The comorbidity between ASD and epilepsy is well known in the medical literature. Numerous genes associated with ASD are also associated with epilepsy. The prevalence of epilepsy in patients with ASD is significantly higher than in the general population (1.8–60%).

Aim: Using the example of a patient with an autism spectrum disorder, demonstrate the necessity of a comprehensive approach and adherence to the recommended guidelines for diagnostic processing.

Case report: Boy aged 13 year, with ASD, previously exclusively polyvalently stimulated, neuropediatrically untreated, referred to our clinic due to episodes of staring. Family and personal history unremarkable. After the examination, due to poor cooperation and the inability to sleep deprivation, an all-night EEG was performed – focal changes in the left centrofrontoparietotemporal area. Diagnosis of epilepsy was established, levetiracetam therapy started. Brain MRI with spectroscopy showed a thalamic hamartroma in the left pulvinar. Neurometabolic processing neat. aCGH analysis find duplication of 2q14.3, that contains a protein-coding gene, CNT-

NAP5, associated with the development of autism.. The described change was inherited from the mother. In clinical exome we find heterozygous missense variant in the CACNA1H gene also linked to autism. Through processing, we clarified the basis of disorders from the autism spectrum, but also the clinical picture of epilepsy.

Conclusion: Good clinical practice includes a comprehensive approach to the patient. It is necessary to take detailed anamnestic data, carefully examine the patient, and follow the diagnostic processing guidelines that will lead us to the correct diagnosis setting. In our patient, unfortunately, this happened after 10 years of habilitation procedures without clarifying the etiology of the disorder.

Keywords: autism, CACNA1H gene, 2q14.3 duplication, epilepsy, thalamic hamartroma

SCIATIC NERVE ENDOMETRIOSIS: A CASE REPORT

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Background: Endometriosis is the presence of endometrial-like tissue outside the uterine cavity. Epidemiologically, endometriosis presents a problem for approximately 10% of women of reproductive age and for up to 70% of females presenting for evaluation of chronic pelvic pain.

Aim: The aim of this case report is to present an extremely rare situation in which the sciatic nerve is affected by endometriosis.

Case report: Our patient is 40 years old female with regular, 28-day menstrual cycles with a history of two vaginal births. She has suffered from moderate dysmenorrhea for decades and for the last two years feels sciatic pain in her right leg during menstruation. An intrauterine device was implanted, which stopped the menstrual bleeding, but not the cyclical pain. Dienogest therapy was prescribed, which mitigated symptoms. During the examination at the Clinic for Women's Diseases and Childbirth, adenomyosis and endometriosis in the area of the right sciatic nerve were assumed. A magnetic resonance image (MRI) of the pelvis was requested, the findings of which supported the assumptions. The patient was admitted to the Department of Gynecological Surgery and Urology for a planned laparoscopic procedure. During the procedure, at the exit of the sciatic nerve from the pelvis next to the piriformis muscle, a cystic endometrioma with surrounding fibrosis was found. During resection, chocolate-like content flew out from endometrioma and the sciatic nerve was completely decompressed. Endometriosis was confirmed with pathohistological diagnosis. The patient was discharged home in good general condition with antibiotic therapy and recommendation of dienogest and physical therapy.

Conclusion: Foci of endometriosis throughout the sciatic nerve, although rare, are possible and should be considered in the differential diagnosis of otherwise unexplained sciatic pain.

Key words: Endometriosis; Sciatic Nerve; Sciatic Pain

TREATMENT OF BILATERAL PATELLAR TENDON RUPTURE – A CASE REPORT

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Background: Bilateral patellar tendon rupture is a rare injury of the knee extensor mechanism. It is usually seen in younger males with predisposing factors such as systemic disease or corticosteroid use.

Aim: The goal of this report is to present a case of surgical treatment of bilateral patellar tendon rupture in a young patient with no comorbidities, but with a history of steroid use.

Case report: A 30-year-old male presented to the hospital in June 2021. with a bilateral inability of knee extension and pain. He reported that he felt sudden weakness beneath the kneecaps while running, making him fall to the ground. Detailed patient's history revealed he was taking steroids in the past and worked out regularly in the gym. Physical examination revealed swelling, elevated patellar height, and lack of active knee extension in both knees. The patellar ligament was not palpable on either side. The x-ray and magnetic resonance imaging (MRI) confirmed the diagnosis of bilateral patellar tendon rupture and surgery was indicated. Transosseous suture repair of the tendon was performed, followed by suturing of the retinaculum and fixation of the patellae to the tibial tuberosity with a cerclage wire. The early postoperative period was uneventful and the patient underwent physical therapy. After continued physical therapy flexion of the right knee was still limited to 90°. Thus, five months postoperatively, the cerclage wires were removed in both knees, and arthroscopic removal of adhesions in the right knee, together with manipulation under anesthesia, was performed. In January 2022. the patient regained active extension in both knees, as well as full flexion in both knees, and was able to return to his daily activities.

Conclusion: Although rare, bilateral patellar tendon rupture may occur in otherwise healthy patients, especially in cases of steroid usage. Described surgical treatment can provide a good functional outcome in such cases.

Keywords: bilateral; patellar tendon; rupture.

CEUS AS AN ADDITIONAL TOOL FOR BIOPSY OF METASTATIC LIVER LESIONS ORIGINATING FROM UROTHELIAL CARCINOMA

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Background: Contrast enhanced ultrasound (CEUS) is innovative and affordable, especially useful for the characterization of focal liver lesions (FLLs). Even though at this time CEUS is still not routine practice for FLLs diagnostics, it is slowly becoming an indispensable part of diagnostic algorithms, alongside contrast enhanced magnetic resonance imaging (CEMRI) and contrast enhanced computed tomography (CECT).

Aim: The aim of this research paper is to highlight the importance and effectiveness of contrast enhanced ultrasound (CEUS) as a diagnostic tool for the characterization of focal liver lesions (FLLs) and to demonstrate its potential role in guiding liver biopsy for the diagnosis of liver metastases in patients with reduced renal function.

Case Report: A 67-year-old male presented at routine ultrasound exam with third-degree hydronephrosis. It was assumed to be caused by a mass invading surrounding tissue, which was further confirmed by computed tomography (CT). Due to acute kidney injury, intravenous contrast was not applied at the CT exam and abdominal MRI was indicated. Numerous FLLs were found during MRI examination, while both ultrasound and unenhanced CT only demonstrated inhomogeneous hepatic parenchyma. It was assumed that it was a primary urothelial carcinoma which metastasized to the liver. Due to the patient's reduced renal function, it was decided to attempt a CEUS guided liver biopsy to confirm the diagnosis. Following application of contrast medium, several hypoechoic lesions appeared. Pathohistological findings confirmed the diagnosis of invasive urothelial carcinoma with liver metastases.

Conclusion: Due to its availability and affordability with minimal side effects, CEUS is becoming an increasingly useful diagnostic method in the evaluation of FLLs. The future routine use of CEUS in Croatia is still very much unclear as it is used only sporadically, and much education is still needed for both doctors performing the exam and the referring physicians.

Key Words: Biopsy; Radiology, Ultrasonography

CYSTINURIA – THE DIAGNOSIS AND MANAGEMENT

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Background: Cystinuria is a rare genetic kidney stone disorder inherited in an autosomal recessive pattern. Patients with cystinuria have decreased reabsorption of filtered cystine in the proximal tubule of the kidney. It results from the malfunction of the specific membrane transport system located on the membrane of the renal proximal straight tubule. Due to limited cystine solubility, the main clinical presentation is formation of kidney stones. Patients have recurrent stone formation that can lead to chronic kidney disease.

Aim: The aim is to present the diagnosis and management of cystinuria.

Case Report: A 30-year-old patient was diagnosed with cystine nephrolithiasis after presenting with painful renal colic and macrohematuria. In 24-hour urine collection cystine was 1735 umol/dU (referent interval <316 umol/dU). He was treated with potassium citrate, dietary sodium restriction, urinary alkalization and increased fluid intake. A concentration of cystine in 24-hour urine collection decreased at 1497 umol/dU, and after that, he was treated with tiopronin. Also, surgical therapy for stone removal was performed two times, due to urinary obstruction. Four years later, cystine concentration in the urine sample amounts to 79 mmol/mol crea (referent interval 3–17 mmol/mol crea). The ultrasound of the urinary tract showed 6 mm kidney stone in the right kidney and no dilatation of the canal system. The symptoms have decreased with continuous conservative treatment. Sometimes he experiences renal colics with pain and hematuria and sandstone urination.

Conclusion: Cystinuria accounts for 1% to 2% of all urolithiasis in adults and 6% to 8% of urolithiasis in children. It should be suspected in every patient with urolithiasis, especially those with early-onset kidney stones (in childhood), large or recurrent kidney stones, and a family history of urolithiasis. After the diagnosis is confirmed, initial therapy is conservative. Tiopronin is a second-line therapy used to control the rate of cystine precipitation and excretion, therefore preventing kidney stone formation. The treatment should be continuous and permanent.

Key Words: cystinuria; nephrolithiasis; tiopronin; urine alkalization

TRAUMATIC DISLOCATION OF L4 VERTEBRA, ASSOCIATED WITH PERFORATION OF SMALL INTESTINE AND DISSECTION OF INFRARENAL AORTA

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Background: Traumatic dislocation of the L4 vertebra is a rare condition, usually caused by high-energy force.

Aim: The purpose of this case report is to demonstrate the diagnostic and treatment approaches for spondyloptosis, as well as the potential complications that may arise.

Case Report: A 39-year-old female suffered severe polytrauma in a car accident as a passenger. On the initial physical examination, she presented as normally conscious (GCS 15), complained of pain in the left shoulder, thorax and abdomen, had a haematoma consisted with seat-belt injury and had total paraplegia (ASIA-1) below L1 level. Native CT-scan of the head and cervical spine and contrast-enhanced CT-scan of the chest, abdomen and pelvis were performed and showed pneumoperitoneum, perforation of the small intestine, spondyloptosis of the L4 vertebra, dissection of the infrarenal aorta and retroperitoneal haematoma. The patient was immediately taken to the operating room and an emergency laparotomy was performed. Multiple contusions and lacerations were present and resection with T-T anastomosis was performed. Infrarenal aortic dissection was treated by

Covered Endovascular Reconstruction of the Aortic Bifurcation. The patient underwent a posterior approach with reduction, transpedicular fixation and laminectomies of L4 and L5. Exploration of the spinal canal showed multiple dural lacerations and avulsions of cauda equina nerve roots. Repositioning of neural structures in the dural sac and reconstruction of the dura with polyester urethane and monofilament sutures were performed. At the 2-week follow-up, the patient recovered right hip active flexion and right knee extension and normal gastrointestinal function.

Conclusion: Traumatic spondyloptosis of L4 is very rare and due to its association with high-energy trauma it can be followed by injury of other organs. Overall, early recognition and proper management of traumatic spondyloptosis of L4 are essential to avoid complications and improve the patient's quality of life.

Key Words: aortic dissection, polytrauma; small intestine perforation; spondyloptosis

VOCAL FOLD NODULES IN KINDERGARTEN TEACHER – A CASE REPORT

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Background: Vocal fold nodules are defined as bilateral benign growths of a variable size found at the mid-part of the membranous vocal cords. They are more common in women and associated with chronic vocal abuse.

Aim: The aim of this case is to emphasize the importance of proper use of voice and prompt diagnosis of voice disorders for kindergarten teachers, which are often not recognized and treated as voice professionals

Case Report: A female patient, working as a kindergarten teacher, presented to the ENT department with a voice disorder that started 6 months ago with a mild cold. After the cold, hoarseness appeared and hasn't resolved since, with symptoms being most noticeable in the afternoon. Her voice is rated as G2R1B0A0S2 on a scale that measures the grade of hoarseness, roughness, breathiness, asthenia, and strain. Acoustic analysis of voice showed f0 value of 195 Hz, jitter 0,11 %, shimmer 7,02 %, and intensity of 72 dB, altogether indicating a mild degree of hoarseness. Digital stroboscopy showed white vocal cords, with normal vocal cord mobility, bilateral small soft vocal nodules which create two gaps during phonation, with shortening of laterolateral laryngeal diameter. The total score for the voice handicap index (VHI) was 12. The patient received instructions about voice hygiene and was educated about the most common voice problems. Voice therapy was suggested as the treatment of choice.

Conclusion: Vocal fold nodules are a common pathology, that often requires a multidisciplinary approach because of the complexity of therapy, making prevention the best kind of treatment.

Key Words: otorhinolaryngology, stroboscopy, vocal fold nodules, voice therapy

INFORMED CONSENT FORMS IN THE REPUBLIC OF CROATIA: ARE THEY SUFFICIENT FOR THE PROTECTION OF ORTHOPEDIC PATIENTS' RIGHTS?

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Background: In the Republic of Croatia, information patients undergoing a procedure have the right to receive is regulated by article 8 of the Law for the protection of patients' rights. The consent form is regulated in detail in the Bylaw of the form of acceptance and rejection of specific diagnostic or therapeutic procedures. No state-level regulated form provides patients with information about matters regulated by article 8 of the Law.

Aim: We aimed to examine whether the Croatian law and medical practices of informed consent are sufficient for protecting orthopedic patients' rights.

Materials and Methods: We reviewed sources of Croatian legislation and collected informed consent forms from 9 orthopedic departments, including six public and three private healthcare facilities. We analyzed forms for completeness and evaluated their adherence to the requirements of the Law. We also conducted a review of the IUS-INFO database to examine the implications of informed consent in medical jurisprudence.

Results: Our analysis revealed that 55% of the informed consent forms lacked information on the benefits of the procedure, risks of not undergoing the procedure, course of the procedure, alternatives for the procedure, and recommended lifestyle after the procedure. Surprisingly, none of the forms mentioned health insurance rights. Fisher's exact test did not show significant differences between public and private hospitals in adherence to article 8 of the Law. Our review of the IUS-INFO database revealed a Supreme Court trial and a Constitutional Court trial involving informed consent involving complications of orthopedic procedures.

Conclusion: Croatian legislation does not sufficiently regulate the means of informing the patient. This may lead to controversial legal proceedings. Medical care providers are left to compose informed consent documents tailored to their patient's needs. The complexity of medical events and patient vulnerability requires a more detailed regulation of the means of information for patients. This study highlights the need for further development of the informed consent process in Croatia.

Key Words: Informed consent; Medical jurisprudence; Orthopedic surgery; Patient's rights

OCCIPITAL PENETRATING BRAIN INJURY CAUSED BY ATHLETIC SPEAR – CASE REPORT

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Background: Traumatic brain injury is a worldwide health problem that affects millions and causes large morbidity and mortality. Penetrating brain injuries are defined as open injuries that break through the skull, dura and cause brain tissue damage. Occipital penetrating brain injuries are not so common because of the specificities of the occipital bone, but they will cause great visual problems.

Aim: This case report stands out the importance of early treatment and that insufficient triage and poor initial examination can lead to serious consequences.

Case Report: The presented case shows a very rare penetrating brain injury of the occipital lobe by an athletic spear. The patient had removed the spear by himself and came to the emergency department because of minor bleeding and visual deficits. Unfortunately, the patient was not recognized as an immediate emergency, but the head CT with angiography was done after the examination by the neurosurgeon which showed a commutative impression fracture of the right occipital bone 20 mm from the superior sagittal sinus with hemorrhage. The urgent decompressive craniectomy was made and with good postoperative care and antibiotic prophylaxis. He was released home with a visual field deficit that was diagnosed as left homonymous hemianopsia. During the 21-month follow-up, the patient had decreased visual acuity that was managed with eyeglasses, but the visual field defect resolved completely.

Conclusion: Diagnosis of atypical late-onset Fabry disease complicated with secondary hyperaldosteronism was concluded after the finding of angiokeratomas and agalactosidase-A level and activities. Patient was referred to a higher range clinic center.

Key Words: Case report; Compound depressed skull fracture; Hemianopsia; Occipital bone; Traumatic brain injury; Triage

FABRY DISEASE COMPLICATED WITH HYPERALDOSTERONISM – CASE REPORT

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Background: Fabry disease is an inherited neurological disorder that occurs when the enzyme alpha-galactosidase-A cannot efficiently break down lipids into smaller components that provide energy to the body. Lipids then accumulate in the part of the nervous system that controls involuntary functions such as breathing and heartbeat, as well as in the eyes, kidneys, and cardiovascular system. Males are primarily affected. Angiokeratomas may develop on the lower part of the trunk of the body and become more numerous with age.

Aim: To illustrate the challenges of diagnosing Fabry disease.

Case Report: A 38-year-old man was hospitalized due to constellations of symptoms that indicated systemic collagenosis. From past medical history he had frequent URSI, slow progressing stress intolerance and dyspnea in previous year. Physical activity and warm environment induced plethora as the cold environment induced Raynaud-like phenomena (without phase 2). Backpain and degenerative changes in hips and knees were later linked to scoliosis and malrotation of LS segment and disruption of the kinetic chain after the MRI was performed. He had morbid obesity (BMI 46.28), polytrauma, celiac disease that was confirmed by HLA-typing as the patient was already on a gluten-free, dairy-free diet, low on disaccharides. He stopped consuming salt after noticing water retention (up to 10kg). Due to his uncontrolled weight loss and restricted high-protein diet he acquired bile reflux gastritis and GERD. Spastic hemiparesis after CVI. Night blindness, blepharitis and keratoconjunctivitis sicca. Clinical examination showed angiokeratomas on his lower abdomen and agalactosidase-A tests were acquired from a larger clinic center. During contrast brain MR, TIA occurred, and the patient no longer gave consent to any more diagnostic procedures. From the diagnostics that have been performed we highlight renin 0.7 ng/mL/h, serum creatinine 51 umol/L, serum urea 11.6 mmol/L, potassium 3.8 mmol/L, sodium 138 mmol/L, aldosterone 270 pmol/l, agalactosidase-A 2,54 m/h/L, agalactosidase-A enzyme activity 21%, diuresis 1500, creatinine clearance 263 mL/min, potassium clearance 154 mmol/L, sodium clearance 42 mmol/L. MRI of the brain revealed zone of encephalomalacia with surrounding gliosis and retraction of the trunk of the cerebral ventricle in the left periventricular along the lateral wall of the lateral ventricle, CT of thorax showed a mass that was highly indicative of thymoma.

Conclusion: Due to lack of adequate penetrating brain injury management guidelines the need for updated guidelines is great. Initial examination and triage of patients is crucial in the management of any emergency. Although errors in triage are not so rare, they should be minimized, but that is possible only with excellent medical education. Despite low occipital lobe injury incidence, early recognition of visual field defects is the most important step in a good outcome and complete withdrawal of symptoms.

Key Words: Comorbidities; Dieting; Fabry disease; Hyperaldosteronism

“DON’T ASK, DON’T TELL”: AN ANALYSIS OF CROATIA HIGH SCHOOL STUDENTS’ COMMUNICATION WITH PARENTS ON SEXUAL AND REPRODUCTIVE HEALTH

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Background: Adequately trained medical students educate high-school students (14–19 years) about Comprehensive Sexual Education (CSE).

Aim: The purpose of this study was to examine the level of parental involvement and overall Croatian high school students’ satisfaction with education in the areas of sexual and reproductive health.

Materials and Methods: Data was collected from September 2022 to January 2023 through a Google form distributed by educators and filled out anonymously by high school students.

Results: We have received 180 responses, from ten high schools in four cities. Almost two-thirds, 109 (60%) of our participants were female students. This fact may be interesting from the perspective of answers to the question: “Did you ever talk to a parent about sexual/reproductive health?” Little less than half of students, 76 (42%), claimed that they haven’t talked to any parent about these topics. Among other 99 (55%) positive answers, 54 (55%) of them discussed only with the mother, 9 (9%) of them talked only to the father and 36 (36%) of them spoke to both.

As for the question of wanting to address these topics with parents, exactly two-thirds of them, 118 (66%), tend to avoid that type of interaction.

Besides the (non)contentment of parental (non)involvement in education, students aren’t overall satisfied with the current state of sexual/reproductive education. This was shown by the responses, 131 (73%) of them want the better implementation of CSE in the school curriculum.

Conclusion: Little less than half of Croatian high school students had not discussed sexual and reproductive topics with their parents, and the majority don’t even have the intent to do so. Based on the answers, there is a need for improved education in schools to ensure that students receive accurate information and support in making informed decisions regarding their sexual and reproductive health.

Key Words: Adolescent health; Education; Parent-child relations

GASTROSCHISIS WITH PROLAPSE OF THE STOMACH, INTESTINES, AND FALLOPIAN TUBES WITH PRIMARY CLOSURE: CASE REPORT

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Background: Gastroschisis is a birth defect where organs protrude through an opening in the abdomen, typically on the right side of the umbilical cord. We report a case where the stomach, small and large intestine, and fallopian tubes were outside the abdominal cavity during routine prenatal ultrasound.

Aim: The aim of this report is to raise awareness about proper management of newborns with gastroschisis and possible complications.

Case report: A female newborn with prenatally diagnosed gastrochisis was scheduled for an elective cesarean section at 37+2 weeks gestation. The baby weighed 2560 g and had an Apgar score of 10/10. After birth, a large defect in the abdominal wall was visible, through which intraabdominal organs protruded. The baby was examined by a surgeon, anesthesiologist, and cardiologist, who diagnosed an open ductus arteriosus. During surgery, it was observed that the stomach, small and large intestines, and fallopian tubes were outside the abdominal cavity. The small intestine was significantly shortened, with a patent stenosis 20 cm from the Treitz ligament. The abdominal wall defect was extended cranially and caudally during the operation, and the stomach, intestine, and adnexa were successfully returned to the abdominal cavity with primary closure of the defect. The baby received parenteral nutrition for seven days postoperatively, followed by enteral feeding. On the second day after starting enteral feeding, the baby became febrile, and its general condition worsened, leading to dual antibiotic therapy. Bacterial sepsis was suspected. On the fifth day after fever cessation and with sterile microbiological samples and good general condition, the baby was transferred to the pediatric surgery department. A pediatric cardiologist examined the baby because of the previously diagnosed ductus arteriosus, which was no longer present. The baby was discharged in good general condition and with recommended follow-up visits with a pediatric surgeon.

Conclusion: Gastroschisis is a birth defect where organs protrude through an opening in the abdomen. Survival rates for newborns with gastroschisis have increased due to better prenatal diagnosis, neonatal care, and surgical techniques.

Key Words: gastroschisis, neonatal intensive care unit, prenatal diagnosis, surgery

BATTEN DISEASE (CLN2 TYPE) – FIGHTING FOR A STEP, A WORD AND A SMILE; CASE REPORT

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Background: Neuronal ceroid lipofuscinosis type 2 (CLN2) is rare, autosomal recessive, pediatric neurodegenerative disorder, known as Batten disease. It is caused by an enzyme deficiency of Tripeptidyl-peptidase 1 (TPP1) which lead to lysosomal storage disease. First symptoms usually begin between ages 2 and 4 with epileptic seizures and language delay, followed by loss of all motor function in period 4 to 6 years and deaths by adolescence.

Aim: Present the importance of early diagnosis that significantly affect the course of the disease.

Case report: A 7-year-old girl, from unrelated healthy parents, had normal development until 2 years and 8 months, when she had first febrile seizures. Few months later, girl had frequent epileptic seizures, neuropsychomotor regression and progressive vision loss began. After the lysosomal enzymes tests were performed, the enzyme activity of TPP1 was significantly decreased. NCL type 2 was confirmed with genetic tests; heterozygous mutation was detected: c.[509-1G>C];[614T>A]. Enzyme replacement therapy (cerliponase alfa) was started at age 3 years and 8 months. This was the first such treatment performed in Croatia. Nowadays, she is 8 years old, with good controlled epilepsy, mild language delay and good ambulation. Her visual loss is stable and she gets therapy every two weeks.

Conclusion: Natural progression of the disease can be slowed down with cerliponase alfa enzyme therapy. Therefore, it is extremely important to recognize the symptoms of this disease and diagnose it early to at least prolong the smile in the family, for which everyone fought hard together.

Key Words: Autosomal recessive; Batten disease; Case Report; Cerliponase alfa; Tripeptidyl-peptidase 1

A CASE REPORT OF CROHN'S DISEASE DEVELOPING IN A PATIENT TREATED WITH SECUKINUMAB DISEASE (CLN2 TYPE)

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Background: Secukinumab is a human IgG1/κ monoclonal antibody that selectively binds to and neutralizes the proinflammatory cytokine interleukin 17A (IL-17A). IL-17A is a naturally occurring cytokine involved in normal inflammatory and immune responses but also plays a vital role in the pathogenesis of several diseases. Among the indications for secukinumab are plaque psoriasis, juvenile idiopathic arthritis, and spondyloarthritis. Crohn's disease is a chronic inflammatory bowel disease of unknown cause.

Aim: An interesting case study is a simple and memorable way to improve your clinical practice.

Case Report: A 40-year-old woman was diagnosed with seronegative spondyloarthritis 20 years ago. She was treated with sulfasalazine for 19 years, when a year ago, due to inadequate disease control, her treatment was switched to secukinumab. For the past three months, the patient complained of frequent, sometimes bloody, stools (up to ten times a day), tenesmus, and significant weight loss. It is important to note that the patient's mother was diagnosed with ulcerative colitis, a type of inflammatory bowel disease. Considering her genetic predisposition and recent symptoms, the patient was referred to a gastroenterologist. A complete blood count test showed anemia, most likely caused by frequent bloody stools. Fecal calprotectin was elevated (253,3 mg/kg), suggesting inflammation in the intestines. Colonoscopy and MR enterography were performed and showed severe inflammation of the terminal ileum, as well as hyperemia and focal erosions aboral from the lial flexure. A PHD analysis of a sample taken during the colonoscopy showed morphologic changes consistent with inflam-

matory bowel disease. These results confirmed the diagnosis of Crohn's disease. Adalimumab treatment was started, and the patient was released home.

Conclusion: Although rare, inflammatory bowel disease is a possible severe adverse effect of treatment with secukinumab. Rheumatologists should be careful when prescribing this medicine, especially in patients with familial cases of inflammatory bowel disease.

Key Words: adverse effect; Crohn's disease; secukinumab

A RARE FORM OF CHRONIC PANCREATITIS PRESENTING AS PANCREATIC ADENOCARCINOMA – A CASE REPORT

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Background: Groove pancreatitis (GP) is a rare form of chronic pancreatitis affecting the “groove” between the pancreatic head, duodenum, and common bile duct, characterized by fibrotic scarring. Its etiology is unknown; however, it more frequently appears in males with long-term smoking and alcohol abuse.

Aim: This case report stands as a reminder to always keep in mind less common differential diagnoses of obvious presentations.

Case Report: A 52-year-old male smoker with no history of alcohol abuse presented with complaints of abdominal pain in epigastric region spreading to his back, acholic stool and darker urine. Blood analysis revealed elevated amylase (225 U/L) and lipase (1090 U/L) as well as cholestasis (bilirubin 127 µmol /L, AP 297 U/L, GGT 1970 U/L). Initial ultrasound showed a dilated intrahepatic bile ducts and common bile duct, while the pancreas was not detectable. A CT scan found a well-defined predominantly hypodense mass in the pancreatoduodenal groove that narrowed the duodenum. Due to obstructive icterus, during the diagnostic ERCP, biliary sphincterotomy and implantation of biliary stent were made, resulting in adequate biliary drainage. Brush samples from duodenum around papilla minor showed acute inflammatory process and no signs of tumor, which along with previous imaging and normal levels of tumor markers CEA and CA 19-9 led to the diagnosis of groove pancreatitis.

Conclusion: The differential diagnosis of GP may vary from anatomic variants to malignancies. The most relevant diagnosis is adenocarcinoma of the head of the pancreas. Clinical diagnosis of GP is challenging and the potential to fail in distinguishing it from other more common causes of recurrent pancreatitis, including malignancies is always present.

Key Words: Cholestasis; Chronic pancreatitis; Pancreatic carcinoma

A PATIENT WITH MENSTRUATION-RELATED SPONTANEOUS PNEUMOTHORAX DUE TO ENDOMETRIOSIS, A CASE REPORT

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Background: Endometriosis is characterized by the appearance of ectopic endometrial tissue and affects women in reproductive age. It often causes infertility and one of the rarest ectopic locations is thoracic cavity.

Aim: Through this case report we want to emphasize the importance of having endometriosis as a differential cause of spontaneous pneumothorax, a life threatening condition.

Case Report: A 32-year-old woman often had dyspnea a few days before her period. When her severe dyspnea first appeared, she was admitted to a hospital and diagnosed with spontaneous pneumothorax of unknown origin. A chest tube drainage was performed and as a complication she had pneumonia which was successfully treated. One year later she was again hospitalised due to spontaneous pneumothorax and a chest tube drainage was performed again. A few months later she was again hospitalised due to pneumothorax. After malignancy has been excluded through PET – CT a thoracic surgery was performed. Intraoperatively right side of diaphragm had lesions highly suspicious of endometriosis. Ultrasound has also shown a cystic structure above right ovary highly suspicious of endometriosis and CA-125 has been elevated (49.9 kIU/L). Two years after she was diagnosed with endometriosis she visited a gynaecologist due to not being able to conceive naturally. Her partner had oligoazoospermia and her AMH was lower (8.5 pmol/L). After 4 unsuccessful ovulation inductions and in vitro fertilisation the couple has conceived naturally. Pregnancy did not have any complications and a female child has been delivered through Caesarean section.

Conclusion: Eventhough thoracic endometriosis is rare, it should always be considered in young women with dyspnea reoccurring a few days before menstruation.

Key Words: endometriosis; infertility; pneumothorax; thoracic endometriosis

ATTITUDE OF MEDICAL STUDENTS TOWARDS INTRODUCING SSRIS AS A POTENTIAL THERAPY FOR PREVENTION OF SEVERE COVID-19 ILLNESS*

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Background: During the COVID-19 pandemic, many drugs were tried in therapy. Drugs that act as lysosome targeting agents have shown a significant shift in treatment. Thus, SSRIs were introduced in therapy since the first studies showed a reduction in the number of hospitalizations and mortality due to COVID-19.

Aim: The attitude of medical students towards taking SSRIs for the prevention of a severe COVID-19 was investigated. They were questioned about their attitude towards SSRIs in general, vaccination status among students and what would bother them most about taking SSRIs.

Materials and Methods: We conducted a cross-sectional study among medical students of all years attending School of Medicine, University of Zagreb from October 2021 to January 2022. The study was carried out as an anonymous survey through an online questionnaire consisting of three parts. The first part included questions about basic information of participants, the second part focused on general information and attitude towards COVID-19 infection and in the last part students were able to choose what is their main worry about taking SSRIs.

Results: The questionnaire was filled out by 526 participants: 299 female and 227 male students. The vaccination rate among students was 95.4% (n=502/526). About 2/3 – 61.2% (n = 322/526) of students were open to

trying out SSRIs as a preventive measure in treating COVID–19 infection, but about ½ – 55.7% (n = 293/526) would rather take other types of drugs if available. Furthermore, the students were notably concerned about the side effects of the SSRIs – 75.7% (n = 398/526). Others were worried about social stigmatization and the lack of information. Finally, the differences in attitudes towards different side effects of the SSRIs due to gender have proven statistically significant (p<0.05).

Conclusion: Our study has shown that medical students were relatively open to trying SSRIs for prevention of severe COVID–19 illness, but with certain restraints since SSRIs are known for their side effects, as well as lack of knowledge about potential benefits of their administration.

Key Words: COVID-19; medical students; side effects; SSRIs

DRUG REACTION MASKED BY WORSENING OF PREEXISTING SEBORRHOIC DERMATITIS: CASE REPORT

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Background: Seborrheic dermatitis is a chronic inflammatory skin disorder that often affects young and middle-aged adults in sebaceous gland-rich areas like the face, scalp, and upper part of the trunk. EEM is a reactive skin disorder caused by viruses, drugs, or vaccines. The major type has fever, fatigue, mucosal lesions, and targetoid skin lesions.

Aim: This case report aims to raise awareness of skin drug reactions caused by medications or vaccines and ensure timely diagnosis and treatment.

Case Report: A 39-year-old patient presented to the Dermatovenereology office two days ago due to a rash appearance. Dermatologic status showed moderate erythema and desquamation of the eyebrows, nasolabial and presternal area. Patient had seborrheic dermatitis, treated with antimycotic cream and shampoo. Patient returned to dermatologist after 3 days due to worsening and spreading of changes. On second visit, seborrheic dermatitis still present. Patient had new annular targetoid lesions on chest, extremities, and palms. Lips were eroded. Patient reported mild burning sensation with skin lesions. New lesions had EEM major type, so hospitalization was recommended. Blood test revealed leucocytosis. Patient had a cold with a cough and was taking pholcodine, ibuprofen, vitamin C, and immunoglucan 10 days before the lesions appeared. Patient was taking olanzapine in chronic therapy. One day before EEM rash onset, patient received a flu vaccine. During hospitalization, patient received systemic and local corticosteroid therapy, improving skin changes significantly. Patient was discharged from the hospital soon after.

Conclusion: Considering medication or vaccination as a possible cause of adverse reactions during patient history-taking is always necessary, and monitoring the patient after drug or vaccine administration is important. Patient's pre-existing seborrheic dermatitis masked the drug reaction, causing failure to recognize EEM initially. Early identification and diagnosis of drug reactions are critical as they can rapidly progress and pose severe or life-threatening complications, requiring immediate medical attention.

Key Words: Drug reactions; Erythema exudativum multiforme; Steven-Johnson syndrome; Seborrheic dermatitis

SURVEY OF THE KNOWLEDGE, ATTITUDES AND PRACTICE TOWARDS ANTIBIOTIC USE AMONG PROSPECTIVE ANTIBIOTIC PRESCRIBERS IN SERBIA – ARE THERE OPPORTUNITIES FOR IMPROVEMENT?

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Background: The complex issue of antibacterial resistance (ABR) requires actions taken with the One Health approach, involving both human and veterinary medicine. Health profession students, as the future antibiotic providers, can greatly impact antibiotic-related issues in the future.

Aim: The study was conducted to evaluate knowledge, attitudes and practice of future antibiotic prescribers in relation to judicious use of antibiotics.

Materials and Methods: This cross-sectional, questionnaire-based study was performed on 400 students of health professions who were allowed to prescribe antibiotics of the University of Novi Sad, Serbia.

Results: Students of medicine and students of dentistry showed a significantly higher knowledge score compared to students of veterinary medicine ($p = 0.001$). Multivariate regression identified predictors of adequate antibiotic knowledge: being a female student ($B = 0.571$; $p = 0.020$), higher grade average ($B = 1.204$; $p = 0.001$), students of medicine ($B = 0.802$; $p = 0.006$) and dentistry ($B = 0.769$; $p = 0.026$), and students who used a complete package of antibiotics during the last infection ($B = 0.974$; $p = 0.001$) or for the period recommended by the doctor ($B = 1.964$; $p = 0.001$). Out of the total sample, self-medication was reported among 42.8% of students. The identified predictors of self-medication were: more frequent ($B = 0.587$; $p = 0.001$) and irregular ($B = 0.719$; $p = 0.007$) antibiotic use, taking antibiotics until symptoms disappeared ($B = 2.142$; $p = 0.001$) or until the bottle was finished ($B = 1.010$; $p = 0.001$) during the last infection.

Conclusion: It seems prudent to reevaluate the educational curricula regarding antibiotic use and ABR of prospective prescribers in Serbia.

Key Words: Antibiotics; Habits; Self-medication; Students

NODULAR FASCIITIS OF THE ORBIT: CASE REPORT

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Background: Nodular fasciitis is a benign proliferation of fibroblasts and myofibroblasts in the subcutaneous tissues. Typically, it presents as a solitary, rapidly growing nodule which is often confused with malignancy. The lesions most commonly appear on the forearms, legs, and trunk, and are rarely reported to occur on the eyelids, orbit, or conjunctiva. The condition usually affects adults between the ages of 20 and 40.

Aim: The aim of this case report is to point out rare diagnosis.

Case Report: A 41-year-old woman presented with a 6-month history of a progressively enlarging bump on her eyelid. The patient noted that the nodule was first on the lateral side of eyelid and that it migrated medially. Examination revealed a 1.5 cm firm mass palpated near the right medial supraorbital rim penetrating deeper parts of medial upper quadrant of the orbit. Further, her eye movement and pupillary responses were unaffected, and she denied diplopia. CT and MRI showed irregular lesion in cutis and subcutaneous adipose tissue measuring approximately 1 cm. An excisional biopsy was performed, and the wound was left to heal by secondary intention until pathohistological report confirmed diagnosis that would indicate further treatment steps. The plan was either to do expanded surgery in the case of malignancy or reconstruct the defect. Histopathology and immunohistochemistry confirmed the lesion to be nodular fasciitis. On the one-week postoperative follow-up wound was healing nicely with granulation tissue. The reconstruction procedure wasn't needed because of the excellent

healing capacity of the head due to rich blood supply. Wounds located on the concave surfaces of the face usually heal with functional and cosmetic outcomes that are similar or better than those achieved by reconstruction.

Conclusion: Nodular fasciitis should be included in the differential diagnosis of eyelid and orbital masses, especially in young to middle-aged individuals. Even though they are uncommon, clinical presentation is similar to malignant tumors and biopsy is needed to differentiate between those.

Key Words: benign tumor; nodular fasciitis; orbit

REDUCING THE RISKS OF SEVERE SCOLIOSIS SURGERY USING A TWO-STAGE PROCEDURE WITH HALO GRAVITY TRACTION – CASE REPORT

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Background: Severe rigid idiopathic scoliosis (SRIS) is a spinal deformity with a curve measuring a Cobb angle over 90° and less than 25 % of correction on bending radiographs. Despite progress in surgical techniques, SRIS surgery carries high risks of neurological damage and other serious complications. Halo-gravity traction (HGT) is a method for gradually correcting SRIS with less demand placed on bone-anchor interfaces. HGT is believed to be safer than other methods, as patients are awake, and their neurological status is easily monitored.

Aim: We present a case of a patient with right thoracic SRIS who underwent a two-stage procedure using HGT.

Case Report: A 14-year-old female patient with a right-sided spinal curve and short stature presented to the Orthopedic Department. Clinical examination confirmed the diagnosis of right thoracic SRIS. AP radiographs showed Cobb's angle of 104°, with 20% correction to 84° on bending radiographs. To reduce risks and improve the outcome, a two-stage procedure with HGT was chosen. The first stage consisted of posterior release with multilevel Ponte osteotomies and transpedicular screw placement. The patient was then put on HGT. After two weeks, radiographs showed a decrease of 45% in Cobb's angle, from 104° to 58°. In the second stage, final correction and posterior instrumented fusion of the spine were performed. Cobb's angle after the final correction measured 28°, corresponding to a 74% correction. The patient also gained 12cm in height.

Conclusion: The two-stage procedure combining posterior release, halo-gravity traction, and posterior instrumentation reduces the risk of surgery and enables excellent correction of SRIS. The emphasis on the increasing height of the patient is noteworthy. Posterior release, followed by HGT and posterior instrumented fusion, is a promising method for treating SRIS, enabling better results in terms of correction and height gain with less risk. Further studies are necessary to evaluate long-term outcomes of HGT for SRIS.

Key Words: case report; orthopedic surgical; procedures; scoliosis; traction

CAN THROMBOPHILIA BE COMPLICATED BY BÜRGER'S DISEASE? A CASE REPORT OF RECURRENT ARTERIAL THROMBOSES IN A PATIENT WITH HEREDITARY THROMBOPHILIA

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Background: Hereditary thrombophilia (HT) is an inherited condition that increases the risk of thrombosis. The genetic basis of HT encompasses various factors, including factor V Leiden, deficiency in protein C, deficiency in protein S, and antithrombin deficiency. Thromboangiitis obliterans (TAO) or Bürger's disease, is a

condition associated with thrombosis and is commonly seen in males between the ages of 25 and 45 who are smokers. The presence of prothrombotic factors has been associated with TAO.

Aim: We present a case of a 25-year-old male patient, smoker, who was diagnosed with arterial thrombosis (AT) of the femoral artery (FA) in August 2021.

Case Report: He was found to have protein S deficiency, elevated FVIII levels, and a homozygote PAI-1 5G,4G mutation, indicating a diagnosis of HT. The patient has experienced five episodes of AT of the FA in the subsequent six months, all while being on anticoagulation therapy with warfarin, later with low molecular weight heparin. The patient underwent multiple thrombectomy and endarterectomy procedures. A biopsy of the popliteal and distal FA showed signs of periarteritis, which may be related to TAO. A PET/CT scan was performed but showed no evidence of vasculitis.

Conclusion: AT is a rare occurrence in patients with HT. TAO is primarily diagnosed based on clinical presentation and is characterized by recurrent and migratory arterial thromboses in young smokers. Given the patient's history as a young smoker with recurrent arterial thromboses, clinicians should consider the possibility of TAO as a concomitant disease.

Key Words: Hereditary thrombophilia; Smokers; Thromboangiitis obliterans

VEDOLIZUMAB SERUM CONCENTRATION AND ENDOSCOPIC REMISSION IN BIONAÏVE PATIENTS WITH INFLAMMATORY BOWEL DISEASE

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Background: Vedolizumab is a biological drug, an anti-integrin monoclonal antibody, used for treatment of patients with inflammatory bowel disease. Vedolizumab concentrations at week 6 of start of treatment predicted endoscopic remission in some studies which included patients who previously failed tumor necrosis factor alpha inhibitors. However, it is not clear if week 6 vedolizumab concentrations also predict endoscopic remission in patients that have previously not been treated with tumor necrosis factor alpha inhibitors (bionaïve patients) as such studies have not been performed.

Aim: We aimed to determine whether serum vedolizumab concentrations at week 6 correlate with endoscopic remission also in bionaïve patients treated with vedolizumab.

Materials and Methods: In this prospective observational study, we included 36 consecutive bionaïve patients, who started treatment with vedolizumab. We correlated serum vedolizumab concentrations determined with enzyme-linked immunosorbent assay at week 6 to treatment efficiency (endoscopic response) at week 30 after the introduction of vedolizumab (using the Mann-Whitney test). $P < 0.0167$ was considered significant as this was corrected for multiple testing (3 outcome variables).

Results and Conclusion: Median serum vedolizumab concentrations were not statistically significantly different between patients who achieved and those who did not achieve endoscopic remission (24,4 µg/ml Vs. 26,6 µg/ml, $p = 0.454$) remission at week 30 of treatment. Serum vedolizumab concentration at week 6 of treatment did not predict endoscopic remission in bionaïve patients with inflammatory bowel disease. Our findings do not support routine determination of week 6 vedolizumab concentrations in bionaïve patients.

Key Words: biologic drugs; Crohn's disease; endoscopic remission; TNF-alfa inhibitors; ulcerative colitis; vedolizumab

EFFECTIVE MANAGEMENT OF METASTATIC HEPATIC CHOLNAGIOCELLULAR CARCINOMA

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Background: Metastatic cholangiocarcinoma is a rare malignancy with rapid progression and a statistically poor outcome with a reported 5-year survival rate of approximately 2%.

Aim: The case of the patient diagnosed with mCCC in 2012, who achieved sustained remission through chosen therapeutic methods, highlights the variation in individual prognoses.

Case report: A 60 year-old female patient was admitted to the hospital in 05/12, following recurrences of leftsided pleural effusion. Diagnostic thoracic and abdominal CT scans revealed a lesion in the upper left pulmonary lobe and multiple expansive hepatic lesions. Despite negative results on transthoracic biopsy, the diagnosis of cholangiocellular carcinoma was confirmed via histopathological analysis following liver biopsy. The patient received chemotherapy based on the GP (gemcitabine plus cisplatin) protocol, which resulted in condition stabilization after four cycles. Subsequently, the patient received six more cycles of the GP protocol. A hepatic bisegmentectomy (12/12) and an extirpation of the pleural lesion (03/13) were performed resulting in radiological verification of remission. However, liver lesions were detected on radiological examinations in 06/14. The patient underwent a ligation of the portal vein in 10/14 and an extensive dextral hepatectomy in 12/14. Regular surveillance led to verified remission until 11/16, when obvious hepatic lesions were detected on MSCT scan. The patient underwent hepatic segmentectomy in 01/17, with PET/CT scan confirming remission in 05/17 and has been continuously monitored. An abdominal MR scan performed in 04/19 indicated a 5 mm residual lesion without significant growth since then. The patient surveillance is still ongoing (02/23).

Conclusion: The personalized and comprehensive therapeutic approach enabled the patient to surpass the expected statistical survival rate which makes this a remarkable case of metastatic cholangiocarcinoma completely responsive to treatment resulting in a progression-free survival.

Key words: Case report; CR; mCCC; multidisciplinary approach; surveillance

SUSPECTED AORTIC DISSECTION AS A STEP TO DIAGNOSIS OF A RARE DISEASE

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Background: It is estimated that every seventeenth citizen of the European Union are expected to develop symptoms of a rare disease in their lifetime meaning that most doctors will likely encounter these patients during their careers. However, the diversity of the causes and symptoms of these diseases often leads to a delayed diagnosis.

Aim: This case highlights the importance of recognizing patients with rare diseases, as early diagnosis and a multidisciplinary approach can prevent irreparable damage and enhance quality of life.

Case report: We present a 38-year-old patient experiencing heart palpitations and tingling on the left side of the face, neck, and arm, lasting for several days. The patient has a history of nearsightedness and eye procedures, and lost vision in one eye after giving birth. The patient's mother has an enlarged aortic root, but without eye symptoms. The patient's clinical status also includes high height, dolichostenomelia, significant vision loss, and arachnodactyly. After a normal ECG, an echocardiography was performed, revealing a bicuspid aortic valve and an enlarged ascending aorta with a suspected aortic dissection, which was later ruled out. The patient was referred to a geneticist, who confirmed a diagnosis of Marfan syndrome (MFS) through genetic testing. Due to the progression of the size of the ascending aorta, further monitoring and surgery are recommended, but the patient is not currently inclined to undergo these procedures. The patient is being treated with nebivolol and losartan instead.

Conclusion: MFS is a hereditary systemic connective tissue disease that affects the aorta, eyes, and skeleton and joint systems, caused by mutations in the FBN1 gene. The life span of patients with MFS has improved with better recognition and treatments, but cardiovascular complications remain the most common cause of morbidity and mortality.

Key words: aortic dissection; case report; Marfan Syndrome; rare diseases

PAGET-SCHRÖETTER SYNDROME FOLLOWING STRENUOUS WORKOUT – CASE REPORT

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Background: Paget-Schröetter syndrome (PSS) is a rare cause of spontaneous unilateral upper extremity deep venous thrombosis (UEDVT), occurring in young patients usually due to subclavian vein compression at the thoracic outlet, following repetitive over-the-head strenuous upper extremity activity.

Aim: The aim of this case report is to bring awareness to Paget-Schröetter syndrome, whose symptoms can vary significantly in their severity, so that even in patients who are presenting with milder symptoms, PSS should be considered as a possible diagnosis.

Case Report: A 24-year-old male presented to the family medicine office after noticing a blue discoloration alongside his right upper arm and experiencing a dull pain in the shoulder area. He reported lifting weights in the gym nine days prior. Physical examination findings include a slight cyanosis of the right upper arm, and an increased venous pattern alongside shoulder area. The rest of the physical examination was normal. A week later, the patient was hospitalized in University Hospital Centre Zagreb. Full laboratory work-up was done, and the results were within a normal range. Chest X-ray and heart ultrasound were performed, showing no signs of pathology. Compression ultrasound (CUS) of subclavian vein visualized a blood clot causing an occlusion, and the patient was diagnosed with Paget-Schröetter syndrome (PSS) that occurred because of strenuous upper body exercise. Anticoagulatory low-molecular-weight heparin (LMWH) therapy was administered. The patient responded well to the therapy and two days later, he was discharged in a stable condition and rivaroxaban therapy was prescribed.

Conclusion: Although PSS is a rare cause of spontaneous unilateral UEDVT, it should be considered in patients who present with pain, discoloration or increased venous pattern alongside upper extremity, axillary or shoulder area, especially if they report a strenuous physical activity prior to symptoms presenting.

Key Words: Paget-Schröetter syndrome; subclavian vein; blood clot

INFECTIOUS ENDOCARDITIS IN A PATIENT AFTER MELODY VALVE IMPLANTATION

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Background: Melody valve endocarditis is a complication during a follow-up in patients after right ventricular outflow tract reparation. It is most frequent in the first three years after transcatheter pulmonary valve implantation.

Aim: I present a case of a young male person with a history of tetralogy of Fallot diagnosed with staphylococcal infectious endocarditis and, as a result, a necessary cardiosurgical reintervention.

Case Report: A 17-year-old boy was admitted to the hospital for suspected infective endocarditis. He has a medical history of Tetralogy of Fallot and the installation of the Melody valve in 2021. When he was admitted to

the hospital, he had a high fever, a dry cough, and could not tolerate exertion. He also had elevated inflammatory parameters: CRP 306, L 12.5 with neutrophilia, NT-pro-BNP 4052. Ceftriaxone, flucloxacillin, and oseltamivir were initially introduced into the therapy. Staphylococcus aureus was isolated from the blood culture; therefore ceftriaxone was discontinued, and gentamicin was introduced into the therapy. Oseltamivir was also discontinued from therapy after the flu was ruled out. Echocardiography showed an enlarged right ventricle and turbulent flow through the Melody valve with stenosis and a slightly thickened valve. Vegetation could not be shown. CT pulmonary angiography showed condensations of the lung parenchyma of both lung wings with bilateral pleural effusions. Given the continuous febrility and a large number of positive blood cultures, a diagnosis of Melody valve endocarditis was made. At the consultation, the extirpation of the stent and melody valve from the right ventricular outflow tract was recommended, as well as the implantation of an aortic homograft between the right ventricle and the pulmonary valve.

Conclusion: Although the risk of infectious endocarditis of a Melody valve is significant, diagnosis is still very challenging. Approximately half of the patients require reintervention.

Key Words: Melody valve; tetralogy of Fallot

ANTHROPOMETRIC PARAMETERS AND MALLAMPATI INDICES IN PATIENTS WITH OBSTRUCTIVE SLEEP APNEA SYNDROME IN VOJVODINA – PILOT STUDY

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Introduction: Sleep apnea is a serious disorder that causes a pause in breathing during sleep. Based on the cause of the disease, there are three types of sleep apnea: obstructive, central and complex. The most common type is obstructive sleep apnea. The airway narrowing is the most distinctive symptom, being caused by the relaxation of pharyngeal muscles. Risk factors for developing obstructive sleep apnea are obesity, tobacco and alcohol use and high Mallampati index.

The aim: Determining the correlation between anthropometric parameters and higher risk for the development of obstructive sleep apnea.

Material and methods: The study involved 28 participants, including 15 men and 13 women, mean age of $45,39 \pm 17,03$ years. All subjects underwent polysomnographic tests, anthropometric measurements and Mallampati indices. Anthropometric measurements included the determination of body mass, body height, body circumference, body diameters and body fat mass. The investigation was performed at the Center for Respiratory Disorders during Sleep at the Institute of Pulmonary Diseases of Vojvodina in Sremska Kamenica.

Results: Participants were put in two groups, divided by their polysomnography results and apnea-hypopnea index (AHI): the control group (AHI<5) and participants who suffer from obstructive sleep apnea (AHI≥5). There was a statistically significant difference between the two groups in all measured anthropometric parameters except body height and all values were higher by patients with AHI≥5. Subjects with AHI≥5 had a Mallampati index of 3 or 4, while AHI<5 subjects had a Mallampati index of 1.

Conclusion: Men are more affected by obstructive sleep apnea. The disease correlates with a high Mallampati index (3 or 4) and obesity.

Key Words: Anthropometry; Mallampati Indices; Obesity; Obstructive sleep apnea

THE DURATION OF QRS COMPLEX AS A PREDICTOR OF ADVERSE CARDIOVASCULAR EVENTS AFTER ACUTE ST-ELEVATION MYOCARDIAL INFARCTION

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Background: Ischemic heart disease most commonly occurs as a result of atherosclerotic changes in the coronary vessels. An acute form of coronary artery disease is ST-elevation myocardial infarction (STEMI). The duration of QRS complex is one of the ECG parameters whose change in dynamics can indicate the success of PCI as well as the size of the infarct zone.

Aim: Evaluation of the width of QRS complex as a predictor of major adverse cardiac events (MACE) in 6 years long follow up.

Material and Methods: This study included 200 patients with STEMI. Based on the duration of discomfort two groups were formed (N=100). The duration of the QRS complex was correlated with the duration of discomfort and occurrence of MACE.

Results: The survey included 71% of men and 29% of women with an average age of 60.6 ± 11.39 . All-cause mortality was 12% (8% cardiovascular, 4% other). MACE occurred in 24.6% of patients. QRS complex width one hour after PCI affects MACE ($p < 0.025$; OR=1.027). The average number of days until cardiovascular death is lower in group B (2187 vs. 2469; $p < 0.012$). ROC analysis showed that the width of QRS complex one hour after PCI is a predictor of MACE ($p = 0.014$; AUC=0.612; cut-off=99.0 msec). The sensitivity is 53.4%, and the specificity is 61.9%. Same parameter has a predictive value for cardiovascular death ($p = 0.041$; AUC= 0.665; cut-off= 99.0 msec), with a sensitivity of 64.3% and specificity of 60.1%.

Conclusion: The width of the QRS complex is an independent predictor of MACE. Broadening of QRS complex by one millisecond, one hour after PCI, increases the risk of MACE by 3%.

Key Words: MACE; prognostic factor; QRS complex; STEMI

LOWER GASTROINTESTINAL BLEEDING OF RARE ETIOLOGY: RIGHT HEPATIC ARTERY PSEUDOANEURYSM – CASE REPORT

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Background: Lower gastrointestinal (GI) bleeding is predominantly caused by hemorrhoids, angiodysplasias, diverticular disease, inflammatory bowel disease, or polyps. However, on rare occasions, it occurs from another etiology. Right hepatic artery (RHA) pseudoaneurysm is a rare entity, attributed to infections, trauma, and upper abdominal surgery. Most cases occur after biliary and pancreatic surgery. We present a case of a 60-year-old male with lower GI bleeding caused by RHA pseudoaneurysm tear.

Case Report: The patient with a history of chronic alcoholic pancreatitis and obstructive icterus was admitted to the hospital in March 2020 on account of experiencing syncope and the presence of bright red blood in his stool. His biliary obstruction was primarily treated by ERCP in 2019 but due to the persistence of symptoms he had undergone biliary surgery (cholecystectomy and choledochojunostomy) in January 2020. Physical examination revealed signs of hemodynamic instability and lab results showed signs of anemia. Esophagogastroduodenoscopy (EGD) was done to exclude upper GI bleeding and it was followed by a colonoscopy which showed fresh blood in the colon and terminal ileum. Computed tomography (CT) angiography showed no abnormalities. The patient was hospitalized and put on symptomatic therapy. In the following days, his BP dropped and he developed tachycardia as a sign of recurrent bleeding. EGD and colonoscopy were performed again and showed the same findings. Digital subtraction angiography (DSA) of abdominal arteries subsequently showed a pseudoaneurysm of the right hepatic artery, which was immediately treated by “sandwich” coil embolization. After

the procedure, the patient became stable and was discharged from the hospital without experiencing a relapse of gastrointestinal bleeding.

Conclusion: RHA pseudoaneurysm is a serious potential complication of abdominal surgery. Early recognition and emergency management of RHA pseudoaneurysm are crucial for a favorable patient outcome.

Key Words: Digital Subtraction Angiography; Embolization; Pseudoaneurysm; Right Hepatic Artery

FROM ABDOMINAL PAIN TO INDUCED COMA AND DEEP BRAIN STIMULATION – CASE REPORT

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Background: Anesthesia and surgery have a wide range of effects on the cardiovascular system. Anesthetic agents, even in healthy patients having minor operations, can cause cardiac depression and hemodynamic instability.

Aim: This case report aims to highlight the importance of early recognition of intraoperative complications and further elaborate and discuss the steps in preventing and managing those complications.

Case Report: We report a case of a 33-year-old male presenting to the emergency department (ED) with the lower right quadrant pain that started four days prior and has since aggravated. After a thorough clinical exam, doctors suspected an acute appendicitis and sent the patient into surgery. After anesthesia medications were given, the electrocardiography (ECG) monitor showed ST elevation and the patient's blood pressure (BP) dropped immensely. The patient suffered a cardiac arrest and chest compressions were started. The resuscitation was successful as the monitor showed an electrical activity of the heart, but the peripheral pulse was weak on palpation. The patient was unconscious and was moved to an intensive care unit (ICU). Magnetic resonance imaging (MRI) was performed and revealed severe hypoxia to the basal ganglia, so the doctors put the patient in an induced coma and ordered a deep brain stimulation (DBS) therapy. After months had gone by, the patient regained consciousness and was moved to a rehabilitation facility for further treatment.

Conclusion: DBS has provided remarkable benefits for people with a variety of neurologic conditions, yet the mechanism of action remains unclear. In patients with hypoxic damage to the basal ganglia after successful cardiopulmonary resuscitation, induced coma with DBS therapy is an option to preserve the brain function, like shown in this case

Key Words: anesthesia; appendicitis; cardiac arrest; coma vigilans; deep brain

AN ATYPICAL PRESENTATION OF CLEAR CELL SARCOMA METASTASIS IN THE MYOCARDIUM – EXPECT THE UNEXPECTED

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Background: Clear cell sarcoma (CCS) is a rare type of soft tissue tumor that typically affects adolescents and young adults. CCS most commonly develops in the muscles or tendons of the extremities, particularly of the foot and ankle. Treatment of CCS typically involves surgical removal of the tumor, as it is often resistant to chemotherapy and radiotherapy. CCS can metastasize to other parts of the body, including the lymph nodes, lungs, liver, bones, and brain.

Aim: To report an atypical location of CCS metastasis in the heart muscle.

Case Report: A 39-year-old female reported to the ER due to cough and pain under the left costal arch in respiratory movements that had lasted for seven days. Six years prior, the patient had a below-knee amputation as she was diagnosed with CCS located in the left foot. The following year the patient had a PET-CT scan that showed no pathological uptake. Upon admission, laboratory results showed slight elevation of inflammatory parameters. A CT of the thorax was performed, demonstrating multiple solid nodes bilaterally in lung parenchyma as well as an irregular heterogenous soft tissue lesion in the apex of the myocardium. The lesion measured 5x3 centimeters. Pericardial effusion was also noted. Due to the findings, a fine needle aspiration biopsy of a lung lesion was undertaken, characterizing the lesion as a CCS metastasis. Echocardiography was also performed without any pathological findings. Considering the risks of myocardial biopsy and its indications it could only be assumed that the myocardial mass was indeed a CCS metastasis. The patient was referred to an oncologist for further treatment.

Conclusion: Due to a high metastatic potential, early detection and aggressive treatment of metastatic disease are important for improving outcomes in patients with sarcoma.

Key Words: clear cell sarcoma; heart; metastasis; Case Report

ROUTINE USE OF TTS BALLOON IN ENDO-THERAPY OF GIANT COMMON BILE DUCT STONE – A CASE REPORT

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Background: Endoscopic papillary balloon dilation (EPBD) has become one of the first lines of treatment for patients with common bile duct (CBD) stones. Alongside with limited biliary sphincterotomy, EPBD is commonly used for large stones (larger than 15 mm in diameter) primarily as a substitute for lithotripsy methods.

Aim: This case summary provides insight into an example of a simple method of treating a serious condition that allows avoiding side effects caused by more complex treatment options.

Case Report: A 91-year-old male presented with complaints of severe weight loss and occasional spikes of fever within the last two months. Physical examination revealed decreased body mass index (16,81 kg/m²) and the patient was icteric as well. Laboratory findings showed signs of cholestasis (bilirubin 168 µmol/L, AP 376 U/L, GGT 812 U/L). The abdominal ultrasound discovered a giant gallstone in the dilated CBD measuring 24 mm in diameter. A therapeutic ERCP was successfully performed with the intention of removing the stone. After minor biliary sphincterotomy, EPBD was performed with a TTS balloon with a diameter of 15 mm and finally the whole stone was removed using the balloon-catheter.

Conclusion: EPBD is very effective method of extracting large CBD stones and its use in endo-therapy of choledocholithiasis reduces the need for lithotripsy methods.

Key Words: Choledocholithiasis ; Endoscopic retrograde cholangiopancreatography ; Endoscopic sphincterotomy

MARJOLIN ULCER – DEVELOPMENT OF SQUAMOUS CELL CARCINOMA IN A CHRONIC WOUND: A CASE REPORT

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Background: Marjolin's ulcer is a rare entity related to squamous cell carcinoma of the skin that develops in the area of a chronic wound, and has a more aggressive course, with infiltrative growth, a higher recurrence rate, a higher metastatic potential, and a higher mortality rate.

Aim: To raise awareness of the possibility of developing squamous cell carcinoma in the area of chronic wounds, and to discuss therapeutic options, since due to the specifics of Marjolin's ulcer, there is no unambiguous therapeutic approach.

Case Report: A 77-year-old patient was referred to the Dermatovenereology Clinic for an ulcer of her right lower leg. She stated that the ulceration on the lower leg lasted and recurred for many years, and the recent verrucous ulcerated change persisted for more than a year. After two months of unsuccessful conservative therapy, a biopsy of the chronic wound was performed, and the presence of squamous cell carcinoma was found. Due to the large local finding and the absence of metastases, it was decided that the patient receives primary radical radiotherapy. Three months after radiotherapy, a major lower leg defect was described which, compared to the preoperative finding, indicated regression of the tumor process. A week later, a pronounced edge of the change was observed. A biopsy was performed, but no recurrence of the tumor was found. One year after radiotherapy, a chronic wound without recurrence of squamous cell carcinoma but with delayed healing was described.

Conclusion: Although Marjolin's ulcer, an aggressive form of squamous cell carcinoma, is a rare entity, it should be considered when the chronic wound is not healing, in the absence of risk factors for ulceration. Future research is needed to determine a standard therapeutic approach, as well as the optimal follow-up period.

Key Words: dermatology ; leg ulcer ; squamous cell carcinoma ; wound healing

CHERRY STONE AS A CAUSE OF ILEUS IN COLONIC STENOSING CARCINOMA: A CASE REPORT

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Background: Ileus caused by cherry pits is a very rare occurrence. Swallowed pits usually pass through the gastrointestinal tract without complications. We presented a case of a rare but no less important complication, which is a mechanical ileus caused by a cherry pit that got stuck at the proximal (oral) end of the tumor in the narrowest part and obstructed the colon.

Aim: The objective of this case report is to raise awareness of the possibility of intestinal obstruction caused by fruit pits in patients with colon cancer.

Case Report: A 68-year-old man came to the emergency room with a history of constipation and left para-umbilical pain. A native radiograph of the abdomen in the standing position shows air-liquid levels of the small and large intestine that point to ileus, and a CT examination is indicated to confirm the distension of the meridians of the small and large intestine with air-liquid levels and a stenosing neoplasm of the descending colon. The narrow, irregular lumen of the tumor was obstructed by a round foreign body, corresponding to a cherry bone. A surgical opening was made on the abdominal wall through which a segment of the intestine (anus praeter) was removed, and the patient was discharged from the hospital after recovery. Two months later, the patient was admitted to the surgery department, after the preoperative treatment, the planned surgery was started. However,

peritoneal carcinomatosis was found intraoperatively, and the planned radical procedure was abandoned. He was referred to the Clinic for Radiotherapy and Oncology, where cycles of chemotherapy were introduced. Next year, in September, the patient comes for the application of the 12th cycle. He felt well and was discharged home with the recommendation to continue the current therapy.

Conclusion: Fruit stone-induced ileus is a rare condition, but should be included in the differential diagnosis in patients with risk factors such as colonic malignancy. Patient education could reduce the number of swallowed stones, but on the other hand, they could lead to earlier cancer diagnosis.

Key Words: cherry stone; colon cancer; ileus

SUCCESSFUL ELECTRICAL CARIOVERSION IN A 100-YEAR-OLD PATIENT WITH AN EPISODE OF TORSADES DE POINTES– A CASE REPORT

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Background: Torsades de Pointes is a type of polymorphic ventricular tachycardia with an electrocardiogram (ECG) finding of oscillatory changes of the QRS complexes. Torsades de Pointes is associated with a prolonged QT interval and some risk factors include older age, female gender and bradycardia. Sudden cardiac arrest is one of the most severe complications of Torsade de Pointes and the main difference in the algorithm is the administration of intravenous magnesium.

Aim: To demonstrate the importance of continuous ECG monitoring in high-risk patients.

Case Report: A 100-year-old female patient with a medical history of atrial fibrillation (AF) presented to our emergency department (ED) due to a high blood pressure (BP) measured at home and a headache that had been lasting for a few hours. At ED we measured BP of 200/90 mmHg. We also recorded an ECG, which showed a heart frequency of 31 bpm, a 3rd-degree atrioventricular block and a couple of ventricular extrasystoles, so our patient was transferred to the observation room with continuous ECG monitoring. After an hour, the patient lost consciousness and the ECG monitor was consistent with *Torsades de Pointes* without a pulse. Cardiopulmonary resuscitation was performed with an electrical cardioversion shock of 200 joules. Additionally, intravenous magnesium was administered. Consequently, the patient was hemodynamically stable and was transferred to our coronary unit where a temporary pacemaker was implanted. A few days after, the patient was transferred to another hospital with the aim of implanting a permanent pacemaker.

Conclusion: Even though *Torsade de Pointes* usually terminates spontaneously without any treatment, it may sometimes be the cause of a cardiorespiratory arrest. Therefore, continuous ECG monitoring is an important tool in patients with high-risk ECGs such as 3rd-degree atrioventricular blocks associated with prolonged QT intervals.

Key Words: cardiopulmonary resuscitation; continuous ECG monitoring; electrical cardioversion; prolonged QT intervals; Torsade de Pointes

COMMON SYMPTOMS PRESENTING IN AN UNCOMMON HEADACHE – SPONTANEOUS INTRACRANIAL HYPOTENSION – CASE REPORT

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Background: Spontaneous intracranial hypotension (SIH) is a condition caused by a lower-than-normal volume of cerebrospinal fluid (CSF) surrounding the brain and the spinal cord, resulting in a downward displacement of the brain within the skull. This exerts traction on the pain-sensitive nerve endings of the dura and

the vessels at the base of the brain, which is particularly evident in the upright position due to the effects of gravity, causing postural headaches in patients.

Aim: To describe an uncommon and a frequently misdiagnosed entity.

Case report: A 33-year-old woman presented to the Emergency Department (ED) with the complaint of a headache that had gradually started the previous month. She experienced neck pain and occipital headaches radiating to the parietal regions on an everyday basis. Her symptoms would settle on lying down, but upon standing up, her headaches would suddenly develop, accompanied by blurred vision, dizziness, tinnitus, and occasionally, nausea and vomiting. The physical examination did not demonstrate any neurological deficits. She was also examined by an ENT and an ophthalmologist, who could not determine the cause of her symptoms. Consequently, a brain MRI was performed, showing distended dural venous sinuses, a reduced diameter of the ventricular system, pituitary enlargement and a hygroma. This was consistent with SIH and the patient was instructed to rest, maintain a high oral fluid intake and take analgesics when necessary.

Conclusion: SIH is an underrecognized cause of daily persistent headaches affecting mostly the young- and the middle-aged population. The advent of an MRI machine allowed us to set the diagnosis of a condition that had previously been largely unknown.

Keywords: cerebrospinal fluid, headache, intracranial hypotension, magnetic resonance imaging

SIGNIFICANCE OF VOCAL HEALTH AND THE LACK OF IT IN ELEMENTARY SCHOOL TEACHERS

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Background: Healthy vocal apparatus is one of the primary and indispensable tools in teachers' work, particularly in elementary schools. At the same time, teachers often strain their voices trying to approach children in noisy classrooms. We present the pivotal involvement of vocal health professionals in their care and recovery for successful teaching.

Aim: With vocal analysis, we aim to objectify speaking difficulties in individuals whose voice is crucial in their professional surroundings, to rehabilitate them for successful return to work.

Case Report: We present female elementary school teacher with speaking difficulties for past 2 years. The patient suffers from hoarseness and sore throat with burning sensation and tenderness. There is severe vocal fatigue with longer morphosyntactic structures. The patient finds it difficult to talk over loud students and cannot sing high notes in music class. She is not a smoker. In spontaneous speech, voice oscillates a lot, from euphonic to aphonic voice. Digital stroboscopy showed white, motorically functioning vocal cords, and at the transition from the front to the middle third, there are polyps on both sides. There is incomplete adduction when performing high notes. The GRBAS scale presents a 2–3 grade of hoarseness manifesting as roughness(3), breathiness(1), asthenia(2), and strain(3). Hard glottal attack accompanies the onset of phonation and variability of speech tone is pronounced. Vocal acoustic analysis shows pathological values of fundamental frequency(158 Hz), shimmer(19.49%), and vocal intensity(79 dB) with normal value of jitter(0.16%). The total Voice Handicap Index is 52. Parameters show moderate degree of hoarseness.

Conclusion: The diagnosis is vocal cord polyp. Education on voice problems was carried out with instructions on voice hygiene. The joint opinion of the speech therapist and phoniatic ENT specialist recommends that after surgical operation, voice therapy is introduced once a week for 4 months to prevent wrong compensatory mechanisms.

Key Words: benign vocal cord lesions ; case report ; otorhinolaryngology ; vocal health

VOICE AS A TOOL FOR WORK. WHAT HAPPENS WHEN IT “BREAKS”? A CASE REPORT OF AN ELITE VOCAL PROFESSIONAL.

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Background: Elite vocal performers face significant consequences for their career and well-being due to even minor vocal difficulties, highlighting the importance of maintaining vocal health and seeking appropriate treatment. Vocal nodules, small growths resulting from vocal strain and overuse, are common among professional voice users such as opera singers. These nodules can interfere with clear and powerful singing, causing hoarseness, roughness, and vocal fatigue, affecting an opera singer's ability to perform and maintain a consistent schedule. The Voice Handicap Indeks(VHI) is an important tool for evaluating the impact of voice disorders on patients' quality of life.

Aim: The aim of this report is to highlight the importance of conservative management in elite vocal professionals.

Case Report: A female opera singer(soprano) presented with vocal nodules and laryngopharyngeal reflux resulting in significant deterioration of her voice over the past two months and it has become impossible for her to perform shows. The patient reported feeling neck muscle tension and a lump in her throat, and also experienced great vocal effort after prolonged speaking. The patient does not smoke. She was assessed using a digital fiberoptic laryngoscope which revealed hard vocal nodules on a relatively wide base with moderate hyperemia of the interarytenoid and arytenoid mucosa. Objective voice analysis showed pathological values for FO, Jitter, Shimmer, and intensity, indicating moderate to severe hoarseness. Her VHI score was 65 which is considered a severe handicap. The patient received vocal hygiene recommendations, information on vocal issues, and was advised to pursue vocal treatment rather than surgery due to her profession.

Conclusion: Voice therapy for opera singers may involve improving vocal technique through breath support, vocal placement, and resonance. Proper treatment and vocal hygiene can help most opera singers with vocal nodules regain their full singing potential.

Key Words: Case Report; Elite Vocal Professionals; Otorhinolaryngology; Vocal Health; Vocal Nodules

LONG-TERM OUTCOMES OF 2-DAY TRAINING ON PLANNING AND WRITING RESEARCH ON PUBLICATION OUTPUT OF MEDICAL PROFESSIONALS: 11-YEAR COHORT STUDY

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ARE PARKINSON'S DISEASE PATIENTS REFERRED TOO LATE FOR DEVICE-AIDED TREATMENT?

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Background: Parkinson's disease (PD) is a common neurodegenerative condition with a chronic course divided into stages. The treatment of the condition is symptomatic and highly individualized. Due to the lack of clear guidelines, traditional oral and transdermal therapy is often unnecessarily prolonged resulting in lower efficacy of the treatment and patients' lower quality of life.

Literature Review: Assessment of advanced Parkinson's disease (APD) is mostly subjective and dependent on the clinician's personal judgement of the patient's condition. Even though the staging of the PD depends on the patient's expectations and demands regarding the effects of therapy, the clinician's judgement is still considered the gold standard of staging. Implementing screening tools for APD in clinical practice should contribute to more accurate assessment of the symptoms' severity. Moreover, treatment standardization is challenged by a lack of evidence-based guidelines regarding the device-aided treatment (DAT) in APD. Patients suitable for DAT were often overlooked or the recommendation came too late. Patient care should be optimized by defining the standard of care and maximizing the effect of conventional treatment options, but not unnecessarily prolonging them. Delayed referral for DAT also comes from poor patient and clinician education. Educational courses regarding advanced treatment options for APD are generally unavailable which contributes to the lack of motivation for further education about this issue. Early implementation of DAT could be greatly beneficial for some patients, not only helping with motor symptoms, but also with non-motor symptoms of PD.

Conclusion: Improving patient care should be an imperative, which calls for defining clear evidence-based guidelines for DAT in APD. Patient and clinician education starting from medical students is a logical first step in achieving improvement regarding the issue of delayed referral and poor recognition of patients who are suitable for DAT. Proper timing of introducing different therapy methods is crucial for the treatment's success.

Key Words: device-aided treatment; guidelines; Parkinson's disease; patient screening

MESENTERIC CYST – A RARE CAUSE OF ABDOMINAL PAIN IN MCBURNEY`S POINT AND PRESENCE OF NEED TO URINATE IN SITTING POSITION: A CASE REPORT

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Background: Mesenteric cysts are rare benign intra-abdominal tumors manifested with lack of specific symptoms with importance of diagnosis because of various complications associated with suboptimal surgical management.

Aim: To raise awareness about unusual manifestation of mesenteric cyst at unusual age.

Case Report: A 19-year-old male adolescent came to local ambulance due to throat pain and appearance of need to urinate but only while he is sitting. During physical examination his throat was hyperemic and abdominal painful resistance was palpated in suprapubic area. He was given Cefuroxim and probiotic due to suspicion of cystitis. After three days on control examination his throat pain was gone but abdominal pain was still present. During this physical examination, a painful resistance was palpated in McBurney`s spot. Further examination indicated ultrasound, which showed round formation size approximately 3.5 cm located above the bladder, para-aortal. Behind formation was present acoustic enhancement. The patient was referred to general surgery department, the appointment was scheduled for next week. But in the evening that same day the abdominal pain increased so he went to emergency room. The patient underwent computed tomography. CT confirmed presence of cystic formation in right lower quadrant probably corresponding to mesenteric cyst of small intestine. Due to findings patient was referred to the surgery intervention to remove the cyst.

Conclusion: Mesenteric cysts are very rare conditions but different abdominal symptoms due to cyst localisation and specific ultrasound findings should rise the suspicion of the abdominal cysts.

Key Words: adolescent; mesenteric cyst; need to urinate in sitting position; pain in McBurney`s spot

MONKEYPOX IN SERBIA, REVIEW WITH CASE REPORT

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Background: In the shadow of the COVID-19 pandemic – an epidemic of monkeypox appeared. Monkeypox was first isolated and identified in 1958 when von Magnus et al. found that crab-eating macaque monkeys were infected with this virus. Twelve years later, in 1970, 6 confirmed human cases were reported in the Democratic Republic of the Congo, Sierra Leone and Liberia (aged 9 months to 24 years). Monkeypox belongs to the zoonoses of the Orthopoxvirus genus, which also includes variola vera and smallpox. They are an endemic disease in Central and West Africa, dominantly represented in the Democratic Republic of the Congo. It was thought that transmission takes place through body fluids, contact with skin lesions, or respiratory, through droplets in contact with diseased animals. Although human-to-human transmission was thought to be limited, recent experience has disproved this.

Aim: After searching scientific papers on PubMed and the WHO website, the aim of this study was to explain monkeypox through a case report with reference to the literature, for a better understanding of the evolution and manifestations of the disease.

Case Report: The patient, 28 years old, was examined in the admission ambulant of the Health Center, two days after the first examination without a diagnosis by a general practitioner. The patient was admitted with developed acute symptoms (myalgia, malaise, as well as pronounced generalized lymphadenopathy). On admission without elevated body temperature. In addition to the above symptoms, manifestations were observed on

the skin – panaritium on the small phalanx of the left hand, as well as two maculo-papular lesions on the dorsal root of the penis. Laboratory blood analysis showed a viral infection (Leu $5.210 \times 9/l$, Lym 18.2%, or $0.910 \times 9/l$, CRP $< 5\text{mg/L}$), so the analyses were extended to include serological tests, and the patient was advised isolation. In addition, he was referred to the Clinic for Infectious and Tropical Diseases, to perform RT-PCR for Monkeypox virus. After an oropharyngeal swab, as well as swabs of skin manifestations, all samples were positive for the virus. The patient was advised symptomatic analgesic-antipyretic-anti-inflammatory therapy, vitamin therapy, treatment of skin changes with alcohol 70%, hydrogen 3% and povidone-iodide 10%, as well as the application of antiviral ointments. Panaritium was treated with drainage and local application of antibiotics. The patient's general symptoms subsided five days after the application of the therapy, and the changes epithelialized 22 days after the appearance.

Conclusion: A doctor should constantly improve himself, in order to recognize less common and prevalent pathology, especially if it is new at the given moment. The satisfaction is when, with his knowledge, effort, and commitment, he recognizes the disease, relieves the symptoms, because he has previously familiarized himself with the pathophysiology and picture of the described nosological entity. Therapy implies a quick and complex, as well as an adequate reaction of the doctor in terms of recognizing the disease, alleviating symptoms, and preventing the spread of infection.

Key Words: Case Report; Epidemic; General Practice; Monkeypox; Serbia; Skin manifestations

WHEN CHICKENPOX STRIKES YOUR EYES; CASE REPORT

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Background: Chickenpox is a very common childhood illness caused by varicella-zoster-virus (VZV). Most cases of chickenpox are self-limiting and resolve without complications, but there are some very rare neurological and ophthalmic complications that can occur, such as Adie syndrome (tonic dilated pupil) and keratouveitis.

Aim: Present the potential ophthalmic complications that can arise from VZV infection.

Case Report: A 6-year-old girl was presented with anisocoria and redness of the left eye. Her left pupil was in mydriasis (tonic pupil), with absent light reaction and reduced visual acuity. At the same time, the child was suffering from chickenpox and the eye symptoms started on the fourth day of the typical rash. Brain and orbit magnetic resonance imaging (MRI) was performed, due to anisocoria, and was considered normal. Ophthalmological examination confirmed keratouveitis due to redness in the affected eye. The diagnosis of Adie syndrome was made based on the presence of a tonic pupil, reduced visual acuity, and absent light reaction. The girl was treated with systemic acyclovir for 7 days and topical steroid drops with tobramycin in her affected left eye. Keratouveitis was recovered, but anisocoria was persistent with mild hypermetropia.

Conclusion: Adie syndrome is a rare, but important diagnosis to consider in patients with pupillary abnormalities and a history of viral illnesses, so common in young children. Prompt recognition and treatment of these conditions can prevent potential long-term complications and improve overall vision outcomes.

Key Words: Adie syndrome; anisocoria, tonic pupil; varicella-zoster virus.