UNIVERSITY CLINICAL CENTER TUZLA
BOSNIA AND HERZEGOVINA

ACTA MEDICA SALINIANA (Acta Med Sal)
Issued two times a year
ISSN 0350-364X
eISSN 1840-3956

Owned and published by
University Clinical Center Tuzla
Bosnia and Herzegovina
http://www.ukctuzla.ba

Acta Medica Saliniana Editorial Office
Assoc. Prof. Igor Hudić, M.D.
University CIinical Center Tuzla,
Trnovac bb, 75000 Tuzla
Bosnia and Herzegovina
URL: http://saliniana.com.ba
e-mail: igorhudic@ukctuzla.ba
phone: +387 35 303 400
fax: +38735

Printing office:
"Harfo-graf" Tuzla
TuraIibegova bb, 75000 Tuzla
Bosnia and Herzegovina
Tel: 00 387 35 319 500
Fax: 00387 35 319 501
URL: httpr//www.harfo-graf.ba
e-mail: harfograf.tz@gmail.com

Annual subscription rates:
Students 5.00 BAM
Individuals 24.00 BAM
lnstitutions 48.00 BAM
International 35.00 €

Registration at Federal Ministry of Science of Bosnia and Herzegovina
No. 04-15-5368/04 (14.12.2004.)
The paper is acid-free.
Date of print: November 2021
Circulation: 200

ACTA MEDICA SALINIANA

Official Medical Journal of the
University Clinical Center Tuzla
Tuzla, Bosnia and Herzegovina

Acta Medica Saliniana is published two times per year.
The journal is indexed/included in Scopus, Index Copernicus Master Journal List, EBSCO,
The Ulrich's Periodical Directory, Directory of Open Access Journals, Open J-Gate, ProQuest, Google Scholar.

For online version of the journal and online manuscript submissions see
http://saliniana.com.ba

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12th annual Days of BHAAAS in Mostar 2021, Bosnia and Herzegovina

In Mostar and Herzegovina, a long tradition of scientific research has contributed to a respectable level of healthcare in the whole region. There are generations of domestic and foreign experts and scientific research workers who have followed the world's newest trends in medical development and its rapid application in medical practice. There are many of those who lived with dedication in applying new knowledge in Mostar's health care practice that served as examples for others.

We only mention some of them:

Dr. Safet Mujic:"Health care services for all citizens provided under the same conditions" period before 2 October 2013. World War II.

Dr. Lovro Dojmi:"Eradication of malaria, lues and other infectious diseases" from 1931 to 1965.

Dr. Gavrilovic Mirko: Founder of antituberculosis dispensary for tuberculosis eradication" from 1946-1960.

Dr. Muhamed Mahic: "The application and use of diagnostic therapeutic programs in Internist Practice" who still lives today at the age of 101.

Prof. Dr. Arif Smajkic

Dr Muhamed Mahić 1920 –
He is highly recognized, in the hall of fame of medicine of Mostar inducted clinician, diagnostician, internist who is in high demand and the one who successfully treated many generations of the citizens of Mostar, his peers have been looking up to.

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We are very grateful to many friends and colleagues who helped organizing Dani 2021 in Mostar and those who helped editing and preparing AMS Supplement : Director of the Gymnasium Mostar Mr. Haris Idriz, Director of the Cultural Center Mostar Mr. Senad Suljic, Mahira and Semir Tanovic, our new team that prepared and edited abstracts , Dr Nina Jovanovic, Dr Maida Kalabic and Dr Anis Cerovac, always very supportive, helpful and amazing friend and member Prof. Dr. Samir Avdakovic , Prof. Dr. Igor Hudic and last but not the least Prof. Dr. Ermina Ilijazovic.

See you all soon.

Amer Smajkic

Abstracts Presented at the American Academy of Arts and Science 12th Days of the Bosnian-Herzegovinian American Academy of Arts and Sciences (BHAAAS)

ACTA MEDICA SALINIANA

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Volume 51 · Supplement 1 · Year 2021

ACTA MEDICA SALINIANA

PRIMARY HEALTH CARE

ENDOVASCULAR REPAIR OF ACUTE AORTIC DISSECTION

IGOR KONCAR

[1]University of Belgrade, School of Medicine, Clinic for Vascular and Endovascular Surgery

Igor Koncar[1]

Acute aortic dissection (AAD) that extends in thoracic aorta bare high risk for complications in terms of rupture or malperfusion (brain, spinal cord, extremities, visceral and kidneys). Patients presented with these complications require immediate treatment and life/limb salvage. On the other side AAD of thoracic aorta that present without clinical manifestation of rupture of ishemic complication might develop such a complication during hospitalization or afterwards during follow up. Almost 30% might encounter such a complication and 2-10% could have lethal outcome. Implantation of stent graft (TEVAR) usually covers entry tear of AAD and transfer blood perfusion in true lumen preventing malperfusion or rupture and stimulating aortic remodeling.
Performing TEVAR increases risk of complications if performed in the first two weeks once AAD is in acute phase. On the other side acute phase bring most frequent complications as natural outcome of the disease. Controversy is even deeper once realizing that due to location of primary entry tear implantation of stent graft frequently demands covering at least one of the supraaortic branches and in 20% or more both left subclavian and left carotid artery should be covered requiring extraanatomic reconstructions. Once implanted in thoracic aorta endovascular stent graft prevents malperfusion or rupture and induce remodeling of thoracic and abdominal aorta. Process of aortic healing, remodeling, prevents further increase in aortic diameter and subsequent rupture.
Patients with AAD with performed TEVAR or not should be thoroughly followed in order to prevent timely disease or stent graft related complication. Still TEVAR provide successful treatment of complication of AAD or its' prevention. Multislice computed tomography and clinical presentation are most frequently decision-making parameters.

Key words: Aortic dissection, endovascular repair, vascular surgery

FAMILY, COMMUNICATION, AND MEDICINE IN TIMES OF COVID

HAJAT AVDOVIC

[1]Northwell Health

Hajat Avdovic[1]

Even though healthcare has seemed to be the only constant during a world wide pandemic, health care providers within the field have noted one big change as a result of the pandemic: communication. The purpose of this workshop will be to share my experiences as an inpatient and outpatient provider during the pandemic and highlight how medical decision making, communication with patients and most important communication with patients' families has greatly affected how we practice. It is to highlight how family medicine physicians and primary care physicians are best trained to recognize these changes and alleviate them in the changing landscape of American medicine.
We will soon be entering a world in healthcare that will be known as pre-COVID and post-COVID healthcare world. Working through this transition, primary care physicians have had to adapt very quickly to the changing landscape of doctor patient relationships. Realities such as quarantine, isolation, visitation restrictions, language barriers, have all made being a patient during COVID a much more frightening task. It is important to open

the floor, share our personal experiences on how we learned to adjust to this to provide the best most complete care for our patients, one that places communication at the center of our healing process. Overall, I will be happy to share my very vivid experiences on the first wave of COVID hospitalizations and deaths, as well as my adjusted world now as an outpatient provider and the difficulties of not having family members come for patient visits with a "FAMILY" doctor.

Key words: Family medicine, communication, covid19, primary care

PATIENT EDUCATION

ELDINA NIZAMIC

Eldina Nizamic[1]

Patient education is an integral part of primary care practice. Good communication skills are essential for establishing a physician-patient partnership, which is key to effective and safe healthcare delivery.

It promotes patient-centered care and increases adherence to medication and treatments. An increase in compliance leads to a more efficient and cost-effective healthcare system. The use of quality educational materials and the assistance of office personnel will help the physician provide effective patient education in the office setting. Such education is one component of a quality medical care program for the entire family and reduces complications related to the illness.

Key words: patient education

TELEHEALTH: WHAT HAVE WE LEARNED?

HAJAT AVDOVIC

1Northwell Health

Hajat Avdovic[1]

One of the most significant changes in healthcare that came as a direct result of the COVID pandemic has been the birth, and quick integration and adoption of telemedicine and telehealth. This presentation seeks to take apart and present the reasons behind such quick integration, its usefulness, and then also open the floor for discussion about its perils. I would like to learn more about telemedicine and its appeal or lack thereof in Bosnia itself and learn from colleagues in Bosnia and share our collective experiences as primary care physicians in the United States.

Within weeks of the COVID pandemic and world wide shut down, multiple health systems had adjusted to the economic and financial burden and caved to establishing telehealth systems both for profit and patient accessibility. Multiple platforms were created from telephone visits to video calls, to Zoom, Facetime, Doximity. In fact, the COVID19 pandemic had accelerated this digitalization of medicine in the United States which has now led to academic conference calls instead of in person, Zoom specialist consultations, isolation check ins for patients, and sadly, dying moments of patients and family members spent on digital screens instead of in person.

Overall, I would like to share my experience with all aspects of this new digital and telehealth stage in the United States. I will speak on my own positive and negative experiences and open the floor for suggestions for improvement and understanding how we can also harness it for the betterment of our patients.

Key words: Primary care, telehealth, communication, covid19, digital medicine

HYPOMAGNESAEMIA

MARIJANA JANDRIĆ-KOČIĆ, ANELA ŠABANOVIĆ

Marijana Jandrić-Kočić[1], Anela Šabanović[2]

Introduction:

Magnesium is the fourth most common cation in our body. The body of an adult human contains about 25 g of magnesium. It is implanted in the bone 50% to 60%, in the soft tissues about 40%. The recommended daily intake is 420 mg for adult men and 320 mg for adult women. Hypomagnesaemia occurs as a result of insufficient intake or poor absorption of Mg, or increased excretion as a consequence of hypercalcemia or the use of drugs.

Objective / Methods:

The paper is a review of the literature in accordance with the guidelines of the Cochrane Handbook for Systematic Examinations and Interventions on the cause, diagnosis and therapy of hypomagnesaemia.

Results:

Magnesium deficiency has a vasoconstrictive effect (disrupts the function of sodium potassium adenosine triphosphatase in cardiac and smooth muscle cells, stimulates the vasoconstrictor effect of angiotensin II and catecholamines), proaterogenic, hinders the release of nitric oxide stimulants and impairs renal function (leads to edema of the tubular epithelium, deposition of apatite crystals in the proximal spiral tubules, Henle's loop and collecting tubules). It stimulates glutamate-induced depolarization of neurons, increases presynaptic release of neurotransmitters, causes tremor, fasciculations, painful muscle spasms in the arms and legs, generalized spasticity, depression, confusion, anxiety, hallucinations, athetoid movements and death, convulsions, convulsions. Mild hypomagnesaemias are treated with oral magnesium supplements, while parenteral magnesium supplementation is indicated if serum magnesium concentrations fall below 0.5 mmol / L or severe symptoms occur. Conclusion: Magnesium deficiency can result in mild clinical symptoms but also serious health problems. Knowledge of predisposing factors and clinical characteristics of hypomagnesaemia prevents serious health disorders and reduces treatment costs.

Key words: magnesium, reduction, cause, diagnosis, therapy

TREATMENT OF Q FEVER ENDOCARDITIS

JASMINA KOVČIĆ SUMAN, EMIR MUJANOVIĆ, SUAD KERANOVIĆ, ELMIR JAHIĆ, ALEN HAJDAREVIĆ, SELVETA AVDIĆ, EDIS SALIHOVIĆ

1Medical Institute Bayer Tuzla

Jasmina Kovčić Suman[1], Emir Mujanović, Suad Keranović, Elmir Jahić, Alen Hajdarević, Selveta Avdić, Edis Salihović

Objective of this article is to present the rare case of Q fever endocarditis, caused by Coxiellaburnetii, it's specific manifestations and treatment. Commonly believed to be a rare disorder, it has been estimated to account for up to 5% of all endocarditis cases worldwide. It occurs almost exclusively in patients who have preexisting valvular disease or who are immune compromised, it is fatal in 25% to 60% of patients. Unlikely typical cases of endocarditis, the clinical presentation of chronic Q fever is often nonspecific. In our case patient didn't have any preexisting valvular disease, but had many complications caused by Coxiella burnetii. Q fever endocarditis lacks many of the usual clinical and echocardiographic features common to typical cases of endocarditis. As such, the diagnosis is often significantly delayed or even missed, resulting in significant morbidity and mortality.
With prompt antimicrobial treatment and valvular surgery survival is significantly increased.

Key words: Q fever, Endocarditis, Coxiella burnetii

THE IMPORTANCE OF BYSTANDERS INVOLVEMENT IN TREATMENT OF OUT-OF-HOSPITAL CARDIAC ARREST

ADEM ZALIHIĆ, AIDA GAVRANOVIĆ, EMINA RIBIĆ, ARMIN ŠLJIVO

1Emergency medical centre of canton Sarajevo, Sarajevo, Bosnia and Herzegovina

Adem Zalihić[1], Aida Gavranović[1], Emina Ribić[1], Armin Šljivo[1]

Background.:

Sudden cardiac arrest as an abrupt loss of heart function, breathing and consciousness, causes around 20% of all deaths in Europe, with survival rates of only 5-20% if left untreated. The average ambulance response time in out-of-hospital cardiac arrest (OHCA) is 5 to 8 minutes during which patient survival highly depends on bystanders' cardiopulmonary resuscitation (CPR) and availability of Automated External Defibrillator (AED).

Aim:

The aim of this study was to explore the rate of bystanders' CPR and the use of available AEDs in Canton Sarajevo and knowledge, attitude and practice (KAP) of general population about Basic Life Support (BLS) measures

Methods:

A retrospective descriptive study was conducted, consecutively including all OHCA events occurred between January 1st 2015 – December 31st 2019 in Canton Sarajevo. Furthermore, questionnaire consisting of 30 BLS questions was shared on social media in order to explore general population KAP in Canton Sarajevo.

Results:

From total OHCA cases (n=1274), 96.54% CPR measures have been provided by Sarajevo Emergency Medical Service and only 3.46% by bystanders with no recorded use of AED. The vast majority 76.5% of respondents hasn't given CPR measures in OHCA and 93.5% of them are willing to completed BLS training in order to be prepared if needed.

Conclusion:

Results of this study indicate that there is a great need for education of the general population in BLS in order to achieve timely, responsible and competent action of the bystanders that would significantly reduce mortality rate in OHCA.

Key words: Cardiopulmonary Resuscitation, Automated External Defibrillators, Basic Life Support

TOXIC EFFECTS OF ALCOHOL EXCESSION AND RISK REDUCTION STRATEGIES

MARIJANA JANDRIĆ-KOČIĆ, BENJAMIN MUHAMEDBEGOVIĆ

1Dom zdravlja Krupa na Uni
2Agencija za razvoj visokog obrazovanja i osiguranja kvaliteta Bosne i Hercegovine
3Univerzitet u Tuzli, Tehnološki fakultet Tuzla

MARIJANA JANDRIĆ-KOČIĆ[1], BENJAMIN MUHAMEDBEGOVIĆ[2,3]

Background:

In Bosnia and Herzegovina, alcohol consumption is a socially acceptable activity favored to the level of a mandatory ritual in many social situations.

Aim, Methods:

The study is a review of the literature in accordance with the guidelines of the Cochrane Handbook of Systematic Reviews and Interventions on the harmful effects of excessive alcohol consumption.

Results:

Excessive alcohol consumption is an important public health problem. Alcohol is a risk factor for 60 different medical conditions, while more than 4% of diseases are directly related to consuming the same. It contributes to the development of cardiovascular diseases, reduc-

es reproductive ability and disrupts hormonal regulation. It plays a significant role in the development of many cancers. Excessive alcohol use is a significant risk factor for psychiatric disorders. It affects unintentional and intentional accidents and injuries, including traffic injuries, violence, criminal behavior and an increased risk of suicide. Significantly reduces working capacity, affects absenteeism and unemployment. Alcohol consumption in pregnancy causes physical, behavioral and cognitive abnormalities in children.

Conclusion:

The scale and multidisciplinary nature of the problem of excessive alcohol consumption requires the adoption of relevant national policies in the field of prevention of alcohol use and alcohol-related disorders. Its implementation requires joint action by state authorities, judicial institutions, the health system, local communities and other stakeholders.

Key words: Alcohol, intoxication, prevention

EXCESSIVE USE OF CALCIUM AS A RISK FACTOR FOR CARDIOVASCULAR DISEASES

MARIJANA JANDRIĆ-KOČIĆ1, SENADA SELMANOVIĆ2

1JZU Dom zdravlja Krupa na Uni
2JZNU Dom zdravlja "Dr Mustafa Šehović" Tuzla

Marijana Jandrić-Kočić[1],
Senada Selmanović[2]

Background:

Calcium is the most abundant mineral in the human body that participates in building bones and teeth, transmitting nerve impulses, intracellular signalling, hormone secretion, muscle contraction, coagulation, ensuring normal heart rhythm and physiological values of blood pressure.

Aim, Methods:

The study is a review of the literature in accordance with the guidelines of the Cochrane Handbook of Systematic Reviews and Interventions on the harmful effects of excessive use of calcium on the cardiovascular system.

Results:

High values of calcium in serum induce reprogramming and differentiation of smooth muscle cells in the osteoblast - like phenotype, translocation of pro hypertrophic transcription factors of cardiomyocytes, compromise of diastolic relaxations of the myocardium and necrosis of its contraction, subtraction of the contractile phenomenon, calculus intoxication. Chronic consumption of excessive concentrations of calcium predisposes to atherosclerosis and calcification of blood vessels, heart attack and stroke, hypertrophy and heart failure, and heart rhythm disorders.

Conclusion:

There is a need to strengthen the responses and role of the health system in informing the public about the side effects of excessive calcium consumption, limiting the broad prescribing of supplements, as well as a possible comprehensive reassessment of the same.

Key words: calcium, damage, cardiovascular

CASE REPORT: THE FIRST PSYCHOTIC EPISODE OF A THIRTEEN YEARS OLD PATIENT

prim.mr.sci. dr. NERMINA ČURIČIĆ-HADŽAGIĆ, SANINA KRUŠKO, AMINA MAMELA

1Medicinski fakultet, Univerzitet u Sarajevu

prim.mr.sci. dr. Nermina Čuričić-Hadžagić[1]
Sanina Kruško[1], Amina Mamela[1],

Background:

Psychotic episode is characterized by behavioral, perceptional and judgmental symptoms. It takes part in numerous syndromes, including schizophrenia. Clinical practice has shown that most cases of psychotic episodes turn into schizophrenia, especially when the first one occurs in childhood.

Aims

The aim is achieving and maintaining remission, thus lowering chance of it progressing into schizophrenia.

Methods:

Female patient, 13-years old was admitted in the department of Child's psychiatry as her first admission. According

to the heteroanamnestic information of her following, patient started to change in the last year and a half. She was nervous, had impulsive, aggressive reactions, decreased concentration and mood, avoiding school obligations with suicidal behavior. She stated hearing female voice „by the ear ", claiming, „ she was ugly and should kill herself ". She stated she „could not look in the mirror because she did not like what she saw ". Reportedly, her cousin had schizophrenia and committed a suicide. During the hospitalization Olanzapine tablets were prescribed.

Results.:

The patient is now admitted to the day hospital for further treatment and is still monitored. Improvement after hospitalization is noted.

Discusssion. We decided to analyze the first psychotic episode in order to emphasize the importance of early recognition as well as the adequate therapy. Unfortunately, a large number of studies show that schizophrenia develops over time, especially with a positive genetic background. Early recognition may be used then as a valuable prognostic factor. Continuous reassessment and long-term follow-up are needed to clarify and confirm the diagnosis.

Key words: psychotic, episode, schizophrenia, olanzepine.

INDIVIDUAL AND COLLECTIVE ETHICS IN PUBLIC HEALTH

ZORAN TODOROVIĆ

1Medical Faculty, University of Belgrade

Zoran Todorović[1]

Objective:

The concepts of individual and collective ethics, essential in addressing many contemporary Issues in bioethics, were coined by statisticians in the early 1970s (Pocock and Palmers). In the further discussion, we will focus on the topic that Bavelier, Savulescu et al. (2019) defined as "Rethinking Human Enhancement as Collective Welfarism" and its application in biobank design, emphasizing the connection between individual ethics and collective projects (Williams, 2005).

Topic Review:

The working group convened by the World Economic Forum as a Global Futures Council concluded that "the goal of Human enhancement technologies (HETs) should be to enhance the quality of life and well-being, not just for individuals but also for the communities they participate in, applying principles of equity and social cohesion ". Different aspects of enhancement are refracted through the same prism of the individual and the collective, e.g., autonomy, informed consent, competence, and the inherent value of research in the field of HETs. Examples of such ethical dichotomy are biobanks. The individual aspect (e.g., donor autonomy and confidentiality of the information) can be found in sharp contrast to commercialization and the use of collected data in general. Respect for donor autonomy and data confidentiality are challenging to maintain in the time continuum in which information for biobanks is collected, processed, and used. Finally, the critical issue is the ownership of the biological samples and data.

Conclusion:

It remains to be clarified how this ethical dichotomy will affect the legal matters in biobanking and public health.

Key words: public health ethics, bioethics, biobanks

MACROPROLACTIN, DISCREPANCIES IN DIAGNOSIS AND TREATMENT OF HYPERPROLACTINEMIA

EMINA ARNAUT, ENISA MURATOVIĆ

1Canton Hospital Zenica, Department of biochemical and immunological diagnostics, B&H

Background:

Human prolactin is a linear polypeptide with a molecular weight of 23 kD. Prolactin in human serum can also be found in a form of tetramer, the so-called macroprolactin(the molecular weight of

2Public medical center, Department of family medicine, Zenica,B&H

Emina Arnaut[1]
Enisa Muratović[2],

which is >150kD), which is not biologically active in vivo. Immunochemical assays for measuring prolactin show different sensitivity for detection of macroprolactin, which may lead to the so-called pseudo-hyperprolactinemia (macroprolactinemia)

Aim:

Test the sensitivity of VITROS ECIQ Immunodiagnostics System to macroprolactin.

Material and Methods:

In March, April, and May 2018 the cross-sectional study was conducted at the Biochemical and Immunological Diagnostics Department of Cantonal Hospital Zenica using serum samples(n=35) taken from female patients suffering from hiperprolactinemia. The clinical evaluation was conducted through the Endocrinological Counselling Clinic. The Vitros ECIQ Immunodiagnostic System was used technique, and the reference range for women is 64-395 mIU/L.

Results:

The average value of concentrations of prolactin measured in native samples was 967 mIU/L statistically speaking it was significantly higher than a concentration of prolactin measured in supernatant 713 mIU/L(p<0,001). By examining dependency between the condition/diagnosis and prolactin measuring method(directly or polyethylene glycol 6000 precipitation) it has been determined that 11,1%(n=4) of our group was macroprolactinemia (p=<0,05).

Conclusion:

The difference between hyperprolactinemia and macroprolactinemia cannot be proved only on the basis of the patient's clinical picture. Introduction of screening test against macroprolactin in hiperprolactinemic cases is a result of good laboratory practice and shouldn't be overlooked.

Key words: prolactin,macroprolactin, hyperprolactinemia, precipitation

HERBAL PREPARATIONS AND SUPPLEMENTS TO SUPPORT ARTHRITIS TREATMENT

LEJLA DEDIĆ, MELISA IMŠIROVIĆ DEDIĆ, ZUMRA HODŽIĆ, NEJRA HODŽIĆ

1PhD Student at Josip Juraj Strossmayer University of Osijek, Faculty of Food Technology, Croatia
2Medical doctor, JZU Dom zdravlja Srebrenik, BiH
3Medical doctor, JZU Dom zdravlja Lukavac, BiH
4Medical Center Plava Poliklinika, Tuzla BiH

Lejla Dedić[1], Melisa Imširović Dedić[2], Zumra Hodžić[3], Nejra Hodžić[4]

Objective:

The aim of the review is to collect and analyze available data on herbal preparations and dietary supplements that may serve as a support to the arthritis treatment.

Topic:

Estimated 54 million people across the globe live with arthritis. The most common types are infectious, rheumatoid and osteoarthritis. Elderly are the most affected, but rheumatoid arthritis affects people in their most productive years, between 20 and 40 years of age. Medical treatment of the disease relies on anti-inflammatory drugs, often corticosteroids, antibiotics, as well as various measures of physical medicine. Herbal preparations and dietary supplements are less commonly used. Herbal preparations showing the largest potential are based on willow, cimicifuga, nettle, labelia, red pappers and lately turmeric. From dietary supplements, antioxidants can have positive effects (vitamins C and E, minerals zinc and selenium), vitamins thiamine and pyridoksin, chondroitin, glucosamine, collagen, hyaluronic acid and others. Many food ingredients can have anti-inflammatory effects, from salicylic acid, omega-3 fatty acids, karvakol, timol, polyphenols and flavonoids (from berries). Therefore, appropriate combination of foods and meal planning could ameliorate the symptoms and arthritis progression.
Conclusion: Though the medical treatment remains the first choice, various herbal preparations and dietary supplements along with the right choice of food could serve as supporting strategy to relieve the symptoms and influence progression of the disease.

Key words: arthritis, herbal preparations, dietary supplements

POST COVID SYNDROME

VEDKA BEGOVIĆ, MD

Scripps Clinic and
Green Hospital,
La Jolla, CA 92037

Vedka, Begovic, MD

During the past year, the SARS-CoV-2 pandemic has resulted in more than 113 million people infected and 2.5 million deaths. However, the long-term consequences of the pandemic, specifically with regards to individuals who have recovered from the acute infectious processes, has yet to be determined. Currently, there is no agreed upon definition for the heterogenous disease manifestations that occur after acute SARS-CoV-2 infection, with multiple terms used to characterize these conditions including post-COVID condition or syndrome, long COVID, and long-haul COVID.

The article is a systemic review of the currently published literature on post-acute Covid-19. The aim of the article is to help primary care clinicians get an understanding of the pathophysiology of post-acute Covid and recognize symptomatology of persistent clinical manifestations.

Patients and clinicians have documented a diverse range of multisystem symptoms such as fatigue, cognitive dysfunction, and pain occurring in patients of all ages. However, much work remains to be done to fully document the epidemiology, clinical spectrum, risk factors, and natural history of this condition.

While full identification and characterization of post-COVID syndrome and long-term consequences for the patients and health system is ongoing, recognizing symptoms and implementing a multidisciplinary and holistic approach to treatment is crucial to minimize potential sequalae.

Key words: Post- acute COVID Multi-organ disease Syndrome

USE OF MOBILE APPLICATIONS FOR MONITORING THE LEVEL OF PHYSICAL ACTIVITY ON THE URRENCE OF POSTURAL IMBALANCES

NATAŠA MILENOVIĆ, ALEKSANDRA RACA, BUDIMIR POPOVIĆ, JELENA ZVEKIĆ-SVORCAN, DUŠANKA TEŠANOVIĆ

1Faculty of Medicine, University of Novi Sad

Natasa Milenovic1, Aleksandra Raca1, Budimir Popovic1, Jelena Zvekic-Svorcan1, Dusanka Tesanovic1

Background:

Mobile devices have revolutionized the way people take care of their health thanks to mobile health monitoring applications. According to surveys of mobile device manufacturers, it is claimed that as many as 58% of all smart phone users have downloaded a health-related application. Aim: To determine the impact of the use of mobile applications for monitoring the level of physical activity in order to prevent the occurrence of postural imbalance of students.

Methods:

The study involved 68 students with some form of postural imbalance who filled out a specially designed questionnaire on the use of mobile applications (pedometer, myfitness pall, etc.) to monitor the level of physical activity.

Results:

It was found that all respondents used smart phones. Students rated their health as very good in 58.9%, good in 20.5% and poor in 20.6% of cases. A difference (53.1% versus 46.9%) was observed, which was statistically significant (p 0.003) in respondents who use one of the mobile applications for monitoring the level of physical activity in self-assessment of health and monitoring the level of physical activity. A statistically significant correlation was observed (r = 0.87, p 0.004), which indicates that a more intensive use of mobile applications leads to better self - assessment of health.

Conclusion:

The use of mobile applications for monitoring the level of physical activity leads to an increase in the level of physical activity and a better self-assessment of health, which increases awareness of one's own health and reduces the possibility of postural imbalances.

Key words: mobile application, health self-evaluation, postural disbalance, physical activity

REHABILITATION OF SEVERE SENSORIMOTOR POLYNEUROPATHY IN PATIENT WITH COVID-19 – CASE REPORT

ENA HUMAČKIĆ JUKIĆ, INES BOŠNJAK, MLADENKA NALETILIĆ, DAVOR BATINIĆ, JELENA SOLDO

1Physical Medicine and Rehabilitation Clinic, University Clinical Hospital Mostar
2Clinic of Neurology, University Clinical Hospital Mostar

Ena Humačkić Jukić[1], Ines Bošnjak[1], Mladenka Naletilić[1], Davor Batinić[2], Jelena Soldo[1]

Aim:

To report the clinical course of sensorimotor polyneuropathy as a peripheral nervous complication in a patient with severe COVID-19, and to discuss possible modalities of physical therapy and rehabilitation.

Case report:

A 69-year-old man was admitted to the COVID-19 department of Infectious Diseases Clinic with clinical and radiological deterioration due to bilateral COVID-19 pneumonia and consequent respiratory failure. On the 24th day post onset of symptoms, the patient developed a subjective feeling of numbness of the dorsal area of both feet, dominantly right, and experienced difficulties walking and leaning on the same heel. Clinical examination showed significant weakness of the right foot and ankle dorsiflexors, as well as bilateral lower limb sensory impairment, presented as the „stocking pattern" hypoesthesia. The analysis of the electromyoneurographic findings revealed severe axo-

nal sensorimotor polyneuropathy with predominant affection of the right peroneal nerve. In addition to the prescribed peroral alpha-lipoic acid therapy, intensive physical therapy treatment was also initiated. During his eighteen-day stay in the Clinic for Physical Medicine and Rehabilitation, the patient was treated with combination of kinesi- and electrotherapy. Upon completion of the rehabilitation process, the recovered patient was discharged with an almost complete regression of the previously described neurologic symptoms.

Conclusion:

There is a growing body of evidence which speaks in favor of the multisystemic nature of the novel coronavirus, including its neuropathological effects. As the neuromuscular sequelae of this disease are growing proportionally to numbers of cases, adequate physical therapy treatment and rehabilitation of these patients is of utmost importance.

Key words: COVID-19, SARS-CoV-2, peripheral neuropathy, peroneal nerve palsy

REGENERATIVE AND REHABILITATION MEDICINE- MERGING SCIENCES FOR BETTER FUTURE

SUAD TREBINJAC

1Czech Rehabilitation Hospital, Al Ain - Medical Director, Al Garhoud Hospital and FIFA Medica Center of Excellence, Dubai-Consultant in in PM&R

Suad Trebinjac[1]

Objective:

Regenerative medicine becomes the most promising medical discipline in the last several decades. The impression that application of stem cells and other regenerative substances (growth factors, cytokines, exosomes.) can re heal the impaired tissue and restore the function, bring together scientists' clinicians, and commercial stakeholders. It offers hope to patients suffering chronic, incurable conditions.

Topic review:

There is accumulating evidence that physiotherapy modalities might have a cellular effect, enhancing the therapeutic outcome of regenerative medicine. Both, regenerative and rehabilitation medicine are function-oriented and not bound to certain medical fields. It is hypothesized that the application of therapeutic interventions to repair damaged tissue and to replace impaired cells in combination with exercises and other functional-oriented modalities present an ideal combination for leveraging therapeutic outcome. The presentation will focus on the definition and clinical application of mesenchymal stem cells in the management of muscular-skeletal conditions. Potential sources of stem cells, processing, and clinical application will be described in detail. The safety profile will be elaborated, emphasizing the absence of serious adverse reactions and immunologic rejections. The role of exercise, extracorporeal shock wave, and electrical stimulation in the enhancement of the therapeutic effect of stem cells will be described by documenting the clinical evidence.

Conclusion:

Finally, the future of regenerative medicine merged with rehabilitation practice will be defined through the activities of the International Consortium for Regenerative Rehabilitation inaugurated at the University of Pittsburg in 2014.

Key words: regenerative medicine, rehabilitation, clinical practice

PRESENCE OF LOW BACK PAIN IN HEALTH WORKERS

MILENA KOVAČEVIĆ, DRAGANA VUKLIŠ, ALEKSANDRA MIKOV, JELENA ZVEKIĆ-SVORCAN, RASTISLAVA KRASNIK, JARMILA LAČOKOVA KRASNIKOVA

1University of Novi Sad, Faculty of Medicine Novi Sad
2Institute of Child and Youth Health Care of Vojvodina, Novi Sad
3Special Hospital for Rheumatic Diseases Novi Sad
4Health Center "Bač", Bač

Background:

Due to the high frequency of low back pain (LBP) among healthcare workers and the upward trend, this issue is a significant socioeconomic and public health problem.

Aim:

The aim of this study was to examine its occurrence, as well as the factors associated with the presence of LBP among workers in primary health care.

Milena Kovačević[1], Dragana Vukliš[1], Aleksandra Mikov[1,2], Jelena Zvekić-Svorcan[1,3], Rastislava Krasnik[1,2], Jarmila Lačokova Krasnikova[4]

Methods:

A prospective cross-sectional study was conducted in the period between June 1 and 15, 2020 and included 30 respondents of both sexes employed at the Health Center in Bač, Serbia. The influence of gender, age, professional qualification and years of work experience on the presence of LBP was analyzed, measured by the Roland-Morris disability questionnaire (RMDQ). EZR statistical software was used for statistical analysis.

Results:

In the examined sample (n = 30; female 86.7%), the average age of the respondents was 47 ± 12.9 years, and the average work experience was 24 ± 12.9 years. Current LBP was reported by 15 (50%) subjects, and in most of them (9 (56.3%)) the duration of pain was longer than 12 weeks. No statistically significant differences were found between men and women in the RMDQ score, nor between respondents with secondary and higher education. There is no statistically significant correlation between subject age and RMDQ score, nor between years of experience and RMDQ score.

Conclusion:

Due to the increasing presence of back pain (LBP) in health professionals, it is necessary to identify and further analyze risk factors, as well as to take prevention strategies.

Key words: back pain; health workers; RMDQ

OCCUPATIONAL THERAPY IN LUMBAR SYNDROME

JELENA CVIJANOVIĆ, DEVEČERSKI GORDANA

1School of Applied Medical Sciences, Prijedor, Bosnia and Herzegovina
2Faculty of Medicine, University of Novi Sad, Clinical Center of Vojvodina, Clinic for Medical Rehabilitation Serbia

Jelena Cvijanović[1], Devečerski Gordana[2]

Introduction:

Pain in the lower back is one of the most common problems nowadays and the most prevalent cause of absence from work. It is accompanied by reduced work ability and the need for adequate medical rehabilitation. Purpose Occupational therapy as one of the therapies within medical rehabilitation has an important role in the treatment of lumbar syndrome.
Appropriate ergonomic measures need to be taken to align work requirements with physical capability of a person.

Methods:

In patients who have back pain and/or leg pain, physical therapy procedures are performed, but all the patients are included in occupational therapy. Within the therapy, at the beginning and in the end (there were 15 of them) ergonomic education was included. The patient is advised: not to bend forward or turn torso with legs outstretched; not to lift objects from the floor in semi-bent position; not to stand long in one position; not to sit long in a chair; to perform personal hygiene in bent position, about proper positioning in bed and more.

Results:

After conducting ambulatory rehabilitation treatment we found that the patients adopted the given ergonomic advice. They are trained in them and are aware of their importance in daily work and life activities.

Conclusion:

Patients with lumbar syndrome recover and become painless by undergoing the appropriate rehabilitation treatment. Applying the protective attitude and following the given ergonomic advice at home and at work significantly reduces the occurrence of new deterioration.

Key words: ergonomic education, protective attitude, lumbar syndrome

PAIN MANAGEMENT IN MUSCULOSKELETAL DISORDERS

GORDANA DEVEČERSKI

1Faculty of Medicine, University of Novi Sad, Clinical Center of Vojvodina, Clinic for Medical Rehabilitation, Serbia

Gordana Devečerski1

Objective:

Musculoskeletal disorders are global problem, gaining more and more prevalence in daily clinical practice, so it is very important to establish early diagnostics and apply multimodal treatment methods. Every 4th person worldwide has musculoskeletal problems and similar situation is in our country. There are several factors that influence increased prevalence, like aging, obesity, physical inactivity, sedentary lifestyle, that are very common nowadays.

Topic Review:

With the prompt and adequate treatment, including patients' education, we can prevent progress of acute pain to a chronic pain, with all the consequences that chronic pain can bring to the level of quality of life and financial aspect. Adequate preventive and therapeutic treatment can reduce long term consequences in biopsychosocial aspect. In the management of musculoskeletal pain, we can use pharmacological and non-pharmacological treatment methods, including physical medicine and rehabilitation modalities that can be combined. Methods and procedures of complementary medicine have been officially approved, specifically in combination with existing methods it can give a significantly better effect than applied alone. Multimodal analgesia, with different mechanisms of action, leads to better outcomes in pain relief in patients with musculoskeletal disorders.

Conclusion:

Mainly, it is necessary to combine pharmacotherapy with other therapeutic methods of physical medicine and rehabilitation, but also with methods of complementary medicine. Treatment selection should be holistic and individualized as per patient's needs and response.

Key words: musculoskeletal disorders, pain therapy, physical therapy

OCCUPATIONAL THERAPIST IN PEDIATRIC REHABILITATION TEAM

EMIRA ŠVRAKA

1University of Sarajevo, Faculty of Health Studies
2Cerebral Palsy Association of Federation of Bosnia and Herzegovina

Emira Švraka[1,2]

Objective:

Rehabilitation procedures include multiple, simultaneous interventions focused on the consequences of injury or illness (biopsychosocial model). Teamwork is the gold standard in pediatric rehabilitation and represents the implementation of complex professional tasks that require knowledge in various medical fields. The goal of occupational therapy is to encourage maximum functional independence regardless of the type of disability. The goals are achieved through the improvement of overall functioning, regardless of the lack of specific abilities or constituent skills.

Topic review:

There are different approaches in re/habilitation treatment of persons with cerebral palsy (CP), especially children and adolescents. The treatment of children with spastic CP is a combination of intensive sensorimotor stimuli, physical therapy, occupational therapy, Vojta therapy, orthopedic procedures and/or botulinum toxin applications, as child/family centered management. It is necessary to focus on the main functional skills that are often and repeatedly applied, through a developmental, functional and environmental approach.

Conclusion:

Occupational therapists are members of the team for early intervention, functional communication, individualized educational program, programs and services for children with psychosocial disorders, for accessible housing, education of family members and functional training, for the implementation of sensory integration therapy, play therapy, stimulate sensorimotor development, adapting assistive technology

Key words: teamwork, gold standard of re/habilitation, occupational therapist

ERGONOMICS OF SCHOOL FURNITURE IN PREVENTION OF MUSCULOSKELETAL DISORDERS IN SCHOOL CHILDREN

ALDINA ALIBEGOVIĆ, AMRA MAČAK HADŽIOMEROVIĆ, BOJAN KRALJEVIĆ, DŽENAN PLEHO, EDIN BULJUGIĆ, MILOŠ LAZIĆ, VESNA SAMARDŽIĆ

J1PhD Students at University of Sarajevo Faculty of Health Studies
2Associate Professor at University of Sarajevo Faculty of Health Studies

Aldina Alibegović1, Amra Mačak Hadžiomerović2, Bojan Kraljević1, Dženan Pleho1, Edin Buljugić1, Miloš Lazić1, Vesna Samardžić1

Background:

Sitting position is the most common physical position of students during their learning activities. Problems relating to prolonged sitting mainly occur as children have to sit in classrooms for about five to ten hours. Physical and mental disorders that occur as a result of prolonged sitting are among the most alarming problems of today's civilization.

Aims:

To examine through a scientific review of literature the influence of harmonized school furniture dimensions and anthropometric characteristics of school children on occurrence of musculoskeletal disorders.

Methods:

A number of different databases containing biomedical data (Medline, PubMed, Google scholar, ScienceDirect, Hrčak, Science Citation Index) were consulted to examine the harmonization of school furniture dimensions and anthropometric characteristics of school children, as well as to examine its influence on potential development of musculoskeletal disorders.

Results:

A scientific review of literature has shown that there is a large mismatch in anthropometric characteristics of school children and functional dimensions of school furniture in most of European, regional and worldwide schools, which contributes to musculoskeletal disorders. The most common musculoskeletal disorder among school children is the neck pain, followed by upper and lower back pain.

Conclusion:

Proper ergonomic design of furniture presupposes the respect of norms and standards guiding the aspect of basic dimensions of human body. Additionally, it is important to increase motivation of children to engage in physical activities and highlight the importance of periodic change of body posture while sitting, all in order to prevent the occurrence of musculoskeletal disorders.

Key words: ergonomics, school furniture, musculoskeletal disorder

ERGONOMIC PROGRAM FOR SCHOOL CHILDREN AFTER EXTENDED USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

MILOŠ LAZIĆ, AMRA MAČAK HADŽIOMEROVIĆ, ANKA VUKIČEVIĆ, RANKA OGURLIĆ

1 University of Sarajevo, Faculty of Health Studies, Bosnia and Herzegovina
2 NVO "Ljepota zdravlja" Nikšić, Montenegro
3 Health Center, Herceg Novi, Montenegro

Background:

Information and communication technologies (ICT) are basic indispensable part of modern society. School children experience their reality mostly through virtual world that leaves negative consequences on their physical and mental health. The population of students of all ages is affected by less movement of whole locormotor system, resulting from sedentary way of life during the use of ICT devices.

Aim:

To examine the importance of ergonomic program for school children after

Miloš Lazić[1], Amra Mačak Hadžiomerović[1], Anka Vukičević[1'2], Ranka Ogurlić[1'3]

extended use of information and communication technologies by reviewing scientific literature.

Methods:

This paper is non-expermental (qualitative) research, i.e. scientific review of literature. In creating this paper, various databases were used, including Pub Med, Google Scholar and Medline.

Results:

The results of this research showed that sport and other forms of exercises, such as exercises to strenghten and relax the muscles, have preventive function. Also, the results showed that is very important to enable children proper use of computers, educational software that is adjusted to children's age, and before use to define the rules of proper use of computers in order to avoid possible negative effects on children's health. It is important to put special focus on providing proper workspace for computer use, that should be ergonomically adjusted to the needs of the children.

Conclusion:

By using ergonomic preventive measures and different educational contents, as well as different form of physical activities, a more comfortable, cheerful and painful, and most importantly, healthier way of life will be provided to children while using information and communication technologies.

Key words: ergonomic program, information and communication technologies and children

INFLUENCE OF FOLKLORE DANCE ON THE BODY FATNESS

NATAŠA MILENOVIĆ, PAVLE TOJAGIĆ, BUDIMIR POPOVIĆ, KSENIJA BOŠKOVIĆ, DUŠANKA TEŠANOVIĆ

1Faculty of Medicine, University of Novi Sad

Natasa Milenovic1, Pavle Tojagic1, Budimir Popovic1, Ksenija Boskovic1, Dusanka Tesanovic1

Background:

Physical inactivity in modern times leads to the appearance of obesity and other diseases that cause a high mortality rate. The relationship between physical activity and health has been confirmed for all ages, and this relationship is often explored. Dance is suggested as a special form of physical exercise suitable for lighting and with a beneficial effect on both physical and mental health.

Aim:

The aim of the study was to determine the influence of folklore dance, as a form of physical activity, on the body fatness.

Methods:

The study involved 120 adults (60 folklore dancers and 60 respondents from the general population). The International Physical Activity Questionnaire (IPAQ) was used and the Body Mass Index (BMI) was calculated.

Results:

The examined groups were balanced according to socio-demographic characteristics. The reliability of the applied IPAQ was high (Kronbach α coefficient 0.821). A statistically significant difference (p, 008, d, 891) was observed between the folklore dancers and the control group, so that the dancers had a significantly lower BMI. Statistically significant difference (p, 000, d, 983) was also observed between the folklore dancers and the control group, so that the dancers had a significantly higher level of physical activity compared to the control group.

Conclusion:

Folklore significantly leads to an increase in physical activity and a decrease in BMI, and an improvement in general health is achieved. Therefore, folklore dance can be recommended as a way to improve general health.

Key words: folklore dance, physical activity, Body mass index, body fatness

REHABILITATION DEPARTMENT RESPONSE TO COVID19 OUTBREAK – DUBAI EXPERIENCE

EMELA MUJIĆ-SKIKIĆ, MOHAMMED AL SWAINI, ZUZANNE EHMER NELEPA, CECIL GEORGE, EHAP MAHMOUD SOBHI, VIDHYA SELVARAJ

1Dubai Health Authority, Rashid Hospital

Emela Mujic-Skikic1, Mohammed Al Swaini1, Zuzanne Ehmer Nelepa1, Cecil George1, Ehap Mahmoud Sobhi1, Vidhya Selvaraj1

Objective:

On 11th March 2020 WHO declared COVID-19 global pandemic. The first confirmed case in the UAE was announced on 29th January 2020. It was the first country in the Middle East to report a confirmed COVID 19 case. The first two deaths were confirmed on March 20 .

Topic Review:

Rehabilitation is vulnerable during a pandemic response, where the focus of the healthcare system shifts to the acute management. Our Hospital was among the first hospitals in Dubai that started admitting COVID19 patients. We re-organized our routine work and modified staff distribution to be able to provide rehabilitation services all over the hospital –for both COVID and non-COVID patients. Apart of routine inpatient Rehab team, we also established Rehab COVID team and we continued delivering services in ICU (acute and long term), general wards and later on outpatient department. Our main goal was to prevent complications, improve functional outcomes and to facilitate early discharge, due to high demand for hospital beds. Staff safety and individualized patients' treatment was our focus and priority. Challenges in treatment of COVID patients will be discussed.

Conclusion:

COVID-19 actually increases rehabilitation needs for patients who are critically ill and for those who can experience the long-term consequences of their illness. Rehabilitation needs for people with severe COVID-19 exist during the acute, sub-acute and long-term phases of care, so rehabilitation professionals should be involved in patients' care during all stages of disease.

INFLUENCE OF SMOKING ON THE EFFICACY OF TUMOR NECROSIS FACTOR ALPHA INHIBITORS IN RHEUMATOID ARTHRITIS PATIENTS

BOJANA PAVLOVIĆ, KSENIJA BOŠKOVIĆ, MARINA MAKSIMOVIĆ-SIMOVIĆ

1Special Hospital for Rheumatic Diseases, Novi Sad, Serbia

Bojana Pavlović[1], Ksenija Bošković, Marina Maksimović-Simović

Background:

Tobacco smoke induces citrullination of proteins in the airways, leading to the appearance of neoantigens and inducing an immune response.

Aim:

To investigate whether smoking affects the therapeutic response to TNFα drugs in patients with RA.

Methods:

This retrospective study was included 60 subjects, 50% smokers:50% non-smokers. Data on disease activity index (DAS28) and smoking history (pack per year). Parameters were monitored at the beginning of the introduction of biological therapy and one treatment with TNFα inhibitors.

Results:

show that the disease activity under the influence of the therapy was reduced by 42.76%. The average value of the DAS 28 before the start of therapy was 6.29 ± 0.74, and one year after 3.60 ± 1.24. This difference is statistically significant, and that shows t test for repeated measurements (t= 16,452, df = 59, p <0,001). However, the observed statistical interactions of time and group indicate that the influence of smoking status on the decrease in the value of the DAS28 parameter is not statistically significant (Vilkosv lambda = 0.982, F = 1.09, p> 0.05). Nevertheless, greater decrease in values of DAS28 was observed in the group of non-smokers (45.16%) than in smokers (40.09%).

Conclusion:

TNFα inhibitor therapy is equally effective in treating RA in both smokers and non-smokers.

Key words: smoking, rheumatoid arthritis, TNF alfa inhibitors

LAPAROSCOPIC HYSTERECTOMY: SURGICAL TECHNIQUE AND COMPLICATIONS

AZRA SADIKOVIĆ

[1]Rush University Medical Center

Azra Sadikovic[1]

Objective:

Minimally invasive approach to gynecologic procedures offers great benefits for the patient, such as less pain, shorter hospital stay and faster recovery. Therefore, minimally invasive approaches to hysterectomy, including laparoscopic and vaginal hysterectomy, are preferable option whenever feasible.
In this presentation, we will describe basic steps for laparoscopic hysterectomy, review the most common challenges during the surgery and discuss management of the most common complications.

Topic Review:

Requirements for a successful laparoscopic hysterectomy include proper indications and patient selection, appropriate equipment, proper positioning, sufficient laparoscopic skills and knowledge of anatomy as well as ability to anticipate, recognize and address any potential complications.
Proper patient selection is essential for achieving desired outcome. Experienced laparoscopic surgeons can perform most gynecological surgeries via laparoscopic route, including difficult and complex surgeries. However, with proper training and education, most gynecological surgeons can learn to perform laparoscopic surgeries, including laparoscopic hysterectomies. With increasing experience, the indications and patient selection can include more challenging cases. Basic principles of laparoscopic hysterectomy are similar to the principles of open hysterectomy procedure, done with different instruments and different approach.

Conclusion:

Laparoscopic surgery, which has proven benefits, is an effective surgical approach for the removal of the uterus. A description of the surgical steps of laparoscopic
hysterectomy, as well as the review of the management of the most common complications are intended to make this approach safe and to encourage gynecological surgeons to pursue laparoscopic treatment whenever feasible.

Key words: minimally invasive surgery, hysterectomy

HORMONE REPLACEMENT AND THE HEART

MARY FARHI

[1]Rush University Medical Center

Mary Farhi[1]

Objective:

Review literature on heart disease in women and hormone therapy, and discuss when hormone therapy may be indicated for cardiovascular benefit.

Topic review:

Heart disease is the number one cause of death in women after menopause. Whether menopause per se or other factors related to aging contributes to the progressive increased risk of CHD morbidity and mortality is still debated. There have been several seminal studies looking at hormone therapy for primary and secondary prevention of heart disease, with mixed conclusions. Review of major trials and findings, including the Women's Health Initiative (WHI) show that there are benefits with hormone therapy for select populations. For symptomatic women, it is important to understand and review the risks and

benefits of hormone therapy to guide women in decisions about initiating hormone replacement therapy.

Conclusion:

After the WHI many women and clinicians are reluctant to use hormone therapy for approved indications due to reported risks. We have an opportunity to educate both clinicians and patients on the risks and benefits for hormone therapy.

Key words: menopause, heart disease, hormone replacement therapy

HYSTERECTOMY VS. HYSTEROPEXY: IS UTERUS JUST INNOCENT BYSTANDER IN THE MANAGEMENT OF PELVIC ORGAN PROLAPSE?

SVJETLANA LOZO

[1]Columbia University Medical Center

Svjetlana Lozo[1]

Brief objective:

Pelvic organs prolapse (POP) is a common condition in aging female population. Patients bothered by this condition often consider surgical repair as treatment option. 11% of women worldwide will have surgery for pelvic organ prolapse by the age of 80. Numerous techniques for surgical reconstruction have been used with variable outcomes. Hysterectomy has often been part of the reconstructive surgical repair. In last 10-15 year, more patients expressed desire in keeping their uteri and therefore hysteropexy as part of surgical repair has been used worldwide.

Objectives:

In this presentation, we will describe different pelvic organ prolapse surgical techniques involving hysterectomy and hysteropexy. Long term outcomes data of different surgical techniques will be reviewed, as well as risks and benefits of each procedure.

Topic Reviewed:

During this presentation we will review different types of pelvic organ prolapse as well as different surgical techniques for management of this condition. Risks and benefits of each procedure will be reviewed. Patient selection, use of specific surgical equipment, as well as use grafts and meshes will be reviewed in detail. Long term data for each procedure will be reviewed as well as surgical management of recurrent prolapse.

Conclusion:

Hysteropexy is viable option for management of pelvic organ prolapse.

Key words: uterine prolapse, cystocele, rectocele and hysteropexy

EFFICIENCY AND SAFETY OF LASERS IN THE TREATMENT OF STRESS URINARY INCONTINENCE - OUR EXPERIENCES

TAIB DELIĆ, EMINA SMAJIĆ,

[1]Poliklinika Agram

Taib Delić[1],Emina Smajić[1],

Background:

The prevalence of stress urinary incontinence increases with the age of women and as such represents a public health, hygiene and social problem.
Aim of this study is evaluation of efficiency and safty of laser in the treatment of Stress Urinary Uncintinence.
Methods:In the period from January 2015 to January 2020, we performed 140 laser treatments of the stress urinary incontinence SUI in women aged between 50 and 60. Prior to the intervention, patients completed the survey and were classified into groups according to the degree of SUI.
The laser method according to the protocol for the treatment of SUI Inconti-Lase was used: 2940 nm Er:YAG laser, 90° and 360° delivery system for irradiation of the anterior and the whole vaginal wall tissue rejuvenation with non-ablative photo-thermal effect, 2-3 laser sessions.

Results:

The largest number of patients from group - 70 moderate SUI, 30 severe and 40 very severe, aprox. 60 % of them, claimed significant improvement after the first treatment, and 70 % of them after the second treatment. The main advantages of IncontiLase is the painless, simple procedure, without bleeding, cuts and stitches. Recovery is quick without the need to use analgetics or antibiotics. In our clinical experience, no patient reported pain, bleeding, swelling, or any other symptoms after the intervention.

Conclusion:

Based on our experience, we can conclude that laser is an effective and completely safe method for treating SUI.

Key words: stress urinary incontinence, lasers, efficiency, safety

ENDOSCOPIC AND MEDICAL OPTIMISING OF PATIENTS WITH COMORBIDITIES BEFORE IN- VITRO-FERTILISATION

SENAD SARIĆ, GRIT KIRSTEN-SARIĆ

[1]Poliklinika "Arbor vitae Dr. Sarić" Mostar

Senad Sarić[1], Grit Kirsten-Sarić[1]

Objective:

The aim of the presentation is to demonstrate a protocol of necessary diagnostics in specific patients for gynecological-endoscopic treatment and for high risk cardiac patients before IVF in a disordered business environment characteristic of the entire territory of Bosnia and Herzegovina.

Topic review:

The operative correction before IVF is the revision of factors disrupting the implantation. The basic rule for choosing the right method is the benefit it will bring to the patient. When choosing methods, we have to consider the following factors: patients age, her health and economic status, the possibilities of the individual methods and the patients wishes. Today most gynecological operations can be performed in outpatient clinics. Surgery and IVF are complementary and can be used individually or in combination to achieve optimal results. The development of pediatric cardiac surgery has tremendously improved the chances of these children to reach fertile age. In addition, we see a trend towards having children among older couples. The reasons for that in western industrialized nations are mostly careers and individual life planning, in developing countries financial and traditional.

Conclusion:

We try to show the optimal treatment for patients with complex gynecological and/or cardiological comorbidities on their way to become parents in our outpatient clinic- regardless of difficult environmental conditions, such as here in Bosnia-Herzegovina.

Key words: outpatient clinic, laparoscopy, cardiology, IVF, pregnancy

AN INTEGRATIVE APPROACH TO MENOPAUSE

MARY FARHI

Mary Farhi[1]

Brief objective:

Review a comprehensive approach to optimizing health and quality of life in the menopause transition. Identify root causes that may contribute to menopausal symptoms, such as the role chronic stress response plays in the perimenopause/menopause time. Develop an integrative plan for patients to maximize cardiac and bone health, maintain sexual health and create optimal health. Topic review: Often woman associate many symptoms experienced in the late 40s or 50s with changes in reproductive hormones. An integrative approach to this transitional time allows women to understand potential confounders, as well as the hormonal fluctuations involved in the multitude of experiences.

We can then assist women during this transformational time to build optimal wellness and create vitality for the postmenopausal years. We will explore potential root causes and factors that contribute to symptoms. We will describe an integrative approach that includes utilizing routine labs for patient education, addressing diet, lifestyle, and the importance of the stress response as well as the role of blood sugar fluctuations. We will discuss complimentary therapies for managing symptoms, as well as resources for clinicians that are interested in learning more about integrative and functional approaches to midlife health.

Conclusion:

Menopause is a natural transition, not a disease. This transitional time is an opportunity for clinicians to educate and support women, and partner with them to develop an integrative approach for the menopausal years to create optimal wellness.

Key words: menopause, integrative health, optimal health

AT LAST: LOWER ANOGENITAL SQUAMOUS TERMINOLOGY FOR HPV ASSOCIATED LESION- BACKGRAUND AND RECOMMENDATION

Prof dr ERMINA ILJAZOVIC

The Lower Anogenital Squamous Terminology (LAST) Project sponsored by the College of American Pathologists and the American Society for Colposcopy and Cervical Pathology has produced recommendations for a simplified diagnostic terminology for squamous lesions of skin and mucosa of the lower anogenital region which are related to human papillomavirus. Human papillomavirus interacts with squamous epithelia in 2 basic ways. In the first, the squamous epithelium supports virion production, but lesions are transient. In contrast, the second form of HPV-epithelial interaction is characterized by lesions that are broadly classified as precancerous. These are lesions in which the coordinate differentiation is broken. The goal of Project was to create a histopathologic nomenclature system that reflects current knowledge of HPV biology, optimally uses available biomarkers, and facilitates clear communication across different medical specialties. The LAST Project included 5 working groups; 3 of them did a detailed literature review and established a recommendation, one group provided a historical background and fifth group have to work on the implementation of the LAST recommendations. Not all atypical or malignant squamous lesions of anogenital skin are related to HPV infection. This proposed terminology will not apply to such lesions. The established recommendations is just a begining of story. Integrating the LAST recommendations into the standard practice of pathologists and clinicians is an ongoing task.

THE IMPACT OF ACUTE RADIODERMATITIS ON DEVELOPMENT OF THE ARM SYMPTOMS IN BREAST CANCER PATIENTS

DUŠANKA TEŠANOVIĆ, NATAŠA MILENOVIĆ, BRANISLAV DJURAN, SVETLANA POPOVIĆ, JELENA LIČINA

1Faculty of Medicine, University of Novi Sad

Dusanka Tesanovic[1], Natasa Milenovic[1], Branislav Djuran[1], Svetlana Popovic[1], Jelena Licina[1]

Background:

Radiation dermatitis (RD) usually occurs as an acute skin toxicity during breast cancer radiotherapy. Severity of RD depends on several factors, characteristics of patients, mode and duration of treatment. The incidence of severe RD can be significantly decreased by applying radiotherapy techniques and hypofractionated regimes. RD results from a high dosage of ionizing radiation of the skin during radiotherapy treatment which can limit patient's quality of life.

Aim:

The aim of the study was to determine the impact of RD, as an acute breast cancer radiotherapy complication, on the development of the arm symptoms.

Methods:

The study included 77 female patients treated at the Oncology Institute of Vojvodina who received radiotherapy after conserving breast cancer surgery. The EORTC-QLQ-BR23 questionnaire was used for the survey.

Results:

RD was registered in 31 patients (40.26%). The global assessment of the health status of the patients was evaluated with mean value 65.91. Patients rated the onset of arm mobility symptoms as 14.24. Patients with RD rated symptoms more intensively on the arm functioning scale (with RD 23.65 without RD 7.97). The observed difference in the assessment of functional arm symptoms was statistically significantly different in the case of functioning and mobility (r 0.17, p 0.000), indicating that the occurrence of RD correlated with more pronounced arm symptoms.

Conclusion:

Results demonstrated impact of RD during radiotherapy can influence the aggravation of the arm symptoms. Therefore, it is highly recommended to include physical therapy early in the treatment.

Key words: acute radiodermatitis, radiotherapy, arm symptoms, breast cancer

RARE CASE OF TRAUMATIC TRICEPS TENDON AVULSION RUPTURE

EDIS TATLIĆ, ALEN DERVIŠEVIĆ, DINO DŽAFEROVIĆ

1Orthopaedic and Traumatology department Cantonal Hospital " dr. Irfan Ljubijankic" Bihać

Edis Tatlić 1, Alen Dervišević 1, Dino Džaferović 1

Introduction:

Triceps tendon avulsion rupture is a very rare injury. Among all tendon injuries, triceps tendon rupture is the least common. In a large series of 1,014 muscle and tendon injury cases at Mayo Clinic, Annzel et al reported its incidence to be 0,78%. The usual mechanism of injury is a fall on an outstretched hand. Some cases have been reported as direct contact injuries. A 19-year old female patient was received in the emergency room after an injury of her right elbow sustained awkwardly by hitting the edge of the dining table with her elbow while falling down on slippery floor.

Aim:

In this case report we are presenting a very rare case of triceps tendon avulsion injury caused by a direct hit, and open surgical repair of it as well as rehabilitation protocol

Methods:

patient was treated with open surgical repair with Krakow whipstitches pass-

ing the sutures through avulsion bone fragment and transosseus drill holes in ulnar olecranon. Rehabilitation was done in five phases.

Results:

Full recovery had been achieved with this method of treatment of triceps tendon rupture.

Conclusion: This case presentation shows a very rare condition of avulsion rupture of triceps tendon treated by open surgical repair followed by rehabilitation protocol divided in five 5 phases.

Key words: triceps tendon, avulsion rupture, rehabilitation

SURGICAL TREATMENT OF EXTRACRANIAL INTERNAL CAROTID ARTERY ANEURYSM

MUHAMED DJEDOVIĆ, AMEL HADŽIMEHMEDAGIĆ, NEDŽAD RUSTEMPAŠIĆ, NERMIR GRANOV, ILIRIJANA HAXHIBEQURI-KARABDIĆ, TARIK SELIMOVIĆ

Opća bolnica Varaždin; 1, Clinic of Cardiovascular surgery, University Clinical Canter of Sarajevo

Muhamed Djedovic1*, Amel Hadzimehmedagic1, Nedzad Rustempasic1, Nermir Granov1, Ilirijana Haxhibequiri-Karabdic1, Tarik Selimovic1

The objective of the review:

Extracranial internal carotid artery aneurysms (EICA) is a rare condition, with incidence of 0.3% of all aneurysm. The treatment of EICA accounts for only 0.1%—2% of carotid interventions. The etiology of the disease is not well defined yet. However, the potential risk of mbolism originating from the aneurysm – or even its rupture – indicates a need for intervention.

Topic Review:

The aim of the paper is to present the findings in 2 patients operated on for EICA over the last 5 years (from 1 March, 2016 to 28 February, 2021) at the Clinic of Cardiovascular surgery of the Clinical Centre University of Sarajevo. There were 2 female patients with an average age of 52 (43 and 61) years. Patient 1, was 43-year-old female was admitted to the hospital for bilateral fusiform EICA (right 24 mm, left 11.1 mm) and was treated with resection of the right aneurysm and interposition graft (7 mm). The shunt was not used (retrograde post-occlusive pressure is was 47 mmHg). Patient 2, was a 61-year-old woman was admitted to the hospital for a saccular EICA. The patient was treated with an excluded aneurysm with clasps (improvisation was performed due to deterioration of cardiac status)

Conclusion:

EICA is rather rare condition. Surgical treatment of EICA is required, and in most cases, it gives good results. Endovascular treatment may be an effective therapy in selected cases.

Key words: Aneurysm of the extracranial internal carotid artery, surgical treatment

PREDICTION OF TUMOR SEVERITY, OVERALL AND RELAPSE-FREE SURVIVAL IN CHILDREN WITH WILMS TUMOR – A REPORT FROM SINGLE TERTIARY PEDRIATIC CENTER IN SERBIA

SRĐAN NIKOLOVSKI, JELENA LAZIĆ, LIDIJA DOKMANOVIĆ, NADA KRSTOVSKI, DEJAN SKORIĆ, PREDRAG RODIĆ, GORAN MILOŠEVIĆ

1 University of Belgrade School of Medicine, Belgrade, Serbia
2 University Children's Hospital, Department for Hematology and Oncology, 10 Tirsova St, Belgrade, Serbia; University of Belgrade School of Medicine, 8 Dr. Subotica St, Belgrade, Serbia

Background:

Wilms tumor (WT) is the most common renal cancer in children with exceptionally good survival rate.

Aim:

The objective of this study is to analyse the influence of clinical factors on overall (OAS) and relapse-free survival (RFS) in patients with WT.

Methods:

Study enrolled 48 WT patients aged 0-18 years, diagnosed and treated at the University Children's Hospital, Belgrade, Serbia between 2005 and 2020. Data was collected from medical history and analysed regarding their influence and predictive potential on patients' OAS and RFS.

Srdjan Nikolovski[1] Jelena Lazic[1,2] Lidija Dokmanovic[1,2] Nada Krstovski[1,2], Dejan Skoric[1,2], Predrag Rodic[1,2] Goran Milosevic[1,2]

Results:

Study included 48 patients with a median age of 3.5 years. Four patients had predisposing conditions and ten presented with metastatic disease. Three-years OAS was 91.3%. Four patients died, all within 26 months from diagnosis. Clinical stages 4 and 5 and the presence of more than one extra-nodal localization (ENL) correlated with worse OAS rates (HR 8.60, p=.03). Out of 10.4% patients who developed relapse, three died. There was a significant influence of clinical stage 4 and 5 on worse RFS (HR 6.72, p=.04). Predisposing conditions did not show statistical significance regarding their influence on OAS or RFS. Also, none of the patients with secondary malignancy died or had a relapse during the follow-up period.

Conclusion:

The presence of metastatic disease in more than one ENL is an important predictor of worse OAS and RFS in WT patients with more than eight times higher risk of death and more than six times higher risk of relapse during the first three years of disease.

Key words: Wilms tumor, nephroblastoma, renal cancer, relapse-free survival

ORBITAL MANIFESTATIONS OF HYDROCEPHALUS – FROM PAPILLEDEMA TO EXOPHTHALMOS

MIRJANA RAIČEVIĆ, SRĐAN NIKOLOVSKI, SANDRA NEDOVIĆ, IRINA MILOJEVIĆ

1University Children's Hospital, Belgrade, Serbia
2University OF Belgrade, School of Medicine, Belgrade, Serbia

Mirjana Raicevic[1] Srdjan Nikolovski[1,2] Sandra Nedovic1 Irina Milojevic[1]

Objective:

To evaluate and summarize possible orbital signs in patients with hydrocephalus and their importance in management of those patients.

Topic Review:

Hydrocephalus can rarely cause orbital complications. Chronic increasing intracranial pressure (ICP) and severe enlargement of ventricular system could, however, lead to a prolapse of meninges into orbital space. One of the strongest indicators of increased ICP in these patients is papilledema and enlargement of optic nerve sheath diameter. They correlate with the degree of optic nerve atrophy and clinical improvement, but also with postoperative shunt obstruction. Orbital volume is another method of postoperative evaluation of patients after CSF derivation procedure. However, in more extreme cases, bilateral or even unilateral exophthalmos can be additional and sometimes one of the first signs of hydrocephalus. One of the possible pathophysiology mechanisms in these cases is widening of optic foramen followed by a herniation of intracranial structures, even including direct prolapse of ventricular diverticulum.

Conclusion:

Although rare, ocular problems in patients with hydrocephalus could be very serious, and permanent if not recognized on time. Considering the possibility of central nervous system as a cause of impaired vision and exophthalmos, causal intervention could prevent further damage of important orbital structures and thus life-long invalidity.

Key words: hydrocephalus, exophthalmos, CSF shunt

PECTORALIS MAJOR AND RECTUS ABDOMINIS FLAP FOR MANAGEMENT OF STERNAL DEHISCENCE - OUR EXPERIENCE

EMIR MUJANOVIĆ

1Medical Institute Bayer, Tuzla, Bosnia and Herzegovina
,

Emir Mujanović[1]

Objective:

The development of life-threatening sternal wound infections after medial sternotomy has been a major problem for cardiac surgeons since the introduction of this approach in the 1950s. These infections should be treated quickly and appropriately to avoid the development or progression of sternal osteomyelitis,

mediastinitis, or systemic sepsis. The general consensus that is still valid is that closing the dead space after debridement of the infectious tissue with the muscle flap is essential in achieving wound healing. Among the various muscle flaps used, the pectoralis major and rectus abdominis were most commonly used due to the proximity of the wound and easy lifting. Each flap has its limitations. The lower third of the sternum cannot be completely filled with the pectoral flap, while the rectal flap cannot be used if the isosceles pedicle was used for coronary bypass grafting.

Topic review:

This is a retrospective review of 14 patients with sternal dehiscence treated with unilateral pectoral flap with or without rectal flap. Demographic data, symptoms, flap techniques, postoperative results, length of hospitalization, morbidity, and mortality were analyzed.

Conclusion:

Pectoralis major "turnover" flap in combination with flap rectus abdominis seems like an acceptable solution. The operation is also applicable for cardiac surgeons. The complexity of the operation and the somewhat longer duration are shortcomings that are overcome with experience.

Key words: sternal wound infections, pectoralis major, rectus abdominis flap

OPEN SURGERY FOR CAROTID ARTERY RESTENOSIS

IVAN CVJETKO

1Department of Vascular Surgery, UH Merkur, Zagreb

Ivan Cvjetko1

Background:

Significant carotid artery stenosis is well recognized as a cause of ischemic stroke. Indication for treatment is suggested for degree of stenosis 50% or greater in symptomatic patients and 70% or greater in asymptomatic patients. Either open surgery (carotid endarterectomy) or carotid artery stenting (CAS) is attempted for treating this condition. In some patients, carotid artery restenosis occurs.

Aim:

This retrospective study reports patients treated for carotid restenosis at UH Merkur from January 2016 until February 2021.

Methods:

There were 21 patients treated for carotid restenosis, 15 after carotid endarterectomy and 6 after carotid artery stenting. Two patients were treated for acute carotid artery stent occlusion.

Results:

All attempts at treatment were successful with 0% mortality. There was no significant difference in cardiac complication and bleeding compared to primary treatment. There was also an increased discomfort during swallowing and speech several weeks after procedure.

Conclusion:

Open surgery for carotid stenosis is safe after both carotid endarterectomy and carotid artery stenting.

Key words: Carotid artery restenosis, carotid endarterectomy, carotid artery stenting

OPEN REDUCTION PALMAR LUNATE DISLOCATION WITH KIRSCHNER WIRES 108 DAYS AFTER TRAUMA

ALEN DERVIŠEVIĆ, MURIS TANOVIĆ, EDIS TATLIĆ

1Orthopaedic and Traumatology department Cantonal Hospital "dr.Irfan Ljubijankic" Bihac

Alen Dervisevic[1], Muris Tanovic[1] Edis Tatlic[1]

Objective:

A 24 old man patient treated for head and wrist injuries which caused by a fall from a height.

Topic review:

In the further course of treatment is CT scan and EMNG was performed, and diagnosis lunate dislocation with medi-

an nerve lesion is confirmed. 108 days after the injury surgery was performed, open reduction with dorsal approach and fixation with K wires. Postoperatively continue to be treated by physiotherapist and orthopedists.

Conclusion:

Three years later a control CT of the hand was performed, the patient is without discomfort and have good hand function.

Key words: lunate dislocation

METHOD OF TREATMENT OF ACCESSORY ANTERIOR BRANCH OF GSV (AASV) AND THE RESULTS OF THE SAME IN PATIENTS TREATED AT THE PRIVATE HEALTH CLINIC CHICAGO VEIN INSTITUTE SARAJEVO

HASIB MUJIĆ, ALMA KRVAVAC-HAFIZOVIĆ, ANEL OKIĆ

1Chicago Vein Institute Sarajevo

Hasib Mujić[1], Alma Krvavac-Hafizović[1], Anel Okić[1]

Background:

In superficial vein insufficiency, anterior branch insufficiency often occurs as the third largest source of insufficiency, either alone or associated with great saphenous vein (GSV). There is no clear guide how to treat accessory anterior branch GSV (AASV).

Aim:

To detect the percentage of unsatisfactory AASV occlusion (recanalization) after 6 and 12 months from the start of treatment.

Methods:

The study focuses on the accessory anterior branch of the GSV (AASV), its diagnosis and treatment. The subjects are 110 patients of Chicago Vein Institute Sarajevo who underwent treatment with endovenous laser ablation (EVLA). The study includes insufficient AASV treated with EVLA in the period from October 2014 to April 2020. The correlation of average laser power and energy consumption with the occurrence of recanalization of AASV treated with EVLA, within one year from the first treatment with additional modalities of mini-phlebectomy and sclerotherapy, was investigated. All patients were treated clinically and diagnostically. The main parameters monitored and recorded during EVLA are laser power (W), amount of energy delivered (J), treatment duration (min: sec), and treated vein length (cm) for AASV, as well as diameter (mm) and reflux of AASV (sec).
Results: Precise use of EVLA, mini-phlebectomy and sclerotherapy can reduce the percentage of recanalization of AASV, which in our study was 3.64%.

Conclusion:

Using the combined modalities of EVLA, mini-phlebectomy and sclerotherapy, satisfactory long-term results can be achieved.

Key words: EVLA (Endovenous Laser Ablation), Accessory Anterior Branch GSV (AASV), recanalization.

LATE COMPLICATIONS OF ENDOVASCULAR STENTING OF THE SUPERFICIAL FEMORAL ARTERY

TARIK SELIMOVIĆ, MUHAMED DJEDOVIĆ, AMEL HADŽIMEHMEDOVIĆ, LEJLA DIVOVIĆ-MUSTAFIĆ

1Clinic of Cardiovascular surgery, University Clinical Canter of Sarajevo

Tarik Selimovic[1], Muhamed Djedovic[1], Amel Hadzimehmedovic[1], Lejla Divovic-Mustafic[1]

The objective of the review:

Peripheral arterial disease (PAD) is a manifestation of systemic atherosclerosis causing ischemia and claudication of extremities. More than 200 million people have PAD worldwide, with a spectrum of symptoms from asymptomatic to severe. In general, men have a higher prevalence of PAD than women.

Topic Review:

The goal of this paper is to present the findings of a 59-year old patient surgically treated due to rupture of a superficial femoral artery (SFA) pseudo-aneurysm following treatment three months prior with endovascular stenting due to claudication. In managing this complication, vascular reconstructive surgery was accomplished through a femoropopliteal bypass.

Conclusion:

While endovascular stenting is becoming an increasingly important and more common therapeutic choice, surgical management remains irreplaceable in treating complications of stenting. As such, interdisciplinary partnerships and better clinical tailoring is needed for optimal treatment, as well as prevention and management of treatment complications.

Key words: Endovascular stenting, late complications, surgical treatment, pseudo-aneurysm superficial femoral artery

MANAGEMENT OF SCLEROTHERAPY COMPLICATIONS

ANEL OKIĆ, HASIB MUJIĆ, AMEL HADŽIMEHMEDAGIĆ,

Canton Hospital Zenica1
Chicago Vein institute Sarajevo2
KCU Sarajevo3

Anel Okić[1], Hasib Mujić[2],
Amel Hadzimehmedagić[3],

Backround:

Sclerotherapy is one of the common noninvasive methods of varicose vein treatment. The method is widespread. It is very effective, relatively inexpensive and easily tolerated by patients. Complications and side effects sometimes occur. The reasons are inadequate patient selection, poor preparation, or the doctor's mistake. Most common complications are deep venous thrombosis, hyperpigmentation, thrombophlebitis, skin necrosis, trapped blood, etc.

Aim:

Skin necrosis and trapped blood are frequent complications of sclerotherapy. Our research will show how to deal with complications and how to resolve them. We would like to emphasize the importance of recognizing, acting quickly, and choosing the right treatment.

Methods:

Eleven patients had complications in the form of skin necrosis and trapped blood. Eight women and three men. Seven of them with trapped blood and four of them with skin necrosis. We performed sclerotherapy and did follow up after 7, 30, 90 and 180 days. Patients were treated conservatively and surgically.

Results:

Nine patients were without permanent complications, two of them had scar for life time. Nine patients without permanent complications were subjected to urgent treatment within ten minutes after complication had been noticed. Skin necrosis bigger than 1cm must be subjected to surgery.

Conclusions:

We found that quick verification of the complication and fast treatment is very important. Appropriate preparation of the doctor and patient is essential. Choosing the right treatment and follow up is mandatory. Adequate medicaments and surgery are very useful. Communication with colleagues is important and part of problem solving.

Key words: Sclerotherapy, varicose veins, skin necrosis

LEVOSIMENDAN IN PREOPERATIVE PRECONDITIONING PATIENT WITH SEVERE AORTIC STENOSIS AND LEFT VENTRICULAR DYSFUNCTION

LEJLA DIVOVIĆ MUSTAFIĆ, BEHIJA BERBEROVIĆ, ZINA LAZOVIĆ, NERMIR GRANOV, EDIN KABIL, BEDRUDIN BANJANOVIĆ, MUHAMED DJEDOVIĆ, DAMIR KURTAGIĆ, TARIK SELIMOVIĆ

1Clinic for Cardiovascular Surgery, Clinical Center University of Sarajevo

Lejla Divović Mustafić1, Behija Berberović1, Zina Lazović1, Nermir Granov1, Edin Kabil1, Bedrudin Banjanović1, Muhamed Djedović1, Damir Kurtagić1, Tarik Selimović1

Objective:

We present a case of a 43 years old patient hospitalized at Clinic for cardiovascular surgery, Clinical Center University of Sarajevo after echocardiographicall determined sever aortic stenosis with left ventricular dysfunction- class NYHA IV.

Methods:

Echocardiography showed aortic valve with area 0.3 cm2, mean gradient 30mmHg (due to low flow low gradient aortic stenosis), peak velocity 4.4 m/s, moderate/sever mitral regurgitation, LVEF 18%, TAPSE 17mm, moderate/sever tricuspidal regurgitation with PAP 90mmHg, CO 3.4

l/min, CI 2.1 l/min/m2, SV 55 ml/beat, LVOT VTI/ AV VTI 0.21. According to the protocol continuous infusion of Levosimendan (0.1 ug/kg/min without loading dose) started 24 hours before operation began. During continuous infusion there was no side effect as. Aortic valve is replaced with biological prothesis and the ascending aorta is reconstructed with patch due to intraoperatively noticed atypical narrowing of ascendent aorta just above sinotubular junction. Further postoperative period without complication, and patient is discharged on eight postoperative day as recovered. Control after a month showed biological aortic valve prosthesis with mean gradient 18 mmHg, without paravalvular leak, mild mitral regurgitation, mild/moderate tricuspidal regurgitation with PAP 50mmHg, and LVEF 25%, CO 4.1 l/min, CI 2.49 l/min/m2, SV 61ml/beat, LVOT VTI/ AV VTI 0.24.

Conclusion:

Levosimendan has been shown to improve hemodynamic parameters and cardac contractility without additional oxygen supply requirements. As such drug it proved to be good bridge to aortic valve replacement in sever patient.

Key words: Severe aortic stenosis, Left ventricular dysfunction, Levosimendan

IRREDUCIBLE (LOCKED) PATELLAR DISLOCATION: A CASE REPORT

EDIS TATLIĆ, ALEN DERVIŠEVIĆ, DINO DŽAFEROVIĆ

1Orthopaedic and Traumatology Department Cantonal Hospital " dr. Irfan Ljubijankić" Bihac

Edis Tatlić[1], Alen Dervisević1, Dino Džaferović[1]

Objective:

Irreducible patellar dislocation is uncommon and usually a very rare case. Acute traumatic patellar dislocation is a relatively common injury, mostly seen in younger population after knee injury. Usually, dislocation is laterally in the coronal plane, and it is easily treated through closed techniques. In this paper, we present a very rare case of locked dislocation that required open surgical reduction.

Topic review:

A 36-year-old female patient was transferred to the emergency room after an accident that led to knee injury and a lateral patellar dislocation. Patient said that she fell while walking and sustained a knee injury. No previous injures had occurred on that knee.

Conclusion:

This case presentation showed that some patellar dislocations cannot be reduced by close reduction techniques even if the patient is sedated. Thus, it was necessary to perform an open surgical reduction together with repair of medial ligamentous structures.

Key words: knee injury, patellar dislocation, open reduction

CLINICAL AND RADIOLOGICAL PREDICTORS OF OUTCOME AFTER SPONTANEOUS CHILDHOOD HEMORRHAGIC STROKE

FAHRUDIN ALIĆ, RASIM SKOMARAC

1Department of Neurosurgery, Cantonal Hospital Zenica, Bosnia and Herzegovina

Fahrudin Alić[1], Rasim Skomorac[1]

Objective:

Non-traumatic/Spontaneous childhood haemorrhagic stroke (SCHS) is quite uncommon, life-threatening, totally unexpected neurologic ictus associated with significant mortality and morbidity. It is among the top 10 causes of death in children and has an incidence nearly equal to ischemic stroke.

Topic Review:

The etiopathogenesis and heterogeneous nature of SCHS differs from adults and points on several entities such as cerebral vascular malformations, blood disorders, vasculopathies, tumors, infectious complications while in 14% the cause is unknown. The knowledge regarding hemorrhagic type of stroke in children comes from a small number of case series without population-based studies which is why the treatment of SCHS does not have evidence-based management guidelines but only some expert recommendations.

Conclusion:

Outcome after SCHS is an even greater unknown and physicians dodge to give their families any information about long-term prognosis. It has to be tied into several clinical and radiological predictors united in one simple and comprehensible score system.

Key words: hemorrhagic stroke, outcome predictors, morbidity and mortality

COVID-19 VACCINES IN IMMUNOCOMPROMISED PATIENTS. TO USE OR NOT TO USE?

INGA MARIJANOVIĆ, TIMUR CERIĆ, GORDAN SRKALOVIĆ

1University Clinical Hospital of Mostar, Bosnia and Herzegovina
2Clinical University Center Sarajevo, Bosnia and Herzegovina
3Herbert-Herman Cancer Center, Lansing, MI, USA

Inga Marijanovic[1], Timur Ceric[2], Gordan Srkalovic[3]

Brief objective:

Review of COVID vaccination in immunocompromised patients.

Topic Review:

Immunocompromised individuals were excluded from studies of COVID messenger RNA vaccines (m-RNA) such as BioNTech/Pfizer and Moderna. There is also no relevant information with replication-defective vectored vaccines (Astra Zeneca and J&J) or protein subunit (Novavax). Although immunocompromised individuals were not part of the studies, Center for Disease Control (CDC) does not exclude patients treated for malignant diseases, post-transplant patients or patients treated with immunosuppressive agents for other nonmalignant diseases from recommendations of vaccinations. Only warning the Food and Drug Administration (FDA) places is concern for a diminished response.. Important question is raised: How diminished of a response will an immunocompromised patient have? Very recent study from John's Hopkins University in Baltimore published in JAMA, March 15, 2021 described immunogenicity of m-RNA vaccines in solid organ transplant recipients. Study found, surprisingly, differential response to BioNTech/Pfizer and Moderna vaccines, although both are using similar technology. Important is that in both cases, response was very significantly blunted

Conclusions:

Our plan is to discuss this study and future studies related to the use and safety of COVID-19 vaccines in immunocompromised patients and propose further recommendations in countries with limited vaccine availability at our round table.

Key words: COVID-19, vaccines, immunocompromised patients

DISPLACEMENT OF FILUM TERMINALE IN PATIENTS WITH TETHERED CORD SYNDROME

MIRJANA RAIČEVIĆ, SRDJAN NIKOLOVSKI

1University Children's Hospital, Belgrade, Serbia
2University OF Belgrade, School of Medicine, Belgrade, Serbia

Mirjana Raicevic[1] Srdjan Nikolovski[1,2]

Objective:

To analyze causes and consequences of filum terminale (FT) displacement in patients with tethered cord syndrome, as well as to evaluate best optimal diagnostic and treatment options.

Topic Review:

Tethered cord syndrome (TCS) is typically associated with a caudally shifted conus medullaris. FT malposition is also possible and, in most cases, it is displaced posteriorly, while anterior displacement is rarely seen. However, traction of FT can be present in caudal direction as well. While anterior and posterior displacement occurs inside the spinal canal, caudal occurs in children due to an FT entrapment inside the soft tissue at the distal spinal canal end. Spinal column growth furthermore stretches already elongated FT putting it in risk for leaving the canal, being buried inside the surrounding soft tissue, and being exposed to further damage. Complications in these cases are inevitable due to the severe traction of FT, cauda equina, and subsequently more proximalseg-

ments of spinal cord. Early liberization and untethering of entrapped FT is necessary in order to prevent further damage and additional neurological deficits. Due to the complexity of functions which can be impaired in these patients, multidisciplinary approach is also needed so that any possible deformities can be timely managed.

Conclusion:

FT malposition significantly contributes to severity of symptoms in patients with TCS and significantly increases the risk for chronic neurologic sequelae. Proper multidisciplinary approach and timely surgical intervention are necessary steps in management of these patients in order to increase the odds for symptoms regression and adequate development.

Key words: tethered cord syndrome, filum terminale, cauda equina, spinal dysraphism

FAST TRACK PROTOCOL FOR MINIMAL INVASIVE REDO CARDIAC ARTERY BYPASS REVASCULARIZATION

NERMIN GRANOV, ERMINA MUJIČIĆ, SLAVENKA ŠTRAUS, SANJA GRABOVICA, MUHAMED DJEDOVIĆ, LEJLA DIVOVIĆ, ZINA LAZOVIĆ, BEDRUDIN BANJANOVIĆ, EDIN KABIL.

1Clinic for Cardiovascular Surgery, Clinical center University of Sarajevo

Nermir Granov[1], Ermina Mujičić[1], Slavenka Štraus[1], Sanja Grabovica[1], Muhamed Djedović[1], Lejla Divović[1], Zina Lazović[1], Bedrudin Banjanović[1], Edin Kabil[1].

Background:

Fast track is multimodal method of care designed to achieve early recovery after surgical procedures by maintaining multimodal analgesia approach, reducing the stress response and is associated with early extubation and reduced length of intensive care unit and hospital stay.

Aim:

A 69 year old male presented with increasing shortness of breath, NYHA class IV symptoms, previous history of hypertension and diabetes, with history of coronary bypass surgery nine years ago, has been admitted for reoperation. Angiography and CT scan showed patent graft to right coronary artery and occluded left anterior descending artery graft.

Methods:

On admission, CT scan had shown an osteoporotic sternum with hypertrophic scarring tissue. To avoid re-sternotomy and dense adhesions we have decided to perform left anterolateral thoracotomy. Patient was intubated with a double lumen tube. After accomplishing distal anastomosis bypass has been placed thorough interloby of the lungs and anastomosis had been performed in the lateral decubitus position. Hemodynamic stability was obtained with minimal inotropic support. Postoperative bleeding was minimal and patient was extubated according to the fast-track protocol.

Results:

CT performed on 8th postoperative day demonstrated patent descending aorta to LAD bypass. On 9th postoperative day patient was discharged in stable condition and postoperative course was uneventful.

Conclusion:

Method has proven to reduce in-hospital time, time on mechanical ventilation, and helped overall recovery. Fast track in redo surgery can be a useful method to avoid complications associated with ventilation as well as blood loss, and may decrease morbidity and mortality in this group.

Key words: fast track, protocol, minimal invasive CABG, redo

ABDOMINAL AORTIC ANEURYSM SURGERY AND HORSESHOE KIDNEY

MUHAMED DJEDOVIĆ, AMEL HADŽIMEHMEDAGIĆ, NEDŽAD RUSTEMPAŠIĆ, NERMIR GRANOV, EDIN KABIL, ALEN AHMETAŠEVIĆ, BEDRUDIN BANJANOVIĆ

1 Clinic of Cardiovascular surgery, University Clinical Canter of Sarajevo

The objective of the review:

Horseshoe kidneys (HK) are the most common type of renal fusion anomaly, but this still amounts to only about 0.25% of the population. In more than 90% of cases, fusion occurs at the lower pole, although renal fusion can occur at

Muhamed Djedovic[1]*, Amel Hadzimehmedagic[1], Nedzad Rustempasic[1], Nermir Granov[1], Edin Kabil[1], Alen Ahmetasevic[1], Bedrudin Banjanovic[1]

any level. Incidence of the coexistence of horseshoe kidney and an abdominal aortic aneurysm (AAA) is 0.12%.

Topic Review:

The isthmus of the HK is usually located in front of the abdominal aorta and inferior vena cava, and very rarely behind them. In two-thirds of patients, anomalous vascularization is present. There are two classifications of anomalous vascularization: Papin's and Crawford's. Crawford's. classification is of greater surgical importance. The patients with HKcan also have two separate or one connected excretory urinary system. The aim of the paper is to present the findings in 3 patients operated on for AAA with HK over the last 6 years (from 1 March, 2015 to 28 February,2021) at the Clinic of Cardiovascular surgery of the Clinical Centre University of Sarajevo. There were 2 male and 1 female patients with an average age of 61.66 (60-55) years. The HK was detected before surgery by ultrasonography, CT scan or CT angiography. All patients had two separated ureters. During a postoperative period, the graft was patent and renal failure or renovascular hypertension was not observed.

Conclusion:

The results suggest that surgical treatment of AAA can safely be performed in patients with HK without increased mortality. These patients require an accurate preoperative diagnosis.

Key words: abdominal aortic aneurysm, horseshoe kidney

ACTA MEDICA SALINIANA

OPHTHALMOLOGY

USE OF BEVACIZUMAB AND AFLIBERCEPT IN THE TREATMENT OF DIABETIC MACULAR EDEMA - COST AND EFFICIENCY ANALYSIS

KATARINA KNEZOVIĆ, ANTONIO SESAR, ANITA PUŠIĆ SESAR, IRENA SESAR, IVAN ĆAVAR, IVAN MERDŽO

1University of Mostar, School of Medicine, BiH
2 Department of Ophthalmology, University Hospital Mostar and University of Mostar School of Medicine, BiH

Katarina Knezović[1], Antonio Sesar[2], Anita Pušić Sesar[2], Irena Sesar[2], Ivan Ćavar[2], Ivan Merdžo[2]

Background:

Diabetic macular edema (DME) is a thickening of the macula due to fluid and lipoprotein accumulation caused by blood vessel leakage.

Objective:

Aim of this study was to investigate the efficiency of aflibercept and bevacizumab in the treatment of diabetic macular edema and examine whether the expected clinical superiority of aflibercept justifies its higher price.

Methods:

The study included 159 patients who were treated in SKB Mostar with intravitreal applications of aflibercept or bevacizumab, in the period from January 1, 2015 to January 1, 2020. The first group consisted of 58 patients who underwent intravitreal application of aflibercept, and the second group of 101 patients who underwent intravitreal application of bevacizumab. All of the data obtained from medical records were divided into input and output parameters. Input parameters that were observed were: age, sex, year of application, working diagnosis, visual acuity, and Optical Coherence Tomography (OCT) finding before treatment. Output parameters were visual acuity and OCT finding after treatment.

Results:

There was a statistically significant decrease in edema at the OCT scans and a significant increase in central visual acuity after application of both bevacizumab and aflibercept ($p < 0.001$).

Conclusion:

Intravitreal application of aflibercept and bevacizumab resulted in a significant reduction of edema, and a significant increase in central visual acuity. Aflibercept and bevacizumab showed similar levels of efficacy in improving visual acuity and reducing DME.The clinical superiority of aflibercept over bevacizumab did not justify its much higher price. Given the cost of aflibercept, bevacizumab achieves higher cost-effectivenes.

Key words: diabetic retinopathy, diabetic macular edema, bevacizumab, aflibercept

TWILIGHT SAGA – IS THE LIFE BLACK AND WHITE?

AIDA KASUMOVIĆ, IVA KROLO, IVANA RADMAN, MAJA MALENICA RAVLIĆ, ZORAN VATAVUK

1University Department of Ophthalmology, University Hospital Center Sestre milosrdnice, Zagreb, Croatia
2Eye Polyclinic "Dr. Sefić", Sarajevo, Bosnia and Herzegovina

Aida Kasumović[1,2], Iva Krolo[1], Ivana Radman[1], Maja Malenica Ravlić[1], Zoran Vatavuk[1]

Purpose:

To assess the visual function before and after correction with soft and rigid gas permeable contact lenses (CLs) in healthy subjects as well as their visual performance, including contrast sensitivity (CS) with spatial frequency, twilight vision (TV), visual acuity, and corneal topography parameters.

Patients and Methods:

60 eyes corrected with soft contact lenses (SCLs) and 30 eyes with rigid gas permeable contact lenses (RGPCLs) were enrolled in this prospective study. All patients underwent following measurements: best spectacle–corrected visual acuity (BSCVA), best contact lens-corrected visual acuity (BCLCVA), TV and CS (Vista Vision Far-Pola, DMD MedTech

charts), autorefractokeratometry (Indo, eRK-10) and corneal topography (Pentacam, OCULUS). All parameters were evaluated before and after CLs fitting and 2 months after baseline. Exclusion criteria included anterior and posterior segment pathology, amblyopia, prior contact lens wear and any ocular surgery.

Results:

All eyes showed better BCLCVA compared to BSCVA. CLs wear showed improvement of CS and TV compared to spectacles. Visual performance was statistically significantly better in group fitted with RGPCLs as oppose to those with SCLs. There were no statistically significant changes in keratometry values measured by autorefractokeratometer and corneal topography at 2-months follow-up.

Conclusion:

CLs wear improved visual performance when compared to spectacles. RGPCLs show superiority to SCLs in visual acuity, CS and TV.

Key words: visual quality, contact lenses, spectacles, contrast sensitivity, twilight vision

THERAPY COMPLIANCE IN PATIENTS TREATED WITH ANTI-VEGF AGENTS

ENESA BEGOVIĆ, HUDA HAJJIR KARČIĆ, SUVAD KARČIĆ

1PZU Poliklinika Oko Dr Karčić, Sarajevo, Bosnia and Herzegovina

Enesa Begović[1], Huda Hajjir Karčić[1], Suvad Karčić[1]

Background:

Data shows that 20% of anti-VEGF treated patients have stopped coming to follow-up after one year.

Aim:

To describe the compliance in patients treated with anti-VEGF agents in our clinic.

Patients and method:

We retrospectively analyzed the results of two groups of 275 total patients. For the first group, we collected patients from 2018, and the second group's patients were from 2019. Both groups were monitored for a minimum of two years. Results: 26% of patients from the first group showed good compliance regarding follow-up visits and therapy continuation. 12% of patients from the first group and 27% of patients from the second group continued with regular follow-up visits and anti-VEGF treatment in 2020 as well. Patients with good compliance received 2.4, 2.2 and 2.2 injections per eye in 2018, 2019 and 2020 respectively. According to visual acuity improvement and OCT parameters, 30% of the total number of patients were classified as responders and the remaining 70% were non-responders. The main reason for bad compliance is dissatisfactory visual outcome. The COVID-19 pandemic had no significant effects on the results of the two groups.

Conclusion:

The good compliance is the key factor for good visual outcomes. Targeting the key factors for dropout may significantly improve the results in treated patients.

Key words: improvement of compliance, anti-VEGF therapy, visual outcome

TREATMENT OF PEDIATRIC UVEITIS WITH ADALIMUMAB: CASE REPORTS

MELIHA HALILBAŠIĆ, AMRA NADAREVIĆ VODENČAREVIĆ, ALMIR ĆOSIČKIĆ, NEJRA HODŽIĆ

1University Clinical Center Tuzla; Eye Clinic, Bosnia and Herzegovina
2University Clinical Center Tuzla; Pediatric Clinic, Bosnia and Herzegovina
3Medical Centre "Plava Poliklinika" Tuzla, Tuzla, Bosnia and Herzegovina

Background:

Pediatric uveitis is a rare disease but can have catastrophic consequences on the visual outcomes in children. Uveitis is chronic and resistant to conventional therapy, and usually idiopathic but can be due to systemic inflammatory disorders or infections as well. Treatment for pediatric noninfectious uveitis is stepwise, with corticosteroids, immunomodulatory therapy, and anti-TNF agents. The main goal of treatment is to achieve steroid-free remission and to reduce the risk of sight-threatening complications.

Meliha Halilbasić[1], Amra Nadarević Vodencarević[1], Almira Ćosićkić[2], Nejra Hodzić1,3

Multidisciplinary management of such children is mandatory.

Aim:

To report two cases of pediatric uveitis successfully treated with administration of Adalimumab.

Methods:

We present two case reports.
Case 1: The case of a 16-year-old girl who was treated for recurrent uveitis in both eyes with developed complications on the anterior and posterior ocular segment. She was earlier treated with topical and systemic corticosteroids, laser photocoagulation, and methotrexate; however, relapses occurred despite all treatment modalities. The patient was diagnosed with incomplete Behcet's disease and Adalimumab therapy was initiated. Inflammation was well-controlled by Adalimumab administration without the need for continuing corticosteroids.
Case 2: a 15-year-old girl with Juvenile Idiopathic Arthritis related uveitis. She was treated with topical, periocular, and systemic steroids and methotrexate but control of inflammation was not achieved. She started treatment with Adalimumab. Her uveitis as well as symptoms of arthritis were well controlled.

Conclusion:

Adalimumab is effective for treating children with a noninfective form of uveitis. Ocular inflammation was well controlled without the need for continuing corticosteroids, thus preventing further complications and possible significant vision loss.

Key words: Adalimumab, ocular inflammation, Juvenile Idiopathic Arthritis, Behçet uveitis, pediatric ophthalmology

SURGICAL TREATMENT FOR THE CONTRACTED ANOPHTHALMIC SOCKET

SELMA TERZIĆ, FARIS SALIHBAŠIĆ, JASMINA ALAJBEGOVIĆ-HALIMIĆ, NINA JOVANOVIĆ

1School of Medicine, University of Sarajevo, BiH
2Private Ophthalmology Practice "Dr. Halimic", Sarajevo, BiH
3Canton Hospital Zenica, Ophthalmology Department, Zenica, BiH

Selma Terzić[1], Faris Salihbašić[1], Jasmina Alajbegović-Halimić[2], Nina Jovanović[2,3]

Objective:

In this topic review we present a case of a complicated anophthalmic socket.

Topic review:

65-year-old female patient had right eye removal in her early childhood. She was able to wear a prosthesis for a short time. Initial eye examination showed a narrow right palpebral fissure, absent lower fornix, and contracted lower eyelid, shallow ophthalmic socket, post-enucleation socket syndrome with ptosis and lash ptosis and suspected scleral remnants. Ophthalmoscopy showed grade I/II hypertensive fundus in the left eye, that was otherwise normal with 20/20 vision and normal intraocular pressure. The patient was diagnosed with right anophthalmic socket contraction and severe cicatrization. The patient underwent four main surgical procedures with additional tarsorrhaphy and scarring excision. The surgical protocol was as follows: explorative surgery for eye remnants, buttock dermis-fat graft for the atrophic socket filling, fibrosis and scarring tissue excision, lid mucosa for fornices reconstruction, auricular graft for posterior lamella of the lower lid reconstruction. However, the prosthesis fell out again and produced even more scarring. The patient had four injections of fluorouracil followed by upper and lower fornix reconstruction using the buccal mucosal graft. Six months after the final surgery lateral lower lid reconstruction was done using the contralateral free tarsal graft plus periosteal flap with trimming of the thick auricular graft at the medial third of the lid.

Conclusion:

Scarred and contracted socket surgeries are challenging procedures and often require repeated surgeries. Conformer cannot be removed prematurely and antimetabolite injections can have a beneficial effect in socket reconstructive surgeries.

Key words: post-enucleation socket syndrome, oculoplastic surgery, socket reconstruction, fluorouracil, oculoprothesis

REAL-LIFE ANATOMICAL AND VISUAL ACUITY OUTCOMES IN TREATMENT-NAIVE PATIENTS TREATED WITH INTRAVITREAL AFLIBERCEPT FOR DIABETIC MACULAR OEDEMA; 36 MONTHS RESULTS

MARKO LUKIĆ

1Moorfields Eye Hospital NHS Trust

Marko Lukic[1]

Purpose:

To assess structural and functional outcomes of treatment with intravitreal aflibercept (® Eylea) for diabetic macular oedema (DMO) in treatment-naive patients.

Participants and Methods:

Sixty-four anti-VEGF naïve eyes with diabetic macular oedema receiving intravitreal anti-VEGF therapy were included in this 36-month statistical analysis. Each patient had corrected visual acuity (VA) in ETDRS letters, OCT central foveal thickness (CFT) and macular volume (MV) performed at baseline, 12, 24 and 36 months.

Results:

The mean number of aflibercept injections received at month 12, 24 and 36 was 7.09, 2.93 and 2.57, respectively. Twenty-seven percent of eyes had macular laser prior the baseline. At baseline, the mean VA (SD) was 61.45 (16.30) ETDRS letters, the mean CFT (SD) was 422 (138) μm whilst the mean MV (SD) was 9.512.01) mm3. At 36 months, the mean VA (SD) was 68.34 (13.66)ETDRS letters (p= 0003). The mean CFT (SD) was 303 (106) μm (p < .0001) and the mean MV (SD) was 8.35 (1.62) mm3 (p = 0.0022) at 36 months. Sixteen (25 %) eyes gained ≥ 15 ETDRS letters at month 36, and 33 (52%) eyes had a decrease in CFT of ≥ 100 microns at the same time. Twenty-three (36 %) eyes achieved 10 ETDRS letters or more gain at month 36. Conclusions: There was a significant improvement in VA and in anatomical outcomes in aflibercept-treated eyes at 36 months after commencing treatment for DME in real life settings.

Key words: Diabetic macular oedema, OCT, real-world, aflibercept

MULTIFOCAL INTRAOCULAR LENSES AS AN EFFECTIVE CHOICE IN CORRECTION OF REFRACTIVE ERROR IN MIDDLE-AGED PATIENTS

BOBANA PETROVIĆ, MELISA AHMEDBEGOVIĆ PJANO, ALMA BIŠČEVIĆ, AJLA SKOPLJAK-SALKICA, NIKICA GABRIĆ, SENAD GRIŠEVIĆ

1Special Hospital for Ophthalmology Svjetlost -Sarajevo

Bobana Petrović[1], Melisa Ahmedbegović Pjano[1], Alma Biščević[1], Ajla Skopljak-Salkica[1], Nikica Gabrić[1], Senad Grišević[1]

Aim:

The implantation of multifocal intraocular lenses (MFIOL) and multifocal intraocular toric lenses (MFIOL Toric) are method of choice for patients with presbyopia and different refractive errors.

Introduction:

The implantation of multifocal intraocular lenses (MFIOL) results with good near, close range and distance vision. It is also possible to perform correction of the cylinders by multifocal intraocular toric lenses (MFIOL Toric) implatation for patients with astigmatism.

Methods:

We present case series for three presbyopia patients with different refractive errors; hyperopia, myopia and astigmatism, age 50-60 years old. We performed PHACO lens surgery (CLE-Clear Lens Extraction).

Results:

First week postoperative our patients gained visual acuity at near range J 1 and visual acuity at distance 1,0. During 1 year follow-up visual acuity at near range and distance was 1,0.

Conclusion:

PHACO (CLE) surgery with implantation of MFIOL or MFIOL Toric lenses enables excellent visual acuity for near, medium and distance proximity on middle aged patients without further optical aids.

Key words: Clear Lens Extraction (CLE), MFIOL, MFIOL toric

PREVALENCE OF AMBLYOPIA AND REFRACTIVE ERRORS AMONG PRESCHOOL AND SCHOOL CHILDREN IN CITY OF TUZLA, BOSNIA AND HERZEGOVINA

AMRA NADAREVIĆ VODENČAREVIĆ, MELIHA HALILBAŠIĆ, ANIS MEĐEDOVIĆ, VAHID JUSUFOVIĆ, ADISA PILAVDŽIĆ, AIDA DRLJEVIĆ, NEJRA HODŽIĆ

1University Clinical Center Tuzla; Eye Clinic, Bosnia and Herzegovina
2Medical Centre "Plava Poliklinika" Tuzla, Tuzla, Bosnia and Herzegovina

Amra Nadarević Vodenčarević1, Meliha Halilbašić1, Anis Međedović1, Vahid Jusufović1, Adisa Pilavdzić1, Aida Drljević2, Nejra Hodzić2

Aim:

Aim of this study was to establish the prevalence of amblyopia and refractive errors in preschool and school children between 4 and 15 years of age in Tuzla, Bosnia and Herzegovina and as well and to examine amblyopia relations with anisometropia and strabismus.

Methods:

Children from all elementary schools in the city of Tuzla and as well from eight day-care centres were screened for refractive errors in the period 2015-2019. Any child, who failed to pass the screening examination, was referred to an ophthalmologist at University Clinic Centre Tuzla. The obtained data were analyzed using non-parametric statistics.

Results:

During 2015, the highest number of children was examined. Total of 7415 children, which included 3790 males and 3625 females, in the age range of 3 to 15 years from 24 schools and 8 preschool were screened. Fifty-eight children (1.9%) were diagnosed with amblyopia, unilateral in 28 and bilateral in 31. In the total sample of children who were completely evaluated (n=145; 290 eyes) the most common refractive error was astigmatism, in 152 (52.4%) eyes.

Conclusion:

This study highlights the importance of detecting refractive errors and amblyopia in children and correcting them in time to enhance the development of children. Children of low-income families, in which usually amblyopia go undetected for a longer period of time were equally involved in this study.

Key words: Amblyopia, refractive errors, Astigmatismus

MICROBIOLOGICAL EVALUATION OF BACTERIAL CONJUNCTIVITIS IN CHILDREN

JASMINA ALAJBEGOVIĆ-HALIMIĆ, NINA JOVANOVIĆ, TARIK HALIMIĆ

1Private Ophthalmic Practice "Dr Halimić", Sarajevo, Bosnia & Herzegovina
2Eye Department Cantonal Hospital, Zenica, Bosnia & Herzegovina
3Eye Clinic, University Clinic Center, Mostar, Bosnia & Herzegovina

Jasmina Alajbegović-Halimić[1], Nina Jovanović1,[2], Tarik Halimić[3]

Background:

Incidence and symptoms of bacterial conjunctivitis depend on etiological factors, clinical presentation, and age. The most common are Staphylococcus aureus, Haemophilus influenza, Streptococcus pneumonia, Moraxella catarrhalis.

Goals:

To evaluate the most common microbial pathogens found in eye swabs and drug susceptibility of antimicrobial agents given in antibiogram. Methods: Retrospective analysis of 73 microbiological findings (53 children) between January 2019 and March 2020 was conducted. The blood and chocolate Gram staining agar was used, incubated under 5-10% CO2, 35-37˚C with daily reading. The following antibiotics were tested: chloramphenicol, ciprofloxacin, gentamicin, moxifloxacin, ofloxacin, trimethoprim/sulfamethoxazole, tetracycline, erythromycin, ampicillin, azithromycin, amoxicillin, clindamycin, and penicillin. Results: In a total of 53 eye swabs were taken, 43.39% male and 56.60% female, age ranged from 0-17 (mean age 2.7±4.4 years) most common patient age was 2 years in 75.5% cases. The number of performed eye swabs was 73, and pathogens were isolated in 95.9% of cases, and only in 4.1% cases, there were no pathogens in eye swabs. Among isolated pathogens, Staphylococcus aureus was proved to be the most common, in 27.4% of cases, the antibiotic with the highest drug susceptibility was chloramphenicol in 62.3% of cases.

Conclusion:

Microbiological evaluation of bacterial conjunctivitis is reasonable in moderate to severe cases associated with mucopurulent discharge, prolonged treatment, and as confirmation of diagnosis. Choosing the accurate antibiotic therapy requires identification of the pathogen and assessing its susceptibility. Targeted treatment reduces the risk of antibiotic overdosing or unnecessary use of antibiotics. Prudent use of antibiotics reduces antimicrobial resistance.

Key words: conjunctivitis, children, microbiological evaluation, eye swab

INTRAOPERATIVE AND POSTOPERATIVE COMPLICATIONS OF PARS PLANA VITRECTOMY- LEVEL OF VEGF AS A BIOMARKER AND PREDICTOR OF COMPLICATIONS

FARUK NIŠIĆ, BUJAR RIZVANOLLI

1Clinic for Eye Diseases, Clinical Center of the University of Sarajevo
2Vision Clinic, Peja, Kosova Republic

Faruk Nisic1, Bujar Rizvanolli2

Introduction:

The study aimed to investigate intraoperative and postoperative complications of pars plana vitrectomy (PPV) and determine the association of complications with the concentration of vascular endothelial growth factor (VEGF) in the vitreous.

Methods:

Ninety subjects were surgically treated for PPV and followed for 12 months at the Eye Clinic, University of Sarajevo. Exclusion criteria were the presence of other eye diseases, previously performed PPV, and previous intravitreal or systemic anti-VEGF therapy. Intraoperative complications of PPV were analyzed: blunt and sharp membrane dissection, intraoperative bleeding stopped by an increase in intraocular pressure, pressure with a blunt instrument, or the use of diathermy. Postoperative complications of PPV, on the first postoperative day and through twelve-month follow-up were analyzed. VEGF levels were determined using a Quantikine ELISA test.

Results:

In subjects with PPV complication, VEGF levels in the vitreous at the time of PPV were significantly higher (vitreal bleeding on the first day after PPV ($p = 0.003$); FVP on the first day and 12 months after PPV ($p = 0.002$ and $p < 0.001$); iris rubella on the first day and 12 months after PPV surgery ($p < 0.001$, and $p = 0.001$); NVG on the first day and 12 months after PPV surgery ($p = 0.043$ and $p = 0.011$), compared to subjects without complications.

Conclusions:

The existence of intraoperative and postoperative complications of PPV can significantly limit the success of the surgery. This outcome can be predicted and potentially prevented if we know the preoperative level of VEGF in the vitreous.

Key words: postoperative complications of pars plana vitrectomy, proliferative diabetic retinopathy, vascular endothelial growth factor,

INITIAL RESPONSES TO INTRAVITREAL BROLUCIZUMAB IN NON-RESPONDERS FOR NEONVASCULAR AGE-RELATED MACULAR DEGENERATION

AJLA PIDRO, AIDA PIDRO

1Polyclinic Anda Zagreb, Croatia
2 Ophthalmology Department General Hospital Sarajevo, BiH

Ajla Pidro1, Aida Pidro2

Main objective is to report a case series of initial responses to intravitreal brolucizumab in non-responders to standard anti-VEGF therapy for neovascular age-related macular degeneration.
Three eyes, non-responders to traditional treatment with anti-VEGF therapy, with neovascular age related macular degeneration were switched to intravitreal brolucizumab (6mg in 0,05ml). Four weeks post-injection there was no significant change in visual acuity in two patients and one line of improvement was observed in one patient. Optical coherence tomography scans significantly improved IRF/SRF, central macular

thickness, pericentral thickness, reduction of PED and CNV membrane in all three patients. No adverse reactions were observed. While there were no significant changes in vision, reduction improvement in OCT findings suggests increased efficacy in these cases after single application.

This is the first case series applying brolucizumab in patients in our region. Longer-term real life studies will be needed to confirm the safety, efficacy and ability to stay on extend treatment intervals. Main goal is a reduction of injection frequency while improving visual outcomes, and certainly improvement in quality of life. Regardless of improvement in vision outcomes with anti-VEGF treatment, patients with neovascular AMD ultimately lose vision, likely due to underlying continual retinal degeneration and progression of geographic atrophy. If brolucizumab can cause faster CNV reduction in non-responders it will be exciting to see what it can do in long term vision in good responders. With these initial results intravitreal brolucizumab might be a good treatment agent for in non-responders to standard anti-VEGF therapy for wet age-related macular degeneration.

Key words: anti-VEGF, brolucizumab, macular degeneration, choroidal neovascularization

IN VIVO 3-DIMENSIONAL CORNEAL EPITHELIAL THICKNESS MAPPING AS AN INDICATOR OF DRY EYE: PRELIMINARY CLINICAL ASSESSMENT

INES MATOC, AIDA KASUMOVIĆ, ARMIN KASUMOVIĆ, IVAN SABOL, SANJA SEFIĆ KASUMOVIĆ

1Eye polyclinic „Dr. Sefić“, Ferhadija 5, Sarajevo, Bosnia and Herzegovina
2The Ruđer Bošković Institute, Bijenička 54, Zagreb, Croatia

Ines Matoc[1], Aida Kasumović[1], Armin Kasumović[1], Ivan Sabol[2], Sanja Sefić Kasumović[1]

Purpose:

To investigate whether anterior-segment optical coherence tomography (AS OCT) epithelial mapping may detect changes in corneal epithelium in patients with autoimmune thyroid disease.

Methods:

This cross-sectional study included three age-matched groups: control group, group of patients with autoimmune thyroid disease without dry eye symptoms (ATD-) and with dry eye symptoms (ATD+), all 18 to 50 years of age. Scanning was perofrmed on the AS OCT (AngioVue, Avanti RTVue-XR, Optovue, CA). Corneal and epithelial parameters within the central 5-mm and 7-mm zone were analysed. Central, average, superior, inferior, maximal and minimal epithelial thickness, and its variability were measured. Schirmer test with topical anaesthetic had beenperformed on each patient.

Results:

There was no significant difference in superior or inferior epithelial thickness, maximal and minimal epithelial value or central corneal thickness between three groups of patients. Epithelial thickness variability was significantly lower in control group of patients. Central epithelial thickness measured within the 7-mm zone was significantly higher in control group. Correlation between Schirmer test values and corneal variables in ATD- group showed negative correlation with maximal epithelial value and superior epithelial thickness within 7-mm zone. The same analysis in ATD+ group showed positive correlation between Schirmer test values and superior epithelial thickness, central epithelial thickness, maximal and minimal epithelial value measured in 7-mm zone.

Conclusions:

The epithelial variables in the 7-mm corneal zone provided by the AS-OCT epithelial mapping may be useful, but not reliable diagnostic tool in following patients with autoimmune thyroid disease and dry eye symptoms.

Key words: AS OCT, epithelial thickness, thyroid eye disease, dry eye

HUGHES FLAP FOR THE RECONSTRUCTION OF THE LOWER EYELID DEFECTS: A CASE SERIES STUDY

SUNITA MEHIĆ, SELMA TERZIĆ, NINA JOVANOVIĆ

1Faculty of Medicine, University of Sarajevo
2Ophthalmology Department, Canton Hospital Zenica
3Private Ophthalmology Practice "Dr.Halimic"

Sunita Mehic[1], Selma Terzic[1], Nina Jovanovic[2,3]

Objective:

To review the use of Hughes tarsoconjunctival flap in the reconstruction of lower eyelid defects after removal of basal cell carcinoma. This procedure is used to repair full-thickness lower eyelid defects which include more than 50% of the eyelid margin.

Topic review:

In this case series, we present three cases with two patients who had primary tumor excision and reconstruction, while the third had recurrence after tumor removal elsewhere and absent posterior lamella throughout the entire lower eyelid. The excision of the tumor was within 4 mm of the microscopically clean border in local anesthesia. In one case, the removed sample was sent to ex-tempore pathohistological (PH) analysis prior to reconstruction while for the other two patients the ex-tempore analysis could not be obtained. However, clear margins were seen on permanent PH section. Hughes tarsoconjunctival flap was used for the reconstruction of conjunctiva and posterior lamella. The anterior lamella was reconstructed with a myocutaneous sliding or advancement flap. In the postoperative follow-ups, hyperemia and edema were present for no more than three weeks after the surgery. Separation of the eyelids and the debridement were done three weeks after the surgery in topical anesthesia.

Conclusion:

Hughes tarsoconjuctival flap shows aesthetically and functionally great results when used for the reconstruction of large full-thickness defects which include the central portion of the lower eyelid. Donor site morbidity is minimal and redness and edema subsided after four weeks which offers a relatively short downtime compared to the extent of the procedure and diagnosis.

Key words: Hughes tarsoconjuctival flap, reconstruction, full-thickness lower eyelid defects, basal cell carcinoma

HUMAN FRESH CORNEAL LENTICULE IMPLANTATION WITH SMILE SURGERY AND AUTOLOG SERUM -NEW APPROACH IN TREATMENT OF ADVANCED KERATOCONUS DISEASE-CASE REPORT

FARUK SEMIZ, ANITA SYLA LOKAJ, NJOMZA HIMA-MUSA, CEREN ECE SEMIZ, OLCAY SEMIZ

1Department of Ophthalmology, Eye Hospital, Prishtina, Kosova

Faruk Semiz[1], Anita Syla Lokaj[1], Njomza Hima-Musa[1], Ceren Ece Semiz[1], Olcay Semiz[1]

Aim:

The aim of our study is to investigate the feasibility and effect of fresh lenticule implantation as allogenic graft that will be taken from myopic patients to implant in patients with keratocouns disease using VisuMax laser-Smile module surgery with primary objective to increase central corneal thickness, secondary to improve visual acuity and reduces K-values and to show the autologous serum drop improve the recovery of patients with mild dry eye in keratoconus disease.

Topic review:

A 19-year-old female patient with keratoconus and chronic hydrops cornea referred to the cornea department of our clinic with thin cornea and hydrops. Minimum corneal pachymetry in the right eye was 378 μm as measured by AS-OCT Atlas corneal topography showed steep K-values 82.60 ax.37 and flat K 75.15 D ax 127 with -7.45 corneal astigmatism. Central corneal thickness was improved at the same day of surgery and vision started to improve at first week postoperatively. Corneal topography showed a significant decrease

in the anterior K1 and K2. The graft in recipient cornea was clearly visible during the one-year study period.

Conclusion:

In conclusion, this case report is the first study in the world that may suggest that this procedure using fresh lenticule with stromal stem cells and live keratocites is safely and effectively increase corneal thickness and improves visual acuity with no adverse effects, which may provide new avenues in the treatment of corneal ectasia, but to maintain healthy ocular surface in advanced keratoconus eye using of autolog serum is the best choice.

Key words: keratoconus- hydrops, human fresh corneal lenticule, stromal stem cells, Smile surgery, autolog serum

EYE DISEASE OF SELECTED PAINTERES DID OPHTHALMOLOGICAL CONDITION CHANGE THEIR LATER WORK?

AMRA NADAREVIĆ VODENIČAREVIĆ, MELIHA HALILBAŠIĆ, ANIS MEDJEDOVIĆ, NEJRA HODŽIĆ, AIDA DRLJEVIĆ

1University Clinical Center Tuzla; Eye Clinic, Bosnia and Herzegovina
2Medical Centre "Plava Poliklinika" Tuzla, Tuzla, Bosnia and Herzegovina

Amra Nadarević Vodeničarević[1], Meliha Halilbašić[1], Anis Medjedović[1], Nejra Hodžić[1,2], Aida Drljević[2]

Introduction:

Monet, Degas, Cassatt and Pissarro were all famous artist that suffer from eye disease that affected their later work. In the history of the art probably the most talked examples are Claude Monet who had cataracts and as well Edgar Degas who had retinal disease, today suspected by many scientists he had macular degeneration. Most of the experts in the art history agree that as Claude Monet aged, his painting noticeably lost subtlety. According to the experts his brush strokes became bolder and colors strikingly blue, orange or brown. His images lost detail and flowed into one another.
Aim: The purpose of this work is to describe briefly eye disease of selected eye painters. The method used in this work was a selective literature research of books and journals.

Results:

The biggest problem discovering what possible disease could have any of these artists is the lack of data. Many of them hadn't talked about their personal life and about their personal health to the public. Some of them had a cataract that could affected her work in the later years. Unfortunately the cataract surgery in 1900s was not always successful to restore the vision.

Conclusion:

Although the science has discover a lot of the possible eyesight problems in art world. The main problem is that no medical records of these artist survive. There will be always a little bit of mystery in the world of art.

Key words: painters, art, ophthalmology

COMPARISON OF DRY EYE INDICATORS IN HYDROGEL AND SILICONE HYDROGEL CONTACT LENSES

ANA BRKIĆ, ANTONIO SESAR, IVAN MERDŽO, IVAN ĆAVAR, IRENA SESAR, ANITA PUŠIĆ-SESAR

1 School of Medicine University of Mostar, Mostar, Bosnia and Herzegovina
2Department of Ophthalmology, University Clinical Hospital of Mostar, Mostar, Bosnia and Herzegovina

Ana Brkić1, Antonio Sesar1,2, Ivan Merdžo1,2, Ivan Ćavar1,2, Irena Sesar1,2, Anita Pušić Sesar1,2

Background:

Contact lens wearing can be associated with eye dryness symptoms in relationship to variety of composition and oxygen permeability in different type of contact lenses.

Aim:

To compare subjective and objective eye dryness indicators of hydrogel and silicone hydrogel contact lenses.

Methods:

This cross-sectional study was conducted from April 1 to July 1, 2020 at the Eye Clinic of the University Clinical Hospital Mostar. The study included 40 subjects divided in two groups (20 hydrogel and 20 silicone hydrogel contact lens wearers), age and sex matched. Objective eye dryness indicators are observed by Tear Break Up Time (TBUT) and Corneal Fluorescein Staining Index (CFSI) tests. Subjective eye dryness indicators were analyzed by Standard Patient Evaluation

Eye Dryness (SPEED) and Ocular Surface Disease Index (OSDI) questionnaires.

Results:

Hydrogel contact lens had significantly more corneal epithelial damage according to the CFSI index compared to silicone hydrogel contact lens ($\chi 2 = 20.314$; $p<0.001$). Tear film examined by TBUT test was more unstable in hydrogel (9.18±1.14 s) than in silicone hydrogel contact lenses (12.20±0.89 s) ($t = 9.343$; $p < 0.001$). According to the OSDI questionnaire, silicone hydrogel lenses were associated with significant lower symptoms of eye dryness ($\chi 2 = 11.757$; $p=0.001$), while the feeling of dryness by the SPEED questionnaire did not show difference between compared groups.

Conclusion:

Silicone hydrogel contact lenses are associated with significant lower level of
objective indicators of eye dryness such as corneal epithelial damage and unstable tear film, as well
as minor disturbances of subjective eye dryness symptoms.

Key words: hydrogel, silicone hydrogel, dry eye, contact lenses

CROSS-LINKING TREATMENT FOR BETTER VISUAL ACUITY

SENAD GRIŠEVIĆ, FANKA GILEVSKA, ALMA BIŠČEVIĆ, MELISA AHMEDBEGOVIĆ-PJANO

1Special Hospital for Ophthalmology Svjetlost -Sarajevo, BiH
2Ophthalmology Clinic " Sistina Ophthalmology", Skopje, North Macedonia.

Senad Grišević[1], Fanka Gilevska[2], Alma Biščević[1], Melisa Ahmedbegović-Pjano[1]

Aim:

To correlate the maximum anterior sagittal curvature (Kmax) changes and uncorrected (UDVA) and corrected distance visual acuity (CDVA) in keratoconus patients after the cross-linking (CXL) procedure.

Methods:

Forty-four eyes of 34 patients with keratoconus were analyzed after the standard Dresden protocol CXL procedure had been performed. All patients underwent complete preoperative examination with a follow-up of 12 months with focus on UDVA, CDVA and Oculus Pentacam (Scheimpflug technology) analysis. We analyzed and correlated Kmax changes in the postoperative period of 12 months together with visual acuity changes.

Results:

Visual acuity improved significantly in the first 3 months after the procedure and even more significantly until the end of the first year. Even Kmax is the most relevant and most followed parameter for progression and regression of keratoconus, its lowering was not directly correlated with the visual acuity improvement (both uncorrected and corrected) in the first 6 months after corneal CXL procedure. Kmax was changed significantly in the period of 12 months post cross linking, but not in the first 6 months.

Conclusion:

Corneal CXL should be considered as a procedure not just for corneal stiffening and stabilization, but also for visual acuity improvement in keratoconus patients.

Key words: corneal stroma, keratoconus, refractive errors, tomography

EFFECTS OF POLYPHENOLS IN AGE RELATED MACULAR DEGENERATION (AMD)

NEJRA HODŽIĆ, ZUMRA HODŽIĆ, AMRA NADAREVIĆ-VODENČAREVIĆ, MELIHA HALILBAŠIĆ

[1]Medical Center Plava Poliklinika; Department of Ophthalmology, Tuzla, BiH
2Health Care Center Lukavac; Department of Family Medicine, Tuzla, BiH
3University Clinical Center Tuzla; Eye Clinic, Tuzla, BiH

Objective:

The objective of the review is to show the possibility of using polyphenols in the prevention and treatment of AMD.

Topic Review:

Age related macular degeneration (AMD) is a disease of the macular area and is the most common cause of irreversible vision loss in people over 50 years of age. Today, 8.7% of the adult population in the world has AMD. Many risk factors for AMD, including aging,

Nejra Hodžić[1], Zumra Hodžić[2], Amra Nadarević-Vodenčarević[3], Meliha Halilbašić[3]

smoking, exposure to UV and blue light, chronic inflammation, and improper diet, may be associated with oxidative stress. AMD treatment focuses on antioxidants to prevent or reduce the effects of oxidative stress and on antiVEGF substances to reduce neovascularization. In this regard, certain food ingredients and supplements that have antioxidant properties may contribute to the prevention and progression of AMD. Polyphenols can be considered as preventive and therapeutic compounds in diseases associated with aging because they have antioxidant properties. For example, blueberry anthocyanins, turmeric, green tea polyphenol extract and cranberry juice have a protective effect on retinal damage caused by blue light. Quercetin, present in onions and apples, enhances antiVEGF therapy which is the only effective treatment for the wet AMD, while resveratrol, found in grapes, red wine, blueberries and cocoa neutralizes the negative effects of antiVEGF therapy.

Conclusion:

Oxidative stress can be exacerbated by improper diet, and thus increase the possibility of the occurrence and progression of AMD, which is why during the ophthalmological examination of persons at risk, it is necessary to advice on proper nutrition and appropriate supplementation. In this regard, polyhpenols are potential preventive and therapeutic agents in AMD.

Key words: AMD, oxidative stress, antioxidants, polyphenols

CHOROIDAL MALIGNANT MELANOMA CASE REPORT

ARMIN KASUMOVIĆ, INES MATOĆ, AIDA KASUMOVIĆ, SANJA SEFIĆ KASUMOVIĆ

1Eye Polyclinic "Dr. Sefić", Sarajevo, Bosnia and Herzegovina
2University Hospital Center Sestre milosrdnice, Zagreb, Croatia

Armin Kasumović[1], Ines Matoc[1], Aida Kasumović[1,2], Sanja Sefić Kasumović[1]

Background:

Choroidal malignant melanoma is the most common primary intraocular malignant tumor. Patients with choroidal malignant melanoma presents with gray-green or brown or yellow choroidal mass with accompanying presence of subretinal fluid, thickness more than 2 mm and breaks in Bruch membrane with subretinal hemorrhage.

Aim:

We herein report a presentation of choroidal melanoma in a female patient, 68 years. Main complaints were dark shadow for more than three months in the right eye visual field, for five years was not able to smell and lost taste sensation.

Methods:

Indirect ophthalmoscopy with Volk Digital Wide Field Lens of the right eye revealed immovable solid retinal detachment in temporal half, in temporal lower part serous retinal detachment and diffuse spot haemorrhages. A B scan ultrasound (Quantel Medical Aviso) of the right eye revealed middle to highly reflective echo of solid tissue, surrounded by highly reflective membrane. Visual acuity was 0,63 (20/30) without correction. An MRI scan was performed urgently. Stated diagnosis of malignant choroidal melanoma was confirmed by ECHO, Ultrasound biomicroscopy and Fluorescein angiography in CHC "Sveti Duh".

Results:

An enucleation of the right bulb with orbital implant placement was carried. Patient was advised to check the values of liver enzymes and X-rays of the lungs.

Conclusion:

Malignant melanomas of the uvea are frequented more often in the choroid and the ciliary body than in the iris. Timely detection and treatment can limit the tumor, prevent metastases, and prolong the patient's life.

Key words: choroidal malignant melanoma, leucocoria

5-FLUOROURACIL (5-FU) INJECTIONS FOR THE MANAGEMENT OF POST-SURGICAL SCARRING OF THE PERIOCULAR REGION

NINA JOVANOVIĆ JASMINA ALAJBEGOVIĆ-HALIMIĆ

1Ophthalmology Department, Canton Hospital Zenica
2Private Ophthalmology Practice "Dr.Halimic"

Nina Jovanovic[1,2] Jasmina Alajbegovic-Halimic[2]

Background:

Skin and conjunctive tend to scar after periocular reconstructive surgeries. Cicatrization may be vision-threatening in the case of lagophthalmos and have functionally and aesthetically poor outcomes despite an uneventful surgical course and optimal postsurgical treatment. A limited number of options are available to prevent and treat scars with the semi-successful outcome.

Aim:

To determine the beneficial effects of antimetabolite injections on scars and fibrotic tissue after periorbital surgical procedures.

Methods:

A prospective case series of seven patients are obtained. We tested the utility and outcomes of serial injections of 5-fluorouracil (5-FU) during three to six courses of injections with 2 weeks interval. Photos before and after each session were taken with a macroscopic description of the tissue, and patient satisfaction questionary before and after each procedure.

Results:

Preliminary data on the injection treatments were presented as part of the larger study that aims to estimate the dose-response effect on the scarring tissue preoperatively and postoperatively. In this case series, we only present results of injection treatment for cicatricial tissue after the surgery. All patients experienced an improvement in the scar thickness, strength and retraction marked median 7/10 on the scale, and individual satisfaction and better aesthetic outcome marked as median value 8/10 on the scale. No side-effect or complications were noticed.

Conclusion:

5-FU injections are a safe and beneficial treatment option for patients experiencing mild to severe levels of scarring after the reconstructive procedure of the periorbital region. They are cheap, and widely available and should be adopted in facial plastic practices.

Key words: 5-fluorouracil injection, scarring, periorbital region, reconstructive surgery, fibroblast