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Dear participant

It is with great pleasure that we welcome you to the 13th edition of the Antwerp Medical Students' Congress!

Every single year, when hosting the Antwerp Medical Students' Congress, we intend to attract a wonderful group of (para)medical students. Already in the registration and preparation phases of this event, we were astonished by your interest and commitment. It promises to be an educational and inspirational experience with young, ambitious and passionate scientists.

Right now, we can proudly present to you our 2019 edition. We hope for it to be a platform to discuss research conducted by fellow students from all over the world, a place where you can get to know the most innovative and interesting topics in Belgian and international medicine and most of all, an opportunity to make valuable connections for your future careers.

We hope to play a part in broadening your scope of medical knowledge and to give you a chance to get some first-hand experience in lesser-known topics.

The AMSC 2019 would not exist without the wonderful help of University Hospital of Antwerp (UZA). We are grateful for them and their dedication to teaching, which shows through their support of our congress. We hope to continue our collaboration in spreading science all over the world with future editions of the AMSC.

We would also like to thank the University of Antwerp for their contribution to organising this yearly event. With the dean's office, always ready to help and the professors and teachers who make an appearance in our congress.

Let us make this edition an unforgettable experience for every participant, speaker, helper and team member.

Have a wonderful time in Antwerp!

The organising team of the AMSC 2019

If you encounter any problems during the congress, please contact us on +31636434970 (president).



Antwerp, 5th August 2019

Dear participant

Welcome to the vibrant city of Antwerp!

Antwerp is a cosmopolitan city in the very heart of Europe. It combines the best advantages of being a big city with the sentiment of a small-town. Everything is within reach and easily accessible. Antwerp is a city with a rich and diverse group of inhabitants, consisting of more than 174 nationalities.

Antwerp has got it all: trendy shopping districts, creative start-up hubs, lovely architecture, interesting museums, tasty food from all over the world and a vibrant nightlife. Antwerp embraces the old and the new, work and pleasure, international character and genuine concern for nurturing a highly enjoyable quality of life for all its residents and visitors.

Although it might not feel like it, Antwerp, with more than 40.000 full time students, is a true student city. The students are not gathered in one quarter and they stick around during weekends and holidays, making them real inhabitants of the city. Make sure to pass by the Ossenmarkt, with its student bars and lively atmosphere it is the hub of the University district.

You might have already noticed, but Antwerp is a city of innovation. The study programmes and researches at the Institute of Tropical Medicine catch the eye: in a temperate marine climate it carries out pioneering studies in tropical diseases. These are supplemented with equally impressive AIDS studies: influenced by Peter Piot, world famous scientist and former chairman of UNAIDS, Antwerp researchers have laid a solid foundation for the international fight against AIDS and HIV.

The University of Antwerp focuses on nine research areas and has been an international leader in these for years: from research in drug development to sustainability studies. Even in the smallest things, the University of Antwerp is among the greatest: it has the strongest electron microscope in the world for carrying out research at nano level.

We bet you already feel the Antwerp vibe! Have a nice and especially interesting stay here. We would love to welcome you in our city, any time of year. Share your experiences in Antwerp with us, using the hashtag #visitantwerp. We might even repost your picture on our Instagram account 'antwerpen'. If you can't get enough of Antwerp, Visit Antwerp on Facebook or Instagram (@antwerpen) is definitely worth a like or a follow.

Enjoy Antwerp!

Scientific program AMSC 2019

Tuesday 10/09/2019

09:00 - 10:00	Registrations and breakfast	UA - Hall S
10:00 - 10:15	Opening ceremony	UA - O.02
10:30 - 12:30	Oral research presentations	UA - O.02
12:30 - 13:30	Lunch	UA - Hall S
13:30 - 17:00	Oral research presentations	UA - O.02

Wednesday 11/09/2019

08:30 - 09:30	Registrations and breakfast	UA - Hall S
09:30 - 12:30	Poster research presentations	UA - Hall S
12:30 - 13:30	Lunch	UA - Hall S
13:30 - 15:30	Poster research presentations	UA - O.030, Hall S
15:30 - 16:00	Jury break	
16:00 - 16:30	Award ceremony	UA - O.02

Thursday 12/09/2019

08:00 - 09:00	Registrations and breakfast	UA - Hall S
09:00 - 10:30	Lecture 1: Pre-hospital care <i>Mr. Genbrugge</i> <i>Adjunct federal health inspector</i>	UA - S1
10:30 - 10:45	Coffee break	UA - Hall S
10:45 - 12:15	Lecture 2: TBA	UA - S1
12:15 - 13:15	Lunch	UA - Hall S
13:15 - 13:30	Assignment of workshop groups	UA - Hall S
13:30 - 17:00	Workshop Neonatology	UA - S.020
13:30 - 17:00	Workshop Advanced suturing	UA - T3, 3 rd floor
13:30 - 17:00	Workshop Medical taping	UA - S.037

Friday 13/09/2019

08:00 - 08:45	Registrations and breakfast	UA - Hall S
09:00 - 10:30	Lecture 3: Digital healthcare <i>Mr. F. Robben, Mr. R. Maertens, Mevr. K. Fredrix, Mr. Stijn Longin</i>	UA - O
10:30 – 11:00	Coffee break	UA - Hall S
11:00 - 12:30	Lecture 4: Alzheimer disease biomarkers: implications for diagnosis and treatment <i>Prof. Dr. Engelborghs</i> <i>Head of neurology UZ Brussels, also affiliated to VUB and UAntwerpen</i>	UA - S1
12:30 - 13:15	Lunch	UA - Hall S
13:15 - 13:30	Assignment of workshop groups	UA - Hall S
13:30 - 17:00	Workshop Da Vinci Robot	UZA - route 161
13:30 - 17:00	Workshop Laparoscopy	UA - T, 3 rd floor
13:30 - 17:00	Workshop Discovery and development of pharmaceuticals	UA - S.038
13:30 – 17:00	Workshop Trauma management	UA - S.020
13:30 - 17:00	Workshop Burn wounds	UA - S0.37

Saturday 14/09/2019

09:00 - 10:00	Registrations and breakfast	UA - Hall S
10:00 - 11:30	Lecture 5: Deep brain stimulation in psychiatric and motor patients <i>Prof. Dr. Visser Vandewalle</i> <i>Head of functional Neurosurgery</i> <i>Uniklinik Cologne</i>	UA - S1
11:30 – 11:45	Coffee break	
11:45 - 12:45	Lecture 6: 5 Revolutions in burn wound care <i>Dr. Geeroms</i> <i>Plastic and reconstructive surgery, UZ Brussels</i>	UA - S1
12:45 - 13:00	Closing ceremony	UA - S1
13:00 - 14:30	Reception and lunch	UA - Hall S

Social program AMSC 2019

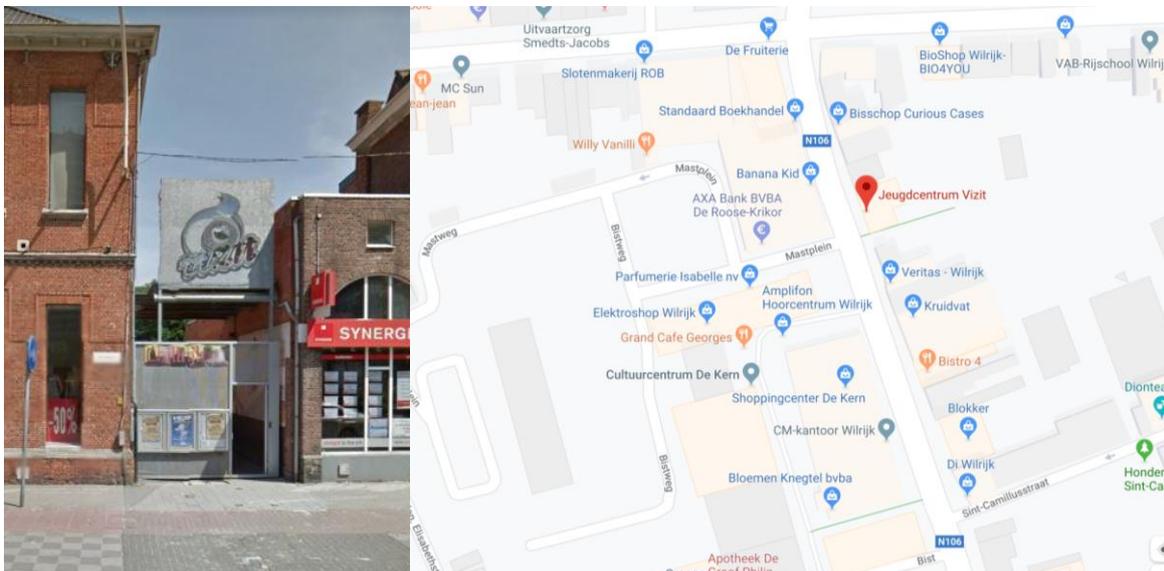
09/09/2019 City tour - 16:00 Rubens Statue, Groenplaats

This free city tour will help you discover the best of Antwerp and its lesser known gems. On this tour, you will get the chance to get to know the other participants and organising committee of the congress. The city tour will be organised by 'Visit Antwerpen'.



10/09/2019 Quiz - 20:00 Youth Center Vizit, Heistraat 34a, Wilrijk

After this night, we will once and for all know which team is the smartest of us all. We will divide ourselves in small groups to compete for this prestigious title. The questions, made by our team members, will cover a variety of different subjects. This event is free of charge.



11/09/2019 Pub crawl - 20:30 Groenplaats

A great opportunity to bond with all your colleagues! We will make sure to sponsor one (non)alcoholic drink. Starting off in the centre of our beautiful city, we will go to some of the popular (student) bars all around Antwerp. If you will be joining later, make sure to ask +31636434970 for the right location!

12/09/2019 Dinner - 18:30 De Groote Witte Arend

Black tie dinner will take place on Thursday at 'De Groote Witte Arend'. This is a restaurant established in Antwerp in 1977. They have an extensive range of various dishes and drinks. It's a night for having delicious food with good company. Subscription and payment beforehand is mandatory.



13/09/2019 Beer tasting - 20:30 Beer Central, Keyserlei 25

Do you feel ready for some of Belgium's finest culture? This pub offers more than 300 different kinds of beer and is the perfect opportunity to get to know some of the best ones. Of course, they have enough non alcoholic options as well! The first drink will be sponsored.



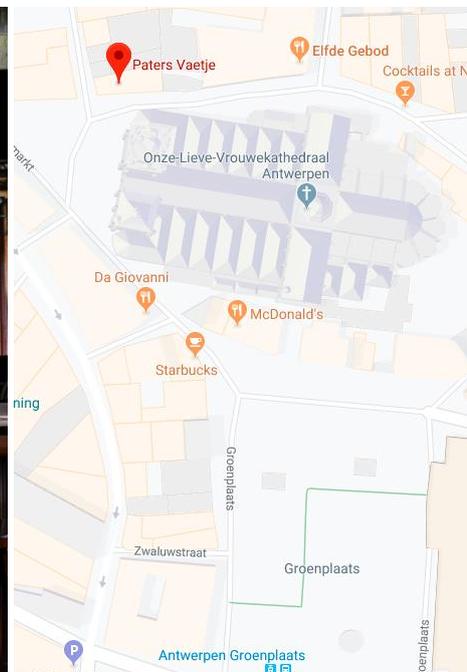
14/09/2019 MAS-museum trip - 15:30 Hanzestedenplaats 1, Antwerpen

This will be the last day of our journey at the AMSC. To close off this week, we arranged a visit to the 'Museum Aan de Stroom'. Placed on the shores of Antwerp's Schelde river, this Museum has a wonderful rooftop-view. It has changing expositions on a variety of subjects.



14/09/2018 Final drinks - 17:00 Blauwmoezelstraat 1

If you are still in town and feel like meeting up with some of the people you have met during our event, come to Paters Vaetje. A typical Belgian pub with a fine selection of beers.



Plan of Campus Drie Eiken:



- Blue star:  Bus stop UA Campus
- Red star:  Building S. We will gather here.
- Red arrow:  Building O

Team members AMSC 2019

“Coming together is a beginning. Keeping together is progress.

Working together is success.”

- Henry Ford



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Logistics officer



Stig Hellemans
Logistics officer



Stan Schepers
Webmaster AMSC

This wonderful young man deserves a special moment to express our gratitude. He is the only non-medical student to join our forces and is the sole reason we have a beautiful, accessible, and most of all, running website.

We can only describe Stan as a student who found his true passion. With his incredible talent for programming, his dedication to a good cause and his willingness to help his fellow students in moments of need, we are incredibly lucky to have Stan as an addition to this team.

Scientific board AMSC 2019

Prof. Dr. Benedicte De Winter

Department of Gastroenterology and Hepatology
President of Commission for Scientific research
Director of the Laboratory of Experimental Medicine and Pediatrics
Head of the skills lab
Professor at University of Antwerp
Vice-Dean

Prof. Dr. Guy Hubens

Head of Abdominal, Pediatric and Reconstructive Surgery
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Translational Research in Immunology and Inflammation
Researcher and Doctor Assistant
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Senior Lecturer at University of Antwerp

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Department of General Practice
Professor Family Medicine in the Department of Primary and Interdisciplinary
Care
Lecturer University of Antwerp (UA)

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Vaccine and Infectious Disease Institute
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Dr. Ann Van de Velde

Head of Clinic in Haematology (UZA)
Medical Director of Stem Cell Collection Unit UZA
Guest Lecturer at the University of Antwerp (UA)
Co-organiser Dissection Drawing Days BIOMAB

Prof. Dr. Stijn Verhulst

Head of paediatrics at Antwerp University Hospital (UZA)
Senior lecturer at University of Antwerp (UA)

Prof. Dr. Veronique Verhoeven

Department of General Practice
Senior lecturer and researcher at the University of Antwerp (UA)

Prof. Dr. Em. Gert Verpooten

Nephrologist (MD, PhD)

Prof. Dr. Johan Wens

Department of General Practice
Senior lecturer at the University of Antwerp (UA)

We would like to extensively thank all the members of our scientific board for their share in the reading and valuing of the one hundred fifty submitted abstracts. Due to their aid and effort, only qualitative worthy research will be presented during the active days of the AMSC 2019.

The members of our scientific panel have donated their valuable time voluntarily - and freely - to help us create this new edition of our congress. We are extremely grateful to be able to collaborate on such a level and hope to extend our cooperation to future editions.

Collaborators AMSC 2019



We would like to thank the University Hospital of Antwerp (UZA) in particular for their support.

In addition to financial support, there are many doctors and professors who are committed to the AMSC by organizing a lecture or workshop. We sincerely hope we can continue our cooperation in the future in order to provide medical knowledge to international medical students.

Without the UZA, we would not be able to organize this yearly event.



We are extremely grateful for the support that we have received from the University of Antwerp. Their staff members are always ready to help us with practical issues and we are excited to have some of our best professors speaking at the AMSC 2019.



EMSA Antwerp is the mother-organization of whom the AMSC is a project. Our team members are active members of EMSA and since this edition, the first prizes in our research competition are sponsored by EMSA Antwerp. We are grateful for their support in the organization of this event.

Partners AMSC 2019



17/10/2019 – 19/10/2019

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DATE passed

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FB ICMS – International Congress of Medical Sciences



DATE passed

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FB Medical International Congress for Students



2/06/2020 – 6/06/2020

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FB ISCOMS – International Student Congress of (Bio)Medical Sciences



19/09/2019 – 21/09/2019

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FB Mosa Conference



20/02/2020 – 22/02/2020

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FB SAMED – International Medical Students Congress Sarajevo



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FB ISC- International Student Congress



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FB LIMSConference

26/03/2020 – 29/03/2020

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DATE passed

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FB ICHAMS2019



16/10/2019 – 20/10/2019

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FB Warsaw International Medical Congress





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FB Marisiensis International Scientific Congress



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FB AEICBAS Biomedical Congress



7/10/2019 – 12/10/2019

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**INTERNATIONAL
MEDICAL
STUDENTS' CONFERENCE**

16/04/2020 – 18/04/2020

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12/09/2019 – 15/09/2019

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Date passed

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FB Airlangga Medical Scientific Week

ABSTRACTS AMSC
2019
ORAL PRESENTATIONS

CLINICAL FUNDAMENTAL STUDIES

Title	Neutrophil lymphocyte ratio as a predictor of microvascular complications in type 2 Diabetes Mellitus patients
Author	Dr Sutanay Bhattacharyya
Co-author(s)	Dr Neelima Jain
Scientific coordinator	-

INTRODUCTION:

Neutrophil Lymphocyte Ratio (NLR) is a reliable and effective marker of chronic inflammation. Inflammation is the primary pathogenesis for the development of microvascular complications in type 2 diabetes patients. Thus this study aims to analyze the correlation of NLR with microvascular complications in type 2 diabetics.

MATERIALS AND METHODS:

Consecutive type 2 diabetic patients after giving consent and fulfilling the inclusion criteria were included in the study. Patients with other conditions which elevate NLR were excluded from the study. Detailed history, physical examination and appropriate investigations were done to evaluate the occurrence of nephropathy, retinopathy and neuropathy and calculate NLR.

RESULTS:

Out of 80 type 2 diabetic patients, 38.7% patients had high NLR, with mean NLR being 3.29 with $SD \pm 1.49$. There was a statistically significant association between high NLR and poorly controlled diabetes ($HbA1C > 7\%$) and hsCRP (high sensitive C-Reactive Protein). High NLR was significantly associated with diabetic nephropathy, neuropathy, presence of two microvascular complications together and also with all three together in these diabetic patients. The values of Area Under Curve were diabetic nephropathy, diabetic retinopathy and diabetic neuropathy were 0.668 (95% CI [Confidence Interval] of 0.554 to 0.769, p-value 0.0062), 0.578 (95% CI: 0.462 to 0.687, p-value 0.2475) and 0.718 (95% CI: 0.606 to 0.813, p-value 0.0019), respectively. A NLR cut off value of 4 had a sensitivity and specificity of 56.52% and 87.72%, respectively, in predicting diabetic neuropathy in our study population.

CONCLUSION:

NLR was found to be the best predictor of diabetic neuropathy followed by diabetic nephropathy NLR can be used as a simple and reliable parameter for the early prediction of microvascular complications in diabetics and subsequently preventing their occurrence.

Keywords:

NLR, type 2 diabetes, microvascular complications

Title	Knowledge, Attitude, and Practice of Pregnant Women Towards Antenatal Care in Omdurman Maternity Hospital in Khartoum state, Sudan
Author	Gufan Mubarak Abdelrahman Abdalla
Co-author(s)	-
Scientific coordinator	-

Introduction:

Antenatal care (ANC) is the care of a woman throughout her pregnancy. The World Health Organization recommends a minimum of four antenatal visits comprising interventions such as tetanus toxoid (TT) vaccination, screening, and treatment of infections and identification of warning signs during pregnancy.

Study objectives:

The aim of this study was to describe knowledge, attitude and practice towards ANC among women seeking ANC from their previous pregnancy in Khartoum state, Sudan. The literature was conceptually, empirically and theoretically reviewed based on the main variables under study.

Materials and Methods:

A cross-sectional based descriptive survey study Was conducted between (Novembers - December 2017) in Omdurman maternity hospital. The study population comprised married women, pregnant or recently gave a birth, Informed consent was taken from each participant. A total of 226 mothers were selected for the study, Questionnaires were prepared for the study and Data were collected and analyzed using SPSS software.

Results:

Majority of the mothers responded that pregnant women need to go for ANC checkup (77.9%). However, only (86.8%) knew correctly the minimum number of ANC visits during pregnancy. (84.1%) of mothers knew that TT should be given during pregnancy, but only (15%) knew the correct dose. (95.6%) of mothers knew the importance of iron folic acid (IFA) tablet. (83.2%) mothers knew that blood pressure should be recorded, but adverse effects of high blood pressure on fetus growth were reported only by (71.7%) of females. More than half of mothers (48.1%) knew the dangerous signs during pregnancy. Most of the mothers knew the importance of blood and urine investigations. (91.2%) reported husband and family support, regarding place of delivery (16.4%) prefer home delivery but only (2.2%) practice it. (50%) admitted that they came for their antenatal checkup in the first 3 months of their pregnancy.

Conclusion:

Awareness should be developed in the community about the importance of registration for ANC, educating women about the detection of complications during pregnancy, importance of TT injection, IFA tablet, extra nutrition, etc. There is also the need to encourage women to involve their male partners in birth spacing programs. Health workers need to identify the pregnant mother, and they should give reminder before a particular dose of ANC.

Recommendation:

To achieve maximum ANC services and practices among pregnancy women with high and low risk groups, there is a need to integrate public and private sector concerning ANC services planned and conducted in order to improve their maternal health and eventually improve the health status of newborn child. Key words: Antenatal care, Knowledge, Attitude.

Title Post-operative morbidity: comparison of primary surgery versus re-operations in thyroid – 10 year retrospective study in tertiary care teaching hospital in rural South India

Author Nevil C Philip, Vergis Paul

Co-author(s) Ramu R

Scientific coordinator -

INTRODUCTION

Pathologies of the thyroid gland, requiring surgical correction are on the rise. The surgeries on thyroid gland can be a total thyroidectomy or a less than total thyroidectomy such as Hemithyroidectomy, Subtotal thyroidectomy, Near total thyroidectomy, Lobectomy, Isthmusectomy, etc. There are many who follow the practice of a less than total thyroidectomy for benign pathologies and follicular neoplasms of the thyroid. Literature has shown the incidence of occurrence of malignancies and goiter in thyroid remnant, necessitating the need for re-operation in patients with primary less than total thyroid surgery. We did a retrospective study to introspect on thyroid surgeries done in our hospital in the past 10 years to know the trend followed in our hospital and to know the effects of different types of thyroid surgeries and the morbidities faced by patients undergoing reoperations.

MATERIALS & METHODS

This is a cross-sectional study by retrospective chart analysis of all thyroidectomy cases from the past 10 years in our institute. Institutional review board and ethics committee approval was obtained and permission was taken from the medical superintendent to conduct the study. Data was entered into google sheets and analysed using SPSS v.25 with Fisher exact test

RESULTS

1094 thyroid surgeries were performed in the last 10 years, of which 1033 were primary surgery, and 61 were re-operations. There was a statistically significant increase in the occurrence of transient recurrent nerve palsy and transient hypocalcemia in re-operations when compared to primary thyroid surgery. All the other parameters except permanent hypocalcemia had a higher rate in re-operations, though not statistically significant. 26 out of the 61 re-operations were done as the post-operative biopsy of the primary surgery showed malignancy while 30 were done due to the occurrence of goitre in thyroid remnant. 3 were due to the occurrence of malignancy in thyroid remnant and 2 due to tumour recurrence.

CONCLUSION

These findings make us feel whether we should deal with all surgical pathologies of the thyroid gland with total thyroidectomy. We know that this is not the teaching, but looking at the rate of morbidity in re-operations and the incidence of malignancy being detected post-operatively and surgical pathology developing in remnant thyroid, we feel the need for total thyroidectomy. There is a scope to revisit and rethink the surgical management of thyroid pathologies based on multicentric analysis.

Title Outcome of delirium in patients with septic encephalopathy treated in neurological intensive care unit

Author Vanja Radisic

Co-author(s) Ivana Berisavac MD, PhD

Scientific coordinator -

Delirium is a reversible mental disorder characterized by disturbance of consciousness with accompanying change in cognition. Symptoms of delirium might represent the first manifestation of septic encephalopathy (SAE). Recent evidence suggests contribution of delirium to poor clinical outcome in critically ill patients. The aim of our study was to determine predictors that affect the outcome of delirium in patients who were diagnosed with SAE. The retrospective- observational study was conducted in the neurological intensive care unit (ICU) during 5 year period (2010- 2015). 39 patients with the diagnosis of SAE were screened for delirium using Confusion Assessment Method for Intensive Care Unit (CAM- ICU) scale. Delirium was diagnosed in 22 patients. Based on the outcome, patients were divided into two groups: those with positive outcome (survival) and those with negative outcome (death). Demographic characteristics of patients, duration of delirium, Glasgow coma score (GSC) on the admission day, need for endotracheal intubation, duration of intubation and need for mechanical ventilation were analyzed as potential predictors of negative outcome of delirium in our patients. From the overall number of patients diagnosed with delirium, 11 (50%) had favorable outcome (survivors) and the other 11 (50%) formed the group with negative outcome (deceased). There was no statistically significant difference between patients with favorable and negative outcome regarding demographic characteristic, GSC value and duration of delirium ($p > 0.05$). Deceased patients had to be intubated and mechanically ventilated more frequently and the duration of intubation was significantly longer in this group of patients ($p < 0.05$). The results of our study showed that need for intubation and mechanical ventilation along with duration of intubation are significant predictors of adverse outcome of delirium in patients diagnosed with SAE.

Title	Contents of microelements and macroelements in tumorous and health tissues in colorectal carcinoma
Author	Katarina Ivanović
Co-author(s)	Jelena Zekić, Miloš Ilić
Scientific coordinator	-

Introduction:

Colorectal carcinoma is present day non-rare disease and one of the common causes of mortality in world. It is the third most common cancer worldwide. The incidence of this cancer in Europe for both sex is 67.2 per 100 000 inhabitants. Etiology of colorectal carcinoma is still incompletely clarified, but it is assumed to be due to complex interactions of genetic and environmental factors. Factors such as lifestyle, nutrition, inflammatory bowel disease play an important role.

Aim:

Due to high incidence and rate of mortality, which constantly increases, especially in male population, older then 60 years, the aim of research was to investigate the content of trace elements in tumorous and healthy tissue and what could be their potential role in the pathogenesis of colorectal carcinoma.

Material and methods:

Study covered 60 male examinees with confirmed diagnosis of colorectal cancer, cured in KBC Zvezdara, Belgrade, Serbia. During the colonoscopy, from each subject, by multiple biopsies, were taken two samples, a tumor-modified and healthy colon tissue. In each taken sample, micro and macroelements content was determined spectrophotometrically.

Results:

Analysis of the obtained results showed that the concentrations of Mg, K, Cu, Se and Ca are statistically significantly higher in tumor tissue, while concentrations of Na, Zn, and Cd are statistically significantly lower in tumor tissue then in healthy. For Mn and Fe concentrations, we did not find statistically significance difference.

Conclusion:

In our study, we found the difference in concentrations of Na, Mg, K, Cu, Zn, Se, Ca and Cd between colorectal carcinoma and healthy tissue.

Title Difference in clinical features & recovery between diabetics & non-diabetics with stroke

Author Chiamonwu Chinenye Precious

Co-author(s) Mozuruyem Chisom Irene, Muomah Ginika Rosemary, Natalia Usava.

Scientific -
coordinator

INTRODUCTION:

There's usually a distinct of clinical features & recovery time between diabetics and non-diabetics with stroke, we herein attempt to ascertain the aforementioned parameters. AIM: To ascertain recovery time between diabetic and non-diabetics with stroke.

MATERIALS:

We examined 79 patients (64.4±10.7 years): 1 group (main) - 19 diabetic stroke patients (69.7±11.7 years); 2 group (control) - 60 stroke patients non-diabetic.

METHODS:

1, 7 & 14 days after stroke were examined, Stroke scale of the American National Institutes of Health, the Rankin scale. Statistics 6.0 was used. Data were presented in Median, upper and lower quartiles.

RESULTS:

Main (Days-1,7&14=8.5,5.0&2.0) respectively Control (Days-1,7&14=7.0,5.0&3.0) respectively. Groups were comparable and did not differ in the severity of the neurological deficit according to the NIHSS scale. Functional disorders: Main (Days-1,7&14=3.0,2.0&2.0) respectively, Control (Days-1,7&14=3.0,2.0&1.0) respectively group did not significantly differ within 2 weeks from stroke onset.

CONCLUSION:

No difference in neurological and functional status in main and control group. With diabetes mellitus, recovery of disturbances of daily activity to the Rankine scale is slower.

Title Blood-derived microvesicles as an early diagnostic marker of endometrial cancer

Author Olaf Chmura

Co-author(s) Marek Dziechciowski, Barbara Zapala, Krzysztof Skotniczny, Katarzyna Gawlik

Scientific -
coordinator

Introduction:

Microparticles(MPs), small sized microvesicles are produced by different cell types and detected in various body fluids. They are the carriers of intercellular information which regulates tumor microenvironment and are considered to be involved in tumor progression and metastasis. Cancer cells secrete more microparticles than healthy cells, thus could potentially serve as marker for tumor diagnosis and treatment. The aim of the study was to determine the amount of total (TF+), endothelial (CD144+) and monocytic (CD14+) microparticles in peripheral and uterine blood of patients with endometrial cancer (EC).

Material and methods:

We included 37 patients, aged 40-75 with histologically proven endometrial cancer and 23 healthy women aged 40-65 as a control group. Blood was collected on citrate and plasma was obtained, with specific antibodies (CD14, CD144, TF) used for cells and microparticles differentiation. The counting of the selected MPs was performed using flow cytometry on the BD Canto II cytometer.

Results:

We found that the total amount of microparticles in peripheral blood in patients group was over seven times higher than in healthy controls. Moreover, microparticles count in uterine blood was 2-fold higher than in peripheral blood of patients with EC. We also demonstrate correlation between amount of microparticles and the histologic grading and clinical staging of the tumor.

Conclusions:

In this report we present the results of microparticles analysis in peripheral and uterine blood of patients with EC. To the best of our knowledge, this study has been the first to report microvesicle status both in peripheral and uterine blood samples. Main findings include high level of TF, CD144 and CD14 MPs in uterine blood. Thus we can consider the monocyte-macrophage-derived MPs as a candidate marker of early endometrial cancer and potentially critical part of the endometrial carcinogenesis.

Title	Influence of genetic variability on clinical course of Parkinson's Disease and efficacy of Levodopa treatment
Author	Olaf Chmura
Co-author(s)	Maria Hadasik, Barbara Zapala
Scientific coordinator	-

Introduction:

Parkinson's disease (PD) is the second most common neurodegenerative disorder around the world with Levodopa being used as the gold therapeutic standard. The response to pharmaceutical treatment may vary between patients due to genetic variability influencing drug metabolism and therefore determining efficiency of levodopa treatment. The aim of this study was to investigate the influence of genetic variability in the genes coding monoamine oxidase B (MAOB), dopamine receptor D2 (DRD2) and DOPA decarboxylase (DDC) on clinical course of patients with PD as well as treatment efficacy and side-effects prevalence in patients treated with levodopa.

Materials and Methods:

126 patients (women and men aged 39 to 95 diagnosed with PD) and 121 healthy adults as control group were included into the study. The whole peripheral blood was drawn from both the patients and control group, DNA was derived from leukocytes and the genotyping of single nucleotide polymorphisms (SNP) was performed using the TaqMan probes.

Results:

Main findings include rs2283265 and rs1076560 genetic variants of the DRD2 gene determining more frequent presence of dementia according to the MMSE and UPDRS II/III scales ($p < 0,05$), and rs1799836 of the MAOB gene and rs921451 of the DDC gene genetic variants affecting the efficiency of levodopa treatment in diagnosed patients. No correlation between given variants and severity of PD symptoms (Hoehn-Yahr scale) and age of onset of PD was found ($p > 0,05$).

Conclusions:

Detected SNPs were connected to higher chance of dementia development as well as poorer answer to levodopa treatment. It implicates that assessment of genetic variability in given genes coding monoamine oxidase B, dopamine receptor D2 and DOPA decarboxylase may be considered as a prognostic tool of future clinical phenotype in patients with freshly diagnosed PD.

Title Effects of hyaluronic acid and platelet rich plasma injections in knee osteoarthritis

Author Krzysztof Romaniuk, Paulina Kumięga, Andrzej Jedynak

Co-author(s) Łukasz Pulik, Paweł Łęgosz

Scientific coordinator -

Introduction:

Knee is one of the most common locations of degenerative changes. Various attempts of conservative therapy are undertaken to inhibit progression of the disease and delay the surgical treatment. One of such attempts involves injections of hyaluronic acid in combination with platelet rich plasma. Such combination may have an additive effect and improve the patient's condition.

Aim:

Assessment of early results of treatment of the knee osteoarthritis using combined hyaluronic acid and platelet rich plasma formulation. Comparison of obtained results with available literature related to injections of hyaluronic acid alone.

Materials and methods:

The study enrolled 53 patients with knee osteoarthritis who were administered a combination of hyaluronic acid and autologous platelet rich plasma. The following clinical scales were completed before the procedure for each patient: Western Ontario & McMaster Universities Osteoarthritis Index (WOMAC), Knee injury and Osteoarthritis Outcome Score (KOOS), Visual Analogue Scale (VAS) and Knee Society Score (KSS) as well as degree of arthritis seen on previous X-ray images assessed using Kellgren-Lawrence scale. After 6 weeks, the outcome of the procedure was assessed using the same clinical scales.

Results:

52 patients attended a follow-up visit. Statistically significant improvement 6 weeks after injection of a combination of hyaluronic acid and autologous platelet rich plasma was found on each subscale of KOOS and WOMAC questionnaires for the knee. A significant improvement was also found on KSS subscale assessing the joint function and improvement on VAS scale after 6 weeks was 37.4%.

Conclusions:

1. Combined therapy of hyaluronic acid and platelet rich plasma is an effective method of treatment of knee osteoarthritis in short follow-up.
2. Based on our study and comparison of our results and results obtained for hyaluronic acid alone available in the literature, we cannot clearly confirm superiority of combination therapy over hyaluronic acid alone.

Title Study of molecular processes in degenerative osteoarthritis of the knee

Author Paulina Kumiega, Andrzej Jedynek, Krzysztof Romaniuk

Co-author(s) Łukasz Pulik, Paweł Łęgosz

Scientific coordinator -

Introduction:

Osteoarthritis is a wide-spread disease that significantly reduces the quality of life of patients. Exploring the molecular background of the condition could produce prospects for innovative and targeted therapies. Degradation of cartilage, which is a central feature of arthritic diseases, is caused by matrix metalloproteinases (MMPs). Cytokines mediate the inflammatory process regulating the expression of MMPs and may play a crucial role in the course of osteoarthritis. The study assessed the influence of demographic factors and the degree of disease progression on molecular inflammatory processes in the knee joint.

Materials and methods:

With a cross-sectional study design, samples were collected from fifty participants diagnosed with the primary osteoarthritis, who underwent total knee arthroplasty. Specimens of menisci, anterior cruciate ligaments, and articular surfaces were analysed using an immunohistochemical assay for levels of cytokines (IL-1 β , IL-6, TNF- α , TGF- β 1) and MMPs (MMP1, MMP2, MMP3, MMP9, and MMP13). The collected data were correlated with: severity of radiological osteoarthritis, physical function (WOMAC), the use of non-steroidal anti-inflammatory drugs (NSAIDs), and demographic data.

Results:

Less satisfactory physical function (WOMAC) coexists with a higher level of proinflammatory cytokines (TNF- α ; $p < 0.05$) and MMPs (MMP-1; $p < 0.05$). However, a decrease in the amount of MMPs (MMP2; $p < 0.05$) was found in the articular surfaces of patients with end-stage osteoarthritis as well as of patients who reported having the pain for over five years. Proinflammatory cytokine concentration (TNF- α ; $p < 0.05$) was significantly reduced in patients with long-term use of NSAIDs.

Conclusion:

Changes in the levels of proinflammatory cytokines and MMPs found in all three investigated structures of the knee joint depict the complexity of processes underlying the progression of osteoarthritis. Identifying each distinct pathway introduces a possibility to therapeutically hinder the disease advancement, in contrast to current treatment methods, which act mainly by alleviating the symptoms of the condition.

Title Assessment of the prevalence of Developmental Dysplasia of the Hip in the Polish population

Author Andrzej Jedynak, Paulina Kumięga, Krzysztof Romaniuk

Co-author(s) Łukasz Pulik, Paweł Łęgosz

Scientific -
coordinator

Objectives:

Assessment of the prevalence of Developmental Dysplasia of the Hip (DDH) in the Polish population with the required analysis of the influence of the risk factors on the occurrence of DDH.

Methods:

The inclusion criteria: USG examination performed using the Graf method between 2017 and 2019, first visit and control visits to the Hip Dysplasia Clinic of the Department of Orthopaedics and Traumatology at the University Clinical Centre of the Medical University of Warsaw. The exemption criteria: other than Graf ultrasound method examination was performed to diagnose DDH, lack of sufficient data in medical records.

Statistical methods:

The chi test was used to assess the dependence of DDH with risk factors. The Mann-Whitney U test was used to determine the relationship between DDH and birth weight.

Results:

The incidence of DDH was 5.41%. The most common method of treatment was Tubinger's braces in 73.15%. The most numerous group among those diagnosed is type IIA with 47.17%, the second type is IIC with 20,75%. DDH in women is more common than in men with OR of 8.92, $p < 0,05$. DDH is more common in neonates born by Caesarean section, OR is 1.76, $p < 0,05$. The buttock position predisposes to DDH with an OR of 3.99, $p < 0,05$. Dysplasia is more frequent in neonates with positive family history – siblings, OR of 4,12, $p < 0,05$. Neonates with dysplasia had higher birth weight 3505.00 g vs. 3392.50.

Conclusions:

The prevalence of DDH in the Polish population is 5.41%. Tubinger's braces are the most frequently chosen treatment method. Dysplasia is more frequent in female neonates. Caesarean section, buttock position, family history-siblings, higher birth weight are a risk factor of DDH.

Title Effect of Oxidative Stress on Gelsolin Polymerization and Severing Activity on Actin

Author Anthony Paulo Sunjaya (Faculty of Medicine, Tarumanagara University, Jakarta, Indonesia)

Co-author(s) David Szatmari, Szilvia Barko (Department of Biophysics, Medical School, University of Pecs, Pecs, Hungary)

Scientific coordinator -

Background

Oxidative stress, the imbalance of reactive oxygen species (ROS) has been implicated in the pathophysiology of many diseases including cancer, auto-immune diseases and ageing. Gelsolin (GSN), a capping and the most efficient known severing protein that regulates the actin cytoskeleton, plays a crucial role in cell stress response, motility.

This study aims to investigate the effect of oxidative stress on gelsolin's polymerization and severing properties on actin. Methods Rabbit skeletal muscle actin was prepared from acetone powder. Actin was stored in buffer A. Alexa488-Maleimide labeled gelsolin was used. GSN polymerization and severing properties were compared in samples with actin only (control) and with actin under oxidative stress conditions simulated by the addition of hydrogen peroxide at 50 uM concentration. Steady-state anisotropy measurements were carried out with Fluorolog by Jobin-Yvon spectrofluorimeter. Results Compared to control, GSN incubated overnight under oxidative stress conditions showed similar levels of anisotropy between both samples, suggesting that oxidative stress does not modulate GSN's net polymerization effect on actin. When GSN severing properties was observed, GSN oxidative stress sample reached steady state faster compared to control. However, once a steady-state has been reached similar levels of anisotropy was observed between both samples. Conclusion Oxidative stress modifies the severing kinetics of GSN but does not alter overall GSN polymerizing and severing activity on native actin. Further studies are required to elucidate the mechanism and implications of GSN in the pathophysiology of cancer, auto-immune diseases and ageing where GSN regulation plays an important role.

Keywords: gelsolin, actin cytoskeleton, oxidative stress, reactive oxygen species

Title Medication adherence patterns among type- 2 Diabetes Mellitus patients: a cross sectional study in rural Karnataka (India)

Author Dr. Rufaidha Abdulla, Brig. Dr. Hermanth Kumar

Co-author(s) Dr. Heena, Dr. Sajjan

Scientific coordinator -

BACKGROUND:

Diabetes is one of the most important emerging global health problems. According to the World Health Organization (WHO) there were 425 million cases globally in 2017, which are expected to rise to 511 million by 2030. It is expected that that more than half of these cases will be living in just three countries -- China (130 million), India (98 million), and the US (32 million).The International Diabetes Federation (IDF) estimates that there were 72.9 million people with diabetes in India in 2017. This is projected to rise to 134.3 million by 2045. The present study was conducted to find out the prevalence of poor adherence to diabetic medication and to identify various factors associated with it. The study will be helpful in addressing barriers of treatment adherence when planning health programmes for noncommunicable diseases (NCDs) at a community level.

MATERIAL AND METHODS:

A Cross sectional study was conducted among 206 diabetes patients attending out-patient (OPD) services at Rural Health Training Centre at Panemangalore, Karnataka, (India). The 8-item Morisky Medication Adherence Scale was used to collect information on adherence.

RESULTS:

Out of the 206 patients enrolled for the study, 52.4% were females, 65.5% of them belonged to upper lower-class , 50.9% patients showed medium adherence to medication (score 1 or 2) whilee 49.02% patients were found to be having low adherence to medications (score >2). The main barriers were forgetting doses, financial constraints, younger age and lack of awareness about the disease.

CONCLUSION:

Adherence to medication among diabetics in rural India was found to be poor. Health interventions which focus on improving knowledge of the patients about the disease will be helpful in improving the adherence.

Title Practices of exclusive breastfeeding among young mothers attending secondary health care facility: a cross sectional study

Author Dr. Ruchita, Brig. Dr. Hemant Kumar

Co-author(s) Dr. Prajna, Dr. Sajjan

Scientific coordinator -

Background:

Exclusive breast feeding has been recommended worldwide as optimal feeding option for human infants. Exclusively breastfed children are at a much lower risk of infections and it is the best and cost effective intervention to reduce infant morbidities and mortalities. In India, breastfeeding practices are influenced by cultural, socio-economic factors, religious values and literacy.

Material and Methods:

A cross sectional study which included mothers having children of age less than 1 year was conducted over a period of two months at a secondary health care facility, Bantwal, Karnataka, India. All the mothers were interviewed regarding their practices of exclusive breastfeeding, and the data was collected using a validated questionnaire.

Results:

A total of 182 mothers participated in the study. Mean age of the mothers was found to be 26.6 years. Prevalence of exclusive Breastfeeding was found to be 45.8% and the most common cause for early weaning was found to be “not enough milk” produced by the mothers. Further, 69.2% of the mothers had received information about breastfeeding while attending the antenatal clinics. The study further brought out that 31.9% mothers had given pre-lacteal feeds, while water was the most common item for pre-lacteal feed. The study further revealed that 74.2% mothers had started breastfeeding immediately after birth.

Conclusion:

The prevalence of exclusive breast feeding in present study was found to be comparable with national average. However, there is still a need for counselling of mothers about breastfeeding; its proven advantages and to reduce the undesirable cultural practices such as giving pre-lacteal feeds, time of weaning, late initiation of breast feeding during pre-conceptual , ante-natal period as well as post-natal period, irrespective of educational or socio-economic status of the mothers.

Title Clinical significance of the one hour oral glucose tolerance test in patients with adrenal incidentalomas

Author Ana Petronijevic, Ljiljana Marina

Co-author(s) -

Scientific -
coordinator

Adrenal incidentalomas (AI) are incidentally discovered tumours in patients without obvious symptoms of adrenal disease. Most commonly they present themselves as non-functional AI (NAI) or (possible) autonomous cortisol secretion ((P)ACS). Patients with AI commonly have insulin resistance (IR) or other metabolic disorders. The Oral Glucose Tolerance Test (OGTT) is frequently used for assessing glucose tolerance (glycemia and insulinemia) or risk for diabetes mellitus type 2 (DMT2). Our aim was to examine the significance of 60' OGTT glycemia, insulin resistance and insulin sensitivity indices in patients with AI. After meeting established criteria, 139 subjects were included in our study (105 with AI and 34 healthy controls (HC)). Patients with AI were divided into two groups: with NAI or with (P)ACS based on cortisol concentrations after 1 mg dexamethasone suppression test (1 mg – DST). Examinees were subjected to OGTT, glycemia and insulinemia were measured at 0', 30', 60', 90' and 120'. Midnight cortisol and ACTH were also measured. HOMA IR and Matsuda indices were calculated. There was no difference in female/male ratio, age and body mass index between these three groups. Patients with (P)ACS had significantly higher levels of glucose starting from 60' and later in 90' and 120' of OGTT compared to HC, and in 60' but not later compared to NAI. HOMA IR was higher and Matsuda index was lower in NAI and (P)ACS groups compared to HC. Significant correlation was found between levels of cortisol in 1 mg - DST and 60' glycemia, but not with 120' blood glucose levels. High glucose levels in 60' of OGTT and their correlation with cortisol levels in 1 mg DST show that 60' values are good and specific predictors of IR and subtle cortisol hypersecretion.

Title Carotid intima-media thickness in women with polycystic ovary syndrome

Author Aleksa Radojčić

Co-author(s) MD-PhD Ivana Božić Antić, Mina Ražnatović

Scientific coordinator -

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in reproductive aged women. PCOS is associated with an increased risk for cardiovascular disease, due to dyslipidemia, insulin resistance (IR), obesity, low-grade inflammation, hypertension, dysglycemia. The Aim of our study was to measure the carotid intima-media thickness (CIMT) in young women and evaluate if there is a higher risk for cardiovascular disease. We examined 30 women with PCOS (age: 24.67 ± 5.12 years, BMI: $24.34 \pm 6.70\text{kg/m}^2$) and 30 healthy control group women, which were matched with PCOS by age and BMI (age: 26.37 ± 3.86 years, BMI: $23.82 \pm 4.33\text{kg/m}^2$). PCOS was diagnosed using the European Society of Human Reproduction and Embryology/ American Society of Reproductive Medicine (ESHRE/ASRM) criteria. Glycemia, insulin, lipid panel and standard hormone panel were measured and CIMT was estimated by ultrasound. IR was determined using the homeostatic model (HOMA-IR). Women with PCOS in comparison to healthy women had higher CRP (3.56 ± 4.23 vs $1.61 \pm 1.72\text{mg/L}$, $p=0.029$), HOMA-IR (4.03 ± 2.46 vs 2.79 ± 1.04 , $p=0.022$) and androgens (testosterone, DHEAS, androstenedione). There were no significant differences in body composition and blood pressure. There were no significant differences in CIMT between our groups, nor significant correlations between CIMT and other parameters. This study showed that women with PCOS compared to healthy women with the same BMI and age have significantly higher IR and CRP. At the same time there is no difference in early atherosclerosis marker, CIMT. The reason for these results may be lack of differences in lipids and blood pressure between our groups, which are known factors that contribute to CIMT. Also, our women were very young and it is possible that changes in CIMT are not yet visible.

Title Experience of a low volume center: structural ventricular tachycardia ablation – how effective it can be?

Author Michał Szotek

Co-author(s) Łukasz Drużbicki, Karol Sabatowski

Scientific coordinator -

Introduction:

Our goal was to investigate the effectiveness of VT ablation procedure in patients with structural heart disease and implantable cardioverter defibrillator (ICD) implanted.

Materials and methods:

We performed a retrospective analysis of medical records enrolling 36 consecutive patients referred for structural VT ablation between 2016 and 2019. We analyzed echocardiographic parameters, follow-up including implantable cardioverter defibrillator (ICD) memory records and periprocedural data.

Results:

89% of patients suffered chronic heart failure, 67% hypertension and 39% diabetes. 11 patients had moderate to severe mitral valve regurgitation (MVR) and 19 patients (52%) had mild MRV. Periprocedurally ablation was fully successful in 83% of cases. Effectiveness was higher in group of with patients with mild MVR comparing to moderate and severe MVR (89% vs 64%). Interrogation of ICD did not reveal any sustained VT (sVT) in 82% after long term follow-up.

Conclusion:

High percentage of successful procedures shows that patients with structural heart disease can be treated with catheter ablation with good results according in a low volume center.

Title Medication adherence patterns among type- 2 Diabetes Mellitus patients: a cross sectional study in rural Karnataka (India)

Author Dr. Rufaidha Abdulla, Brig. Dr. Hermanth Kumar

Co-author(s) Dr. Heena, Dr. Sajjan

Scientific coordinator -

BACKGROUND:

Diabetes is one of the most important emerging global health problems. According to the World Health Organization (WHO) there were 425 million cases globally in 2017, which are expected to rise to 511 million by 2030. It is expected that that more than half of these cases will be living in just three countries -- China (130 million), India (98 million), and the US (32 million).The International Diabetes Federation (IDF) estimates that there were 72.9 million people with diabetes in India in 2017. This is projected to rise to 134.3 million by 2045. The present study was conducted to find out the prevalence of poor adherence to diabetic medication and to identify various factors associated with it. The study will be helpful in addressing barriers of treatment adherence when planning health programmes for noncommunicable diseases (NCDs) at a community level.

MATERIAL AND METHODS:

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Author Dr. Ruchita, Brig. Dr. Hemant Kumar

Co-author(s) Dr. Prajna, Dr. Sajjan

Scientific coordinator -

Background:

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Material and Methods:

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Conclusion:

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Title Clinical significance of the one hour oral glucose tolerance test in patients with adrenal incidentalomas

Author Ana Petronijevic, Ljiljana Marina

Co-author(s) -

Scientific coordinator -

Adrenal incidentalomas (AI) are incidentally discovered tumours in patients without obvious symptoms of adrenal disease. Most commonly they present themselves as non-functional AI (NAI) or (possible) autonomous cortisol secretion ((P)ACS). Patients with AI commonly have insulin resistance (IR) or other metabolic disorders. The Oral Glucose Tolerance Test (OGTT) is frequently used for assessing glucose tolerance (glycemia and insulinemia) or risk for diabetes mellitus type 2 (DMT2). Our aim was to examine the significance of 60' OGTT glycemia, insulin resistance and insulin sensitivity indices in patients with AI. After meeting established criteria, 139 subjects were included in our study (105 with AI and 34 healthy controls (HC)). Patients with AI were divided into two groups: with NAI or with (P)ACS based on cortisol concentrations after 1 mg dexamethasone suppression test (1 mg – DST). Examinees were subjected to OGTT, glycemia and insulinemia were measured at 0', 30', 60', 90' and 120'. Midnight cortisol and ACTH were also measured. HOMA IR and Matsuda indices were calculated. There was no difference in female/male ratio, age and body mass index between these three groups. Patients with (P)ACS had significantly higher levels of glucose starting from 60' and later in 90' and 120' of OGTT compared to HC, and in 60' but not later compared to NAI. HOMA IR was higher and Matsuda index was lower in NAI and (P)ACS groups compared to HC. Significant correlation was found between levels of cortisol in 1 mg - DST and 60' glycemia, but not with 120' blood glucose levels. High glucose levels in 60' of OGTT and their correlation with cortisol levels in 1 mg DST show that 60' values are good and specific predictors of IR and subtle cortisol hypersecretion.

Title Carotid intima-media thickness in women with polycystic ovary syndrome

Author Aleksa Radojčić

Co-author(s) MD-PhD Ivana Božić Antić, Mina Ražnatović

Scientific coordinator -

Polycystic ovary syndrome (PCOS) is the most common endocrine disorder in reproductive aged women. PCOS is associated with an increased risk for cardiovascular disease, due to dyslipidemia, insulin resistance (IR), obesity, low-grade inflammation, hypertension, dysglycemia. The Aim of our study was to measure the carotid intima-media thickness (CIMT) in young women and evaluate if there is a higher risk for cardiovascular disease. We examined 30 women with PCOS (age: 24.67 ± 5.12 years, BMI: $24.34 \pm 6.70\text{kg/m}^2$) and 30 healthy control group women, which were matched with PCOS by age and BMI (age: 26.37 ± 3.86 years, BMI: $23.82 \pm 4.33\text{kg/m}^2$). PCOS was diagnosed using the European Society of Human Reproduction and Embryology/ American Society of Reproductive Medicine (ESHRE/ASRM) criteria. Glycemia, insulin, lipid panel and standard hormone panel were measured and CIMT was estimated by ultrasound. IR was determined using the homeostatic model (HOMA-IR). Women with PCOS in comparison to healthy women had higher CRP (3.56 ± 4.23 vs $1.61 \pm 1.72\text{mg/L}$, $p=0.029$), HOMA-IR (4.03 ± 2.46 vs 2.79 ± 1.04 , $p=0.022$) and androgens (testosterone, DHEAS, androstenedione). There were no significant differences in body composition and blood pressure. There were no significant differences in CIMT between our groups, nor significant correlations between CIMT and other parameters. This study showed that women with PCOS compared to healthy women with the same BMI and age have significantly higher IR and CRP. At the same time there is no difference in early atherosclerosis marker, CIMT. The reason for these results may be lack of differences in lipids and blood pressure between our groups, which are known factors that contribute to CIMT. Also, our women were very young and it is possible that changes in CIMT are not yet visible.

Title Ovarian reserve specs in patients with infertility caused by endometriosis of the ovaries
Author Svitlana Chobaniuk
Co-author(s) Anatolii Andriiets
Scientific coordinator -

Introduction

The aim of our work was to study the features of the ovarian reserve in the patients with infertility caused by ovarian endometriosis based on anti-Mullerian hormone levels and the echographic antral follicles count.

Materials and methods

An echographic number of antral follicles count (AFC) among 100 patients (the main group) with infertility and ovarian endometriosis was performed. The determination of the anti-Mullerian hormone (AMH) levels was revealed in 55 main group cases. 40 patients were included into the control group with infertility but without endometriosis.

Results

AFC in women with infertility and ovarian endometriosis was reduced ($4,5 \pm 0,005$). In addition, AFC number was $6,7 \pm 0,28$ of women without endometriosis. Average AMH levels in patients of the main and control groups were 3,5 ng/ml and 3,3 ng/ml respectively. There were 12.7% of women during main study group with low (under 1 ng/ml) level of AMH, while there was the rate of 7.5% in the control group. The signs of the sufficient level of AMH were observed in 36 patients (65.4%) of the main group and in 33 (82.5%) of the control group. There were 21.8% of patients with the high AMH level in the main group and 10.0% in the control group.

Conclusion

As a result, the number of antral follicles of patients with infertility and ovarian endometriosis is not a direct indicator of ovarian reserve, which is associated with the difficulty of counting follicles by altered topography of the ovaries with endometriomas.

Title Experience of a low volume center: structural ventricular tachycardia ablation – how effective it can be?

Author Michał Szotek

Co-author(s) Łukasz Druźbicki, Karol Sabatowski

Scientific coordinator -

Introduction:

Our goal was to investigate the effectiveness of VT ablation procedure in patients with structural heart disease and implantable cardioverter defibrillator (ICD) implanted.

Materials and methods:

We performed a retrospective analysis of medical records enrolling 36 consecutive patients referred for structural VT ablation between 2016 and 2019. We analyzed echocardiographic parameters, follow-up including implantable cardioverter defibrillator (ICD) memory records and periprocedural data.

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89% of patients suffered chronic heart failure, 67% hypertension and 39% diabetes. 11 patients had moderate to severe mitral valve regurgitation (MVR) and 19 patients (52%) had mild MRV. Periprocedurally ablation was fully successful in 83% of cases. Effectiveness was higher in group of patients with mild MVR comparing to moderate and severe MVR (89% vs 64%). Interrogation of ICD did not reveal any sustained VT (sVT) in 82% after long term follow-up.

Conclusion:

High percentage of successful procedures shows that patients with structural heart disease can be treated with catheter ablation with good results according in a low volume center.

Title Genetic polymorphism associated with low back pain - a PRISMA based study

Author Karolina Brzegowy, Przemysław A. Pękala, Brandon Michael Henry, Dominik Tattera, Monika Piwowar, Jens Vikse, Shane Tubbs, Krzysztof A. Tomaszewski, Mitch Mann

Co-author(s) -

Scientific coordinator -

Introduction

More than half of adults experience at least one episode of low back pain in their lifetime. One of the main causes of low back pain is intervertebral disc degeneration (IDD). The association of FokI (rs2228570), a polymorphism of the vitamin D receptor gene, with IDD has been widely investigated in literature. However, conflicting results of such studies led to emergence of several meta-analyses over the past few years. Despite the increased statistical power, these meta-analyses have failed to provide uniform and conclusive data on the relationship of FokI with IDD. Thus, the aim of this study was to present a comprehensive review based on the most up-to-date meta-analyses on the association of FokI with IDD.

Materials and methods

All major electronic databases were thoroughly searched for meta-analyses investigating the relation between FokI and IDD. No date or language restrictions were implemented. The Jadad decision algorithm was utilized to evaluate included meta-analyses and identify the one providing the best evidence.

Results

A total of 7 meta-analyses (n = 2580 original patients), that included six to ten case control studies, analyzed the association of FokI polymorphism with IDD. The meta-analysis of the highest quality supported the notion that overall there is no statistically significant association between FokI polymorphism and IDD with the exception of the Caucasian and Hispanic ethnicities. The study showed that Caucasians have a reduced risk of IDD and Hispanics have an increased risk of IDD in the dominant and dominant/homozygous/heterozygous models of FokI polymorphism.

Conclusion

While currently there is no evidence of an association between FokI polymorphism and IDD in the general population, ethnic predisposition has been shown. Understanding the role of VDR polymorphism in IDD can lead to the development of potential therapeutic and diagnostic targets for early and efficient diagnosis and treatment of IDD.

Title	Acceleration of retinal changes associated with Hypoglycemia in patients with diabetes
Author	Tamta Cholikidze
Co-author(s)	Mariam Natsvlshvili
Scientific coordinator	-

Background:

Diabetes mellitus stays one of the main causes of blindness in developing countries. Increasing number of new cases in younger population becomes serious problem for aging population, especially for small nations. Uncontrolled diabetes due to several reasons causes different stage retinal changes going to blindness. "Hypoglycemic attacks" more and more attracts ophthalmologist 's interest around the world. The aim of our study was detecting and understanding timing process of hypoglycemic situations and its influence on DR.

Methods:

We have retrospectively studied 130 patients with diabetes mellitus type 1 and 2 in specialized endocrinology clinic for last 5 years with different age, sex and duration of disease itself. Patients were divided in two groups: study group(n=50) with one/several hypoglycemic attacks/situations: during a daytime, over nights and control group(n=70) hyperglycemic patients. Symptomatic Hypoglycemia was not very deep(62 – 200 mmol/l) and frequent(2-5 per year). HBG in different measurement period from 7.1 to 13.92. All patients had full ophthalmology exam: vision acuity check, tonometry, slit lamp exam, funduscopy once/several times a year depending on the severity of DR.

Results:

Patients first group: type 2 diabetes had an aggressive retinal changes in short period of time– from mild neovascularization to severe vitreoretinal neovascularization and even rubeosis of iris(DM 2-15 years duration, age group 43-56). DM type 1 were monitored to have nonproliferative diabetic retinopathy, in rare cases proliferative DR(duration of diabetes 5-9 years; age group 29-34 years, prevalence 45%). Control group: DR was less aggressively progressing during the study period(prevalence 14%).

Conclusion:

Hypoglycemic situations/ functional hypoglycemic status can be thought to be speeding up cause of diabetic retinal changes mostly by exudative-ischemic type and is more aggressive than only hyperglycemic situations in time management. As hypoglycemic episodes can speed up the DR all patients with hypoglycemic episodes must be checked by ophthalmologist not depending of new onset of DM.

References

1. Cavalot F. Do data in the literature indicate that glycaemic variability is a clinical problem? Glycaemic variability and vascular complications of diabetes. *Diabetes Obes Metab.* 2013;15(Suppl 2):3–8.
2. Smith-Palmer J, Brandle M, Trevisan R, Orsini Federici M, Liabat S, Valentine W. Assessment of the association between glycemic variability and diabetes-related complications in type 1 and type 2 diabetes. *Diabetes Res Clin Pract.* 2014;105:273–284.
3. Desouza CV, Bolli GB, Fonseca V. Hypoglycemia, diabetes, and cardiovascular events. *Diabetes Care.* 2010;33:1389–1394
4. Standl E, Schnell O, Ceriello A. Postprandial hyperglycemia and glycemic variability: should we care? *Diabetes Care.* 2011;34(Suppl 2):S120–S127.
5. Nathan DM, Turgeon H, Regan S. Relationship between glycosylated haemoglobin levels and mean glucose levels over time. *Diabetologia.* 2007;50:2239–2244.
6. Rodbard D. New and improved methods to characterize glycemic variability using continuous glucose monitoring. *Diabetes Technol Ther.* 2009;11:551–565.
7. Nathan DM, Cleary PA, Backlund JY, Genuth SM, Lachin JM, Orchard TJ, Raskin P, Zinman B Diabetes Control and Complications Trial/Epidemiology of Diabetes Interventions and Complications (DCCT/EDIC) Study Research Group. Intensive diabetes treatment and cardiovascular disease in patients with type 1 diabetes. *N Engl J Med.* 2005;353:2643–2653.
8. The Diabetes Control and Complications Trial Research Group. Hypoglycemia in the diabetes control and complications trial. *Diabetes.* 1997;46:271–286.
9. Kilpatrick ES, Rigby AS, Atkin SL. Effect of glucose variability on the long-term risk of microvascular complications in type 1 diabetes. *Diabetes Care.* 2009 Oct;32(10):1901-3. doi: 10.2337/dc09-0109. Epub 2009 Jun 23.
10. Kilpatrick ES, Rigby AS, Goode K, Atkin SL. Relating mean blood glucose and glucose variability to the risk of multiple episodes of hypoglycaemia in type 1 diabetes. *Diabetologia.*
11. Kim SK, Suh S, Kim MY, Chung HS, Hur KY, Kim SW, Chung JH, Lee MS, Min YK, Kim KW, Kim JH. Three-day continuous glucose monitoring for rapid assessment of hypoglycemic events and glycemic variability in type 1 diabetic patients. *Endocr J.* 2011;58:535–541.

Title Influence of MTRNR2-gene variability in Parkinson`s disease development and clinical phenotype.

Author Jan Koper

Co-author(s) Olaf Chmura, Ewa Świndryk, Barbara Zapła

Scientific coordinator -

Intro:

Humanin (HN) was identified in the brain of a patient diagnosed with Alzheimer`s disease (AD). This 24-amino acids peptide was shown to suppress the neuronal cell loss caused by amyloid- β (A β) and by amyloid precursor protein (APP) mutations associated with early onset familial Alzheimer`s disease (FAD). Recent studies revealed that HN activity is not confined only to neurons but it involves also other compartments of the brain as well as extraneural tissues. These results suggest that HNs may influence on other neurodegenerative disorders such as Parkinson`s disease (PD). We genotyped the not-known polymorphic variants of MTRNR2 (with threonine or isoleucine in amino acid position 13), encoded by HN gene in PD- diagnosed patients.

Material and Methods:

DNA was isolated from peripheral blood from 214 patients with diagnosed PD and 193 healthy adult individuals. Genotyping was performed on the 3130xl Genetic Analyzer (Applied Biosystems).

Results:

Genotyping results have not shown any significant association between identified 13Thr- and 13Ile-HN10b polymorphic variants (38C>T) in control as well in PD-diagnosed individuals. However we demonstrated higher frequency of C/T and C/C genotypes in comparison to T/T in patient with dementia (MMSE). Similar relation we observed in patients with severe symptoms of PD progression (basing on Hoehn and Yahr as well as UPDRS rating scale).

Conclusions:

Our results suggested that 13Thr- and 13Ile-HN10b polymorphic variants (38C>T) is not associated in development of PD. However we can speculate that T/T genotype could be considered as protective factor during development of PD.

Acknowledgments: this study was supported by Polish grant no. N N301 444638 and Polish-Norwegian grant no. PNRF-104-AI-1/07.

Title	Specifics of microbiocenosis of the genital tract in women with a risk of preterm delivery
Author	Denys Beshlei
Co-author(s)	Hennadii Petrochenkov
Scientific coordinator	-

Introduction:

Significant prevalence and association with many immune disorders determine the priority of genital infection in the pathogenesis of preterm labor. The aim of our work was to research the condition of vaginal microbiome during pregnancy in women with risk of premature birth.

Materials and methods:

Complex clinical examination of 40 pregnant women (main group) with false contractions was performed. Inclusion criteria were patients at 22-36 weeks of pregnancy. The control group consisted of 20 pregnant women with a physiological gestation process during the same period of pregnancy. The average age was 27,6 years. Clinical diagnostics included pregnancy complaints, anamnesis and speculum examination. The material was collected from posterior and lateral fornices.

Results:

In the main group, signs of endocervicitis (17.5 %) and cervical dysplasia (2.5 %) were revealed. Candidiasis was suspected in 52.5% of women. In all patients after bacterioscopy with diagnosed bacterial vaginosis (27.5 %), signs of leukocyte response were not presented. In addition, a mixed bacterial and fungal flora was found in remaining cases. *Trichomonas vaginalis* and *Neisseria gonorrhoeae* were not detected. Normalization of the vaginal mycocenosis was made in 52.5% of the women with vaginal dysbiosis. The complicated pregnancy occurred in 12.5% of patients in the main group. Preterm labor in 27-35 weeks of gestation occurred only in 12.5% of cases.

Conclusion:

Extendedly and moderately imbalanced vaginal microbiome conditions can be detected by usage of modern diagnostic methods. Imbalance of the vaginal microbiome can be shown at high frequency of women with a risk of premature birth and with the absence of appropriate preparation. In addition, it may be realized by numerous complications of the gestational process, which causes pregnancy loss in different periods.

Title Analysis of the significance of the functional polymorphism ASP299GLY in the toll like receptor 4 gene in recurrent pregnancy losses

Author Katarina Ivanović

Co-author(s) Stefan Ivanović

Scientific coordinator -

Introduction:

Recurrent pregnancy loss (RPL) involve three or more consecutive pregnancy losses, before 20 weeks, with same partner. The incidence of recurrent pregnancy loss is 1 in 300 pregnancies. The most common causes of RPL are chromosomal abnormalities, uterine anatomic abnormalities, thrombophilias, immunologic, environmental factors, infections. Within various immunological factors, one of the newest research subjects are polymorphisms in gene that control immune response. Such an example is polymorphism Asp299Gly in TLR4 receptor gene.

Aim:

The aim of study is to examine the significance of polymorphism Asp299Gly in occurrence of RPL.

Material and methods:

The study included 131 respondents. Molecular-genetic analyzes included DNA isolation and genotyping of polymorphism Asp299Gly using RQ-PCR.

Results:

The results indicate that AG genotype is predominant in both groups, but there is difference among genotypes distribution (AG = 88.64%; AA = 10.23%; GG = 1.14% and AG = 60.47%; AA = 37.21%; GG = 2.33%). In control group, allele A is predominant (A = 0.67, G = 0.33), while in experimental, frequency of alleles is approximately same (A = 0.55, G = 0.45).

Conclusion:

The study found that there is statistically significant difference in frequency of genotypes of polymorphism rs4986790, in subjects with RPL and control group ($p < 0.001$ *). Also, without Yates correction exists, and with Yates correction there isn't statistically significant difference in frequency of alleles among subjects ($p = 0.0464$ *, $p = 0.0632$). Based on results, it can be concluded that polymorphism rs4986790 is associated with occurrence of RPL, among our respondents.

OTHER

Title	Energy drinks consumption patterns among students in West Balkan
Author	Armin Sljivo, Aida Kulo, Jasna Kusturica
Co-author(s)	-
Scientific coordinator	-

Background:

Energy drinks (EDs) are beverages which contain large amounts of stimulants such as caffeine, a substance advertised as both mental and physical stimulator. The aim of the study was to evaluate patterns of EDs consumption among students in leisure, sports, and academic activities over the last year.

Study design:

This was a pilot cross-sectional study which included students from various faculties at the University of Sarajevo.

Methods:

An online questionnaire-based survey, based on a Consortium Nomisma-Areté questionnaire, was conducted among students of the University of Sarajevo, Bosnia and Herzegovina. The anonymous questionnaire consisted of questions regarding background information, general EDs consumption practices and reasons; alcohol mixed with EDs (AmEDs) consumption, EDs consumption in sports, in academic activities, and other caffeinated drinks consumption.

Results:

Out of 812 respondents, mean age 21.37 ± 1.98 years, 498 (61.7%) reported EDs consumption over the last year. Three main reasons for EDs consumption were to stay awake (58.2%), to enjoy the taste (46.8%), and to boost energy (38.0%). Energy drinks were mainly consumed less than once a month (70.5%), most frequently during academic activity (50.4%), less frequently mixed with alcohol for relaxation (21.5%), and only rarely in association with sports (10%). Drinking coffee and being a lower year student were independent predictors for EDs consumption, being single and living with parents for AmEDs, and being a man and living in urban environment for consuming EDs in association with sports.

Conclusions:

Based on these preliminary data, the consumption of EDs in leisure, sports, and academic activities is not frequent among students in the region. However, as EDs are increasingly easily accessible and promoted, increased public awareness is warranted to prevent their excessive and prolonged consumption that may lead to serious health consequences. Keywords: energy drinks, students, leisure, sports, academic activities.

Title	Moral distress in a medical internship at a Brazilian university
Author	Douglas Amaral da Silva
Co-author(s)	Jhoselin Paula Alves, Janaína Sortica Fachine, Rita de Cássia Gabriele de Souza, Emerson da Silveira
Scientific coordinator	-

Introduction:

Moral distress can occur in work situations when the individual feels compelled to act against their values.

Objectives:

The present study aimed to evaluate the moral distress in students of one medical school and identify the main stressors, once this condition can influence the learning and care of the patient.

Methods:

A qualitative research was conducted through a semi-structured interview, applied to 8 students of the medical internship of a community university in the south of Brazil which was analyzed through the Thematic Analysis methodology.

Results:

Analyzing the answers of the questionnaires, the researchers managed to find predominant feelings among the interviewees when asked about the internship rotations and about the feelings aroused during the academic activities. The most cited words were anguish, frustration, sadness, devaluation, autonomy and revolt. Based on the interviews the researchers obtained the following category of analysis: "Interpersonal relations as a source of distress and devaluation".

Discussion/Conclusion:

From the analysis of the reports it can be inferred that the greatest agents of moral distress were relationships with members of the health team and the internship preceptors, as well as the lack of autonomy in medical decision-making, once it was observed that the academic was represented by the speech of the internship preceptor, even if this does not express their real opinion about the conduct to be taken with a patient, what would take him to act against his moral conscience, generating some suffering.

Title Atypical debridement of necrotic tissue with natural maggot infestation in a neglected skin cancer female patient

Author Kochan Andrzej, Kochan Piotr

Co-author(s) Jerzy Król

Scientific -
coordinator

Basal cell carcinoma is the most common skin cancer worldwide. An 80 years-old female patient was brought to A&E, presenting with a large ulcerative lesion covering most of the right side of face. The wound was approximately 15x12 cm and encompassed the right eye socket with missing eye bulb; moving maggots surrounded by liquefied tissues visible. Spontaneous, natural debridement of a neglected cancerous lesion by housefly maggot infestation. Despite large facial lesion, the patient survived.

Title Epilepsy Surgery: New techniques and progress

Author Evrydiki Asimakidou, Martha Spilioti

Co-author(s) -

Scientific -
coordinator

Introduction:

One in three patients with epilepsy are not adequately controlled with the medications nowadays and therefore, they are candidates for surgical treatment. The main indication for epilepsy surgery is the ineffectiveness of at least two medications in patients with seizures, coming from a focal area of the brain, which can be removed without severe neurological complications.

Methods:

A bibliographic research was performed, using literature databases. Recent meta-analyses, systematic reviews, randomized clinical trials, cohort studies, and case reports were included. Data were extracted and synthesized.

Results:

Defining the most appropriate technique for each patient is of great significance. A careful preoperative investigation with neurophysiological techniques, neuroimaging, and the neuropsychological testing takes place in all cases. In current neurosurgical practice, open surgical resection, by which a part of the brain or a whole lobe-most frequently the temporal lobe- is resected, remains the gold-standard. Other methods include the disconnection procedures-corpus callostomy, thalamotomy, functional hemispherectomy, multiple subpial transection-in cases, where the epileptogenic area is inappropriate for resection. During the past few years, there has been an effort for the establishment of minimally-invasive techniques, such as the Stereotactic Radiosurgery or the Laser Interstitial Thermal Therapy. Other fields of epilepsy surgery are Deep Brain Stimulation, Responsive Neurostimulation, and the more widely used Vagus Nerve Stimulation. The benefits of epilepsy surgery are undoubtable. However, minor or major complications-mainly neurological-are likely to occur. Seizures of two in three patients are controlled through the open surgical resection. The other techniques prove to be effective in the reduction of seizures' frequency depending on the characteristics of the patient.

Conclusion:

Ablative techniques may substitute resection, if open surgical resection is not indicated, whereas neurostimulation and disconnection procedures cannot. The new techniques are being evaluated in clinical practice and more research is demanded so as to determine their role in epilepsy surgery.

Title The doomed soldiers- bullet trajectory investigation

Author Wojciech Koziółek, Gabriela Szypuła, Gabriela Kanclerz, Patrycja Szczepaniak, Szymon Strączek

Co-author(s) -

Scientific -
coordinator

The study we present is deals with a series of cases of Polish soldiers today known as „the Doomed Soldiers” sentenced to death by the communist government of Poland in 1940s. The decree was a result of membership in anti-communist Polish resistance movement. The cause of death in each case was attributed to a gunshot head injury. Almost 70 years later The Institute of National Remembrance- Commision for the Prosecution of Crimes against the Polish Nation requested the exhumation to verify the identity of the victims and their cause of death. This study is focused on the investigation of twelve cases, exhumed in 2018. The greater number of the skulls required complete reconstruction followed by the analysis of trajectory of gun shots. The dry bone study revealed multiple injuries in the skulls and many other bones such as humerus, tibia and pelvic bone. The skulls have been additionally examined to determine the inlet and outlet openings and the computed tomography reconstructions were performed.

Results:

Post-mortem reconstruction allowed to confirm the characteristics of firearms injuries, which included the approximate number of projectiles and their trajectory. The study revealed that in the majority of the cases execution by gunshot to occipital or temporal bone had been performed although there were a few exceptions such as frontal or multiple headshots. Moreover, in some cases the results of the research enabled us to establish the soldiers identity. Shooting distance and the weapon’s characteristics were impossible to be determined.

Conclusion:

Our results confirmed that in the described cases, soliders were executed by shooting to temporal or occipital bone.

Title Change of Superoxide Dismutase Activity in Liver Tissue of Hyperlipidemic Rats Model After Orange Water Kefir Intervention

Author Mochamad Afifudin

Co-author(s) Rafik Prabowo, Miranti Dewi Pramaningtyas

Scientific coordinator -

Background

The liver was an organ that plays a key role on lipid metabolism. The accumulation of excess lipids in liver tissue can decrease the hepatoprotective activity of antioxidant which marked by Superoxide Dismutase (SOD). If this compilation occurs continuously, it will increase the risk of liver disease. The previous research shown that water kefir-based probiotic beverage can stimulate antioxidant activity, while the orange juice have a high prebiotic properties. The combination of prebiotic and probiotic was called synbiotic. The aim of this research was to determine the effect of combination orange and water kefir intervention as synbiotic beverage on SOD activity in liver tissue of hyperlipidemic rat.

Method

This study used experimental method with post-test only control group design. The sample of this study were 15 male rat (*Rattus norvegicus*) aged 2-3 months and weight 180-250 grams. All groups were acclimatized for one week and fed ad libitum for 8 weeks. Group II and III were given quail egg yolk with dose 5 ml/200 grams of body weight for 4 weeks. For the next 4 weeks, group III was given the orange water kefir with dose of 5 ml/200 grams of body weight. All the intervention were given by the sonde method. At the end of the study, rats were terminated and the liver organ were examined for SOD activity.

Result

Mean of SOD activity on each group consecutively were $71.43 \pm 8.75\%$, $21.43 \pm 5.64\%$, and $71.43 \pm 6.05\%$. The Statistical Analysis with One way ANOVA showed significant differences in SOD level beetwen three groups with $p=0.00$. While, Bonferroni post-hoc test showed significant comparison beetwen Group I-II and Group II-III with $p=0.00$. The comparison between Group I-III was no significantly difference.

Conclusion

The intervention of orange water kefir was significantly increase the SOD activity in liver tissue of hyperlipidemic rats.

Keywords: hyperlipidemia, superoxide dismutase, orange, water kefir

Title	Can your environment cause Alzheimer's disease? A meta-analysis research of causation and prevention
Author	Goulas Kyriakos, Andreas Anestis, Nikolaos Papadakis
Co-author(s)	-
Scientific coordinator	-

Introduction:

Alzheimer's Disease (AD) is the most common form of dementia, having affected 40 million people in 2018, a number that is expected to be doubled by 2050. As a multifactorial disease, apart from genetic causes, various environmental factors appear to be correlated, with the onset of the AD. These factors, modifiable and non, change the lifetime risk of occurrence of the disease. The objective of this study was the investigation of the relationship between the most important environmental factors and the occurrence of Alzheimer's disease.

Materials and Methods:

Online scientific literature databases including Medline, Scopus, Embase and Cochrane Library were used for finding relevant research papers written either in English or in Greek. A meta-analysis was carried out after defining the criteria for inclusion or rejection of individual papers and determining the quality of the information applying GRADE criteria. The overall effect size of each environmental factor was estimated in the form of Odds Ratio and determined the extent to which these articles have publication bias.

Results:

Based on our meta-analysis, from a total number of 708 papers, 140 were considered suitable for admission. The Relative Risk (RR 95% confidential interval), the Odds Ratio (OR 95% confidential interval) or Hazard Ratio (HR 95% CI) for each factor was calculated. The most important of non-modifiable factors are the Air Pollution (HR=1.54), Magnetic Fields (RR=1.74), Pesticides (HR=2.37), Cancer (RR=0.65) and Diabetes Mellitus (T1DM HR=1.89 T2DM HR=1.57). Regarding modifiable factors, the most important are the Depression (RR=1.9), Midlife Obesity (RR=1.6), Educational Attainment (RR= 1.59) and Diet (RR=1.75).

Conclusion:

The present meta-analysis demonstrates the existence of a correlation between environmental factors and the occurrence of AD. At the same time are raised many questions about the measurement of the actual effect of each factor.

Title Total Shoulder Joint Replacement: An Overview of Best Practices and Recent Advancements

Author Shaheer Aziz, Dominique Tirant, Dominika Guga, Haaris Shiwani, Danyal Memon, Libor Necas

Co-author(s) -

Scientific coordinator -

Over the last few decades, shoulder arthroplasty has undergone considerable improvements. Comprehensive anatomical studies regarding the morphology of the proximal humerus have facilitated the design of newer modular implant structures that allow for a more accurate humeral head replacement. In patients suffering from osteoarthritis, inflammatory arthropathies and glenoid disease, total shoulder arthroplasty seems to be the preferred approach when compared to hemiarthroplasty. The risk of glenoid loosening following these procedures seems to have decreased due to improvements in implant design and surgical technique. For complex proximal humeral fractures, outcomes of hemiarthroplasty have improved due to better patient selection, the development of fracture-specific implants, careful tuberosity reconstruction, and shoulder immobilization for the first few weeks post-operatively. Most recently, reverse total shoulder arthroplasty has come forth as an attractive alternative for patients with rotator cuff-tear arthropathy, and its indications are continuing to expand.

Title Dietary protein in early life and bone health in childhood

Author Elda Xhafa

Co-author(s) Trudy Voortman

Scientific coordinator -

The objectives of this study is to examine whether the associations of dietary protein intake in early life with bone health in childhood. This study was embedded in the Generation R Study, multiethnic, population-based, prospective cohort study from fetal life onward in the area of Rotterdam. A food-frequency questionnaire was implemented from 2003 onward and was sent to 5088 mothers. Linear regression models will be used to relate the association of dietary protein with bone health in children.

ABSTRACTS AMSC
2019

POSTER
PRESENTATIONS

CLINICAL FUNDAMENTAL STUDIES

Title Management of infective endocarditis: multicentral research

Author Andrei Danilov, Ph. D., Roman Kozlov, MD, PhD

Co-author(s) -

Scientific coordinator -

Introduction

According to various studies, the incidence of infective endocarditis comprises 3-10 cases per 100.000 per year. In recent decades the number and the ratio of the most common risk factors for infective endocarditis has increased. Among risk factors IV drug addiction, cardiac surgery, invasive medical manipulations are progressively taking a significant role. High mortality rates in infective endocarditis are largely due to the development of potential complications, among which the most frequent are development of heart failure, thromboembolic manifestations and infectious aneurysms. The aim of the study was to optimize antimicrobial therapy in infective endocarditis in accordance with etiology and other factors.

Material and methods

Case history of patients with confirmed and suspected infective endocarditis admitted to 11 medical institutions in 9 cities of the Russian Federation in the period from September 2011 to December 2018 were analyzed. The diagnosis of infective endocarditis was made according to conventional Duke-criteria.

Results

There were 166 cases of infective endocarditis (males – 74.7%, females – 25.3%), average age was 45.0 ± 16.7 years. Etiologically significant pathogens were isolated in 33.7%; *S. aureus* being dominated (53, 6% cases). In administration of starting antimicrobial therapy, combined therapy was prescribed in 46.1% cases, monotherapy – in 53.9%. Aminoglycosides (23.3%), glycopeptides (20.8%) and parenteral cephalosporins of the third generation (20.0%) were mainly prescribed. Positive dynamics of starting therapy was noted in 50.3% cases.

Conclusions

The low level of etiologically significant pathogens can be explained by the fact that in the vast majority of cases blood samples were taken after the beginning of antimicrobial therapy. Administration of highly-potent antibiotics to manage staphylococcus agents in accordance to Recommendations the European Society of Cardiology can be beneficial in infective endocarditis.

Title Dental implantation: microbiocenosis of the oral cavity

Author Anna Shashmurina, Viktoria Shashmurina

Co-author(s) -

Scientific -
coordinator

Introduction

Microbiological parameters of the oral cavity after dental implantation require regular assessment due to the fact that the change of it can cause peri-implantitis and bone resorption. The aim of the study was to assess oral microbiocenosis in toothless patients after dental implantation.

Material and methods

To assess microbiocenosis in the implantation zone 57 patients with complete absence of teeth on the upper and lower jaws were selected and divided into three groups. Group 1 (n=20) included patients with 2-4 implants in the intermental area of the lower jaw for the subsequent fixation of a complete removable prosthesis. The second group consisted of 17 patients who received 5-6 implants in the intermental area of the mandible to fix the conditionally removable prosthesis. In Group 3 (n=20) there were patients without implants and the treatment was carried out with complete removable plate prostheses. Sampling of material for microbiological examination was carried out before the treatment and in 3, 7, 14 days after implantation, using a standard-size (0.5 cm²) Dien-Denta adhesive film, which was applied to the surface of the mucous membrane of the alveolar ridge. The film with the microflora was transferred to the Ames transport medium and quantitative sectoral excision of the bacterial suspension from the transport medium was carried out. Researches were spent with respect to the resident group of microorganisms, which plays a stabilizing role in the microbiocenosis of the mouth (streptococci *S. sanguis* and *S. mutans*, enterococci, peptostreptococci, vellonelli, bacteroides *P. oralis*); and a virulent (pathogenic) group that can support the development of various purulent inflammatory processes in the mouth (actinomycetes *A. Naeslundii* et al., bacteroides *P. melaninogenica* and *P. gingivalis*, fusobacteria). A qualitative (specific) study of the microflora of the mouth was carried out using aerobic and anaerobic cultivation techniques by sowing the test material on the 5% blood hemine-agar, Endo medium, Saburo medium. After separation the isolated colonies, pure cultures of bacteria and fungi were obtained on cardiovascular agar and semi-liquid AS medium. Then they were identified by a set of morphological, cultural and biochemical features using a "key" to identify the microorganisms of the oral cavity. Based on the number of colonies grown in the primary seeding, the content of each bacterial species was determined from the calculation of 1 cm² of adhesive film (CFU / cm²).

Results

Microbial semination of the oral mucosa before treatment and in the groups 1 - 3 had no significant differences and was $10^5 + 10^2$ CFU, which corresponds to the norm for people with intact dental arches. Microbial flora in Group 3 was represented mainly by the stabilizing species of microorganisms. After implantation in Group 1 there were changes of qualitative and quantitative composition of microflora: increasing the frequency of extraction enterococci (64.7 - 82.3% cases), the appearance of representatives of virulent obligately anaerobic species: *P. melaninogenica*, *P. gingivalis*, *A. israelii* (9.9% of the entire microbial landscape). On the 14th day after the operation, the proportion of virulent pathogenic species decreased to 10^4 CFU and the number of stabilizing microbial species was restored.

Conclusion

Microbiological disorders after dental implantation depends on the number of implants and characterized by increasing the level of colonization of postoperative zone with anaerobic periodontopathogenic species most pronounced in 5 - 6 implants compared to 2 - 4. For preventing inflammation in the implantation area, irrespective of their number, special hygienic procedures are required. It is of interest to investigate the effectiveness of drug correction of microbiocenosis and barrier functions of the tissues of the mouth with the installation of five or more implants.

Title Administration of antihypertensive medicines to pregnant women
Author Natalya Burmistrova, Natalia Konyshko
Co-author(s) -
Scientific coordinator -

Introduction

Many clinical studies postulate the choice of antihypertensive drugs in different groups of patients. Rates of complications in hypertension and disability in pregnant women and their offspring are rather high. Hypertension is responsible for 5 to 30% all deaths worldwide with high mortality rates. The aim of the study was to clarify availability and costs of antihypertensive drugs administered to pregnant women.

Material and methods

Survey of 100 pregnant women with gestational and chronic arterial hypertension, 15 pharmacists and 15 therapists, obstetricians and cardiologists was conducted.

Results

Our study has indentified rather complicated situation in Russia. Patients have low awareness of their illness and potential risks; there is a long list of over-the-counter drugs, rather low patients' compliance and in some cases low effectiveness of therapy. But a range of antihypertensive drugs in the pharmaceutical market gives a chance to adjust therapy more rationally. One of the most important challenges is to monitor pharmacoepidemiological and pharmacoconomical factors. Totally 48 domestic and imported β -blockers to be in use in Russia are officially registered: 16 drug names are domestic and 32 are internationally produced drugs. Atenolol is cheaper and widely represented by various manufacturers. Of 148 drug names registered in the Russian with an official permission to be administered in pregnant women, 31 drugs are β_1 -adrenoblockers. We analyzed international non-proprietary names of 31 drug manufactured by 36 companies in 15 countries (Russian manufacturers – 14, international manufacturers – 22). The share of Russia in the production of the drugs is rather small – only 19.35%. 80.65% are produced in other countries. India is the leader among importers. Germany (15.6%), Sweden (9.4%) and Croatia (9.4%) also have large volumes to import drugs to Russia. Most of the women aged 25-35, living in urban areas have incomplete university education and purchase drugs at full cost and rely on a doctors' advice in 70% of cases. Gynecological examination the women have 1-4 times a year, during pregnancy 1-2 times a week. 48.5% prefer drugs of domestic production, and 51.5% - imported drugs. 48.5% of women pay attention to the design of the packaging. The drugs were assessed as «efficient "(34.1%)," safe "(29.3%) and" high quality « (25.8%). 48.3% women prefer to buy the drugs at the corner pharmacies. For mild to-moderate hypertension in pregnant women, it is recommended to administer in 100% cases: agonists of α_2 adrenoreceptors - i.e. methyl dopa (Dopegyt); β -selective adrenoblockers (bisoprolol, metoprolol); blockers of slow calcium channels - nifedipine, verapamil.

Conclusions

Antihypertensive medicines are extensively represented in the pharmaceutical market and available at low costs. Beta-blockers are leaders among antihypertensive drugs for pregnant women. Patients can be insufficiently aware of the drugs. Information is mostly brought to them by their GPs. Beta-blockers are prescription medicines, so to get them patients go to see their doctors. Many patients read up drug leaflets. The choice of antihypertensive drugs in pregnant women is due to the fact that the benefits of their use exceed potential side effects and the drugs are relatively safe. There is no evidence of harmful effects to the fetus in late pregnancies. There is tendency of dosage understatement; wide application of short-acting preparations of nifedipine, myotropic antispasmodics and on the other hand, unjustifiably rare use of methyldopa, hydralazine, irrational appointment of diuretics. Beta-blockers belong to vital drugs and are the leaders among antihypertensive drugs in pregnant women.

Title Correlation of fine needle aspiration cytology of thyroid gland with histopathological results

Author Dušan Brkić

Co-author(s) Milica Buhovac

Scientific coordinator -

Introduction:

The thyroid gland tumour is most often manifested by nodule, therefore exists the clinical significance of the nodule. The most frequent are papillary and follicular carcinoma followed by medullary carcinoma and anaplastic thyroid cancer. Ultrasound-guided fine needle aspiration biopsy (FNA) is a diagnostic method with high sensitivity and specificity. Bethesda classification of the thyroid gland cytology is the classification system commonly used among clinicians and consists of 6 categories. Aim of our study was to test the accuracy of FNA.

Materials and methods:

A retrospective diagnostic study was conducted with 80 randomly selected samples. Samples for cytological analysis were obtained by FNA. Each sample is classified into one of the six diagnostic categories according to the Bethesda classification of thyroid gland cytology and compared to histopathological results. The accuracy was evaluated by calculating sensitivity, specificity and overall accuracy of the test. Additionally positive predictive value (PPV) and negative predictive value (NPV) were determined. Binomial logistic regression was used to estimate the statistical significance between diagnostic categories.

Results:

The results of our study showed that the test sensitivity was 0.711, specificity 0.381 while the overall test accuracy was 0.538. PPV is 0.509 and NPV 0.593. The results have also shown that risk of malignant thyroid gland disease decreases with years of life ($p < 0.05$). There is no statistical significance between III and IV in comparison to the II diagnostic category ($p > 0.05$). On the other side, there is statistical significance between the V and VI diagnostic category relative to the II diagnostic category ($p < 0.01$).

Conclusion:

We can conclude that V and VI diagnostic category have significantly higher predictive validity compared to III and IV category. Besides, there is tendency that risk of malignant thyroid gland disease declines with age.

References:

1. Siegel R, Ma J, Zou Z, Jemal A. Cancer statistics, 2014. *Cancer J Clin.* 2014; 64(1):9-29.
2. Paskaš S, Janković J, Živaljević V et al. Malignant risk stratification of thyroid FNA specimens with indeterminate cytology based on molecular testing. *Cancer Cytopathol.* 2015; 123(8):471-9.
3. Haugen BR, Alexander EK, Bible KC et al. 2015 American thyroid association management guidelines for adult patients with thyroid nodules and differentiated thyroid cancer. *Thyroid* 2016; 26(1):1-133.
4. Davies L, Welch HG. Current thyroid cancer trends in the United States. *JAMA otolaryngology, head & neck surgery* 2014; 140(4):317-22.
5. Carr LL, Mankoff DA, Goulart BH, Eaton KD, Capell PT, Kell EM, Bauman JE, Martins RG. Phase II study of daily sunitinib in FDG-PET-positive, iodine refractory differentiated thyroid cancer and metastatic medullary carcinoma of the thyroid with functional imaging correlation. *Clin Cancer Res* 2010; 16:5260–8.
6. Paschke R, Cantara S, Crescenzi A, Jarzab B, Musholt TJ, Sobrinho Simoes M. European thyroid association guidelines regarding thyroid nodule molecular fine-needle aspiration cytology diagnostics. *Eur Thyroid J* 2017; 6(3):115-129.
7. Bongiovanni M, Spitale A, Faquin WC, Mazzucchelli L, Baloch ZW. The Bethesda system for reporting thyroid cytopathology: a meta-analysis. *Acta Cytol* 2012; 56:333–339.
8. Sherman SI. Thyroid carcinoma. *Lancet* 2003; 361(9356):501-11.
9. Baloch ZW, Li Volsi VA, Asa SL et al. 2008 Diagnostic terminology and morphologic criteria for cytologic diagnosis of thyroid lesions: a synopsis of the National Cancer Institute Thyroid Fine-Needle Aspiration State of the Science Conference. *Diagn Cytopathol* 2008; 36: 425–37.
10. Abdullah N, Hajeer M, Abudalu L, Sughayer M. Correlation study of thyroid nodule cythopathology and hispopathology at two institutions in Jordan. *Cytojournal* 2018; 15:15-24.
11. Sharma C. Diagnostic accuracy of fine needle aspiration cytology of thyroid and evaluation of discordant cases. *J Egypt Natl Canc Inst* 2015; 27(3):147–53.
12. Hajmanoochehri F, Rabiee E. FNAC accuracy in diagnosis of thyroid neoplasms considering all diagnostic categories of Bethesda reporting system: A single-institute experience. *J Cytol* 2015; 32(4):238–43.
13. Alwahaibi N, Alsalami J, Rani Bai U, Lakhtkia R: Accuracy of fine needle aspiration cytology of thyroid lesion with corresponding histopathology. A single institutional experience. *Thyroid Res Prac* 2016; 140–3.
14. Machała E, Sopiński J, Iavorska I, Kołomecki K. Correlation of Fine Needle Aspiration Cytology of Thyroid Gland with Histopathological Results. *Pol Przegl Chir* 2018; 90(6):1-5.
15. Jeelani T, Rafiq D, Nazir W et al. Histopathological and cytological correlation of thyroid nodules with emphasis on Bethesda system for reporting thyroid cytology—a 7 year study. *IJCMR* 2018; 5(1):28-31.
16. Bongiovanni M, Trimboli P, Crescenzi A, Castellana M, Giorgino F, Giovanella L. Italian consensus for the classification and reporting of thyroid cytology: the risk of malignancy between indeterminate

lesions at low or high risk. A systematic review and meta-analysis. *Endocrine* 2018
<https://doi.org/10.1007/s12020-018-1825-8>.

17. Cibas ES, Ali SZ. The 2017BethesdaSystem for Reporting Thyroid Cytopathology. *Thyroid* 2017; 27(11):1341-6.

18. Musani M.A, Khan FA, Malik S, Khambaty Y. Fine needle aspiration cytology: sensitivity and specificity in thyroid lesions. *J Ayub Med Coll Abbottabad* 2011; 23(1):34–36.

19. Mistry SG, Mani N, Murthy P. Investigating the value of fine needle aspiration cytology in thyroid cancer. *J Cytol* 2011; 28:185–190.

20. Sinna EA, Ezzat N. Diagnostic accuracy of fine needle aspiration cytology in thyroid lesions. *J Egypt Natl Cancer Inst* 2012; 24:63-70.

21. Seningen JL, Nassar A, Henry MR. Correlation of thyroid nodule fine-needle aspiration cytology with corresponding histology at Mayo Clinic, 2001-2007: an institutional experience of 1,945 cases. *Diagn Cytopathol* 2012; 40(1):27-32.

Title Diagnosis of the affective disorders in patients with internal diseases

Author Kozyreva V.O., Osipova N.N., Gaponova V., Rangus S., Turansky M., Zaytseva V.

Co-author(s) -

Scientific -
coordinator

Introduction:

Bipolar affective disorders are registered in 40% patients worldwide. The aim of the study was to define bipolar disorders in patients with internal disease. 66 patients, aged 23-54 years, participated in the study, and made a group of patients with internal diseases.

Results:

The following screening techniques were used: Mini-Mult, Bipolar Spectrum Diagnostic Scale, Mood Disorder Questionnaire, Hypomania Checklist (HCL-32), Zung Self-Rating Depression Scale, mathematical statistics (data are in form $M \pm m$, $p < 0.05$.) According to Mini-Mult a prevalence of the personality profile on the Hs (hypochondria) (53.19 ± 1.17) and Hy (hysteria) (53.81 ± 1.81) scales with a statistically significant decrease on the Pt (psychasthenia) (44.05 ± 1.79) scale was revealed. In the study of the propensity for depression on the Zung scale, borderline values were revealed between the norm and disorder (37.43 ± 1.31). In the study of the propensity for hypomania by the MDQ, close to threshold values were revealed (6.54 ± 0.63). According to BSDS, the possibility of a bipolar disorder is average (9.05 ± 0.99). According to HCL-32, bipolar index increase was not revealed (11.56 ± 1.25). A correlation analysis was performed to reveal the dependence between personality characteristics and propensity for affective disorders. The "Pa" scale correlates with BSDS ($r = 0.53$), HCL-32 ($r = 0.50$), MDQ ($r = 0.46$) scales. A strong direct correlation relationship between "Ma" and MDQ scales in the female number of patients was revealed ($r = 0.82$), a moderate correlation dependence of "Pa" and BSDS scales in the total number of patients was revealed ($r = 0.53$). In terms of this study the regression models were constructed $BSDS = 0.20 * Pa - 1.13$, ($R^2 = 0.98$), $MDQ = 0.15 * Ma - 0.84$ ($R^2 = 0.95$).

Conclusion:

Using the MDQ and BSDS techniques, a propensity for affective bipolar disorders, associated with personal characteristics of patients with internal diseases, was revealed. It allows the use of a multifaceted approach to diagnosis and treatment of comorbid disorders.

Title Restoration of microcirculation in the marginal periodontium in different shoulder level after dental preparation for full aesthetic crowns

Author Aleksandra Minaeva

Co-author(s) Nikolay Abolmasov, Mikhail Serdukov, Boris Minaev

Scientific coordinator -

Introduction

Longevity and quality of dentures depend on impression. The best option is to take an impression after complete recovery of the marginal gingiva. Regeneration depends on microcirculation in tissues. Parameters of microcirculation can be objective criteria to determine the time of taking impressions. The aim of the study was to identify the optimal time to take precision impressions after dental preparation, taking into account state of microcirculation in marginal periodontium.

Material and methods

The study involved 3 groups of patients (n=90). The patients underwent dental preparation for full crown. In Group I preparations were carried out with shoulder located at the level of the gingival margin. In group II preparation was made with shoulder located subgingivally. Group III had gingivectomy before preparation. The study of microcirculation was performed with laser Doppler flowmetry. We estimated vascular tone, intravascular resistance and blood microcirculation index. The measurements were carried out during primary examination, immediately after preparation and in 1, 7, 14, 21 days and 6 months after procedure.

Results

The shortest terms of the blood flow recovery were observed in Group I ($7 \pm 0,29$ days). In Group II the normalization of parameters occurred later in $21 \pm 1, 82$ days. Changes in parameters in Group III were more significant than in other groups. Full recovery of microcirculation parameters was recorded only in 6 months ($176 \pm 4, 13$ days).

Conclusion

In cases with shoulder location above the gum or at same level with it, taking impressions can be performed immediately after the preparation. In the cases with subgingival shoulders, even in compliance with gentle preparation, impressions should not be taken as early as in 21 days. After gingivectomy we don't recommend to take an impression earlier than in 6 months.

Title Influence of antenatal Zinc deficiency on the adolescents health status.

Author Anna Grechanaja

Co-author(s) Olga Shtikova, Tatiana Legonkova

Scientific -
coordinator

Introduction

Presently trace elements deficiency in nutrition among children regarded as high risk factor of developmental disorders. The most severe health consequences has deficiency of essential elements, Zinc is one of them and competes in importance with iron and iodine only. Research that reflect long-term effects by children with zinc deficiency are almost absent.

The aim of study

Study the effects of zinc deficiency to among teenager's health that was born by mothers with different zinc level during pregnancy.

Material and methods

During 13 years was conducted the monitoring of 104 children's. Surveyed divided into two groups: in the main group was 66 children with zinc deficiency (less 13 micromole/liter), control group – 38 children with normal zinc level in blood serum (more 13 micromole/liter). Was used: clinical, laboratorial, biochemical, functional, questioning of children and their parents.

Results

Installed that 81% children born by mothers with serum Zn deficiency during pregnancy, Zn deficiency determined at birth and saved in adolescence. In dynamic monitoring children from birth, at the first year of life and in school age children with Zn deficiency have more low growth, disharmonies, and positive correlation relationship Zn level with leaner growth Was installed, that school age children with Zn deficiency reliably more often have pathology of musculoskeletal system, gastro-intestinal tract, and allergic diseases.

Conclusion

Children born by mothers with Zn deficiency in blood serum have Zn deficiency at birth that saved in later life and that influence to functioning of the leading body systems. Was installed the influence of Zn deficiency on the linear growth of the child, harmonious physical development, resistance of the organism, pathology of musculoskeletal system, gastro-intestinal system and allergic diseases.

Title Healthy living: new facets of adolescent nutrition

Author Anna Grechanaja

Co-author(s) Olga Shtikova, Tatiana Legonkova

Scientific -
coordinator

Introduction

Healthy nutrition is a foundation of the healthy living. Unbalanced diet primarily of essential elements has a negative influence on growth and development, disease and even on child mortality. Vitamin D regulate 3% of human genome. Research of the last decade demonstrate the global character of problem of vitamin D deficiency. According to the WHO 48% world population has a zinc deficiency. The most effective way of controlling by child health is an optimal nutrition that provide their development in all periods, starting in antenatal and in critical periods of intensive development.

Aim of study

Study a level of essential nutrients and define a link between them in organism of adolescence. Material and methods. During one year under control was 104 children's of 12-13 age. Was conducted a comprehensive clinical and laboratory surveys with define of the Zn level, Fe level and vitamin D level in blood serum.

Results

The assessment of actual nutrition that based on 7-days menu of surveyed children installed inadequate intake of vitamin D, C, B and β -carotene. Children ate with food only 9% by recommended amount vitamin D. During definition 25(OH)D in blood serum of all surveyed children installed reduction of vitamin D level. The children with Zn deficiency in blood serum average 25(OH)D was reliably below than in blood serum of children with normal Zn level. Installed, that 37% children have normal Zn level, Zn deficiency have 63% children. Assessment of nutritional status of children with Zn deficiency showed a lack of consumption of Zn.

Conclusion

Thus, there was reveal the imbalance of essential micronutrients and vitamins of adolescent children, proven relationship between them and the influence of nutrition on contents of nutrients in the blood serum that requires correction, taking into account individual personalized approach.

Title	Testing the hypothesis of exponential distribution of a small sample using equal-frequency intervals
Author	Leonid Lyamets
Co-author(s)	Aleksandra Minaeva
Scientific coordinator	-

Introduction.

When carrying out statistical analysis of the experimental data obtained after medical research, it may be necessary to test the statistical hypothesis about the distribution of a small sample. To solve this problem methodology should be developed. The aim of the study was to develop a technique that allows test the statistical hypothesis of the exponential distribution of experimental data in small samples.

Materials and methods.

The Chi-square criterion was used for the technique. Instead of the primary grouping based on intervals of same width, a grouping was used in which the formed intervals have the same frequencies but different widths.

Results.

The method consists of the following calculations. 1. For the sample, the lower and upper quartile and median are calculated. This allows to split range into four intervals. In each interval, the absolute number of experimental values is calculated. 2. The average value and the inverse value are calculated from the sample. For an exponential distribution with given parameter, the probability of a random variable falling into formed intervals is 0.25. 3. The Chi-square criterion is used to calculate the empirical value of Chi-square statistics. For the theoretical Chi-square distribution with the number of degrees of freedom equal to 2 and a given level of significance. Comparison of the empirical value of Chi-square statistics with the critical value of Chi-square allows us to decide that the analyzed sample is consistent with the theoretical exponential distribution.

Summary

The proposed method has advantages over the equal-interval grouping. When calculating the boundaries of intervals and frequencies in the proposed method, the volume of calculations is less. Unification of grouping and reduction of number of calculations simplify the development of software for automation of investigations.

Title Trends, Attitude and Knowledge about the Methods of Labour Pain Management among Polish Women.

Author Kinga Żebrowska, Maria Falis, Katarzyna Kosińska-Kaczyńska MD, PhD, Bartosz Godek MD

Co-author(s) Martyna Rożek, Klaudia Wilk

Scientific coordinator -

INTRODUCTION

According to ministerial decree each woman in Poland during childbirth has the right to the pharmacological and non-pharmacological labour pain management (LPM). The aim of the study was to assess the knowledge of Polish mothers about pharmacological and non-pharmacological LPM, to investigate which methods they chose and their satisfaction of chosen ones.

MATERIAL AND METHODS

A prospective cross-sectional study was performed among women, who gave birth between 2015 and 2018. The self-composed questionnaire was distributed via Internet in October 2018. Statistical analysis was performed with Fisher's and chi squared test. P value <0.05 was considered significant.

RESULTS

13 727 women participated in the study. 75% have learned about LPM from the Internet. 68% of them did not gain any information on LPM from doctors during their prenatal appointments. Safety of the newborn (46%), midwife's advice (40%) and the chance of the immediate pain relief (39%) were the most important issues while choosing LPM. Respondents used a wide range of non-pharmacological methods, such as assistance of partner during labour (81%), physical activity (58%) or immersion in water (37%). 11% of mothers did not use any of the LPM methods. 52% of women declared, that they wanted to use the pharmacological anaesthesia, while 49% had it performed (28% epidural, 16% inhaled anaesthesia, 5% parenteral opioids). Pharmacological methods were unavailable due to lack of anaesthesiologist in maternity ward (41%) or inaccessibility of the chosen methods in the hospital (31%) and too advanced labour (43%). 48% of respondents did not decide to use pharmacological methods, because pain was bearable (29%), anxiety of child's health (17%), or belief that the pain is natural and it should not be avoided (16%).

CONCLUSIONS

The knowledge about the methods of LPM is not satisfactory. We should focus on well-maintained education guided by doctors, midwives and media.

Title Mortality and risk factors associated with measles

Author Marchis Hund Elisabeth Antonia, Lecturer Colosi Ioana Alina

Co-author(s) -

Scientific coordinator -

Introduction

Mortality and morbidity peaks throughout Europe, as measles continue to spread. In up to a quarter of cases, complications lead to hospitalization and lifelong disabilities. In Romania, 17 448 cases were registered since 2016, with a number of 64 deaths in 26 counties. This is one of the few studies whose aim is to give a deeper insight into the complications and risk factors associated with measles fatality.

Material and Methods

The data were collected from 2016 until June 2019 from the official site of the National Institute of Public Health of Romania.

Results

The number of deaths was 64, from which 35 cases represented children under the age of 1, 23 cases were patients between 1-18 years old and 6 were adults between the ages of 18-41. One patient was vaccinated, for one the vaccination status was unknown, and the rest of the patients were unvaccinated. The main cause of death was pneumopathy (89.1%), most frequently represented by bronchopneumonia (40.6%), and pneumonia (25.0%). Complications of the central nervous system were present in 6.25% of the cases. There were 7 cases with associated sepsis and one with otitis. No medical history could be identified in 35.9% of deaths. Of the 64.1% with prior medical conditions, 23.4% had at least 2 diseases. Anemia was found in 14.1% of subjects, 10.9% suffered from malnutrition, and 10.9% presented congenital malformations.

Conclusions

In our study, as measles complications, otitis and the impairment of the central nervous system were present in a minor number of cases. Sepsis, however, was a novel condition to be considered. Predisposing factors increased the risk of severe complications, but there was still a high percentage of death without co-morbidities.

Title Analysis of histological parameters in Henoch-Schönlein purpura and IgA nephropathy
Author Ljiljana Bogdanovic (mentor), Stefan Mijatovic, Teodora Filipovic
Co-author(s) -
Scientific coordinator -

Introduction:

Henoch-Schönlein purpura is systemic disease caused by precipitation of circulating IgA complexes in small blood vessels of multiple organs, including kidney. Other kidney disease in children that also includes IgA deposits in glomerular mesangium is IgA nephropathy. Morphological parameters included in Oxford classification are: mesangial cellularity (M), endocapillary cellularity (E), segmental sclerosis (S), tubular atrophy/interstitial fibrosis (T), cellular glomerular crescents. Since there is no classification of HSPN in children, goal of this paper is to compare histological parameters, using one from "Oxford classification of IgA nephropathy", especially parameters for active glomerular lesions, to differentiate these two entities in children.

Methods:

In all cases of kidney biopsies diagnosed with HSPN and IgAN were set on the Institute of Pathology at Medical Faculty in Belgrade, 2001- 2017, have been presented with Oxford classification of histological parameters and marked active glomerular lesions that were compared between each other. All relevant clinical data between two groups of the patient were also compared.

Results:

Patients with HSPN have significantly more glomeruli with endocapillary proliferation (25/35, IgAN 13/48, $p < 0,001$ Hi square), segment necrosis (7,3%, IgAN 1,7%) and cellular glomerular crescents (18,9%, IgAN 6,6%). Tubular atrophy/interstitial fibrosis is more common in patients with IgAN (6/48, none of the patients with HSPN, $p = 0,0037$ Fisher test). Clinical characteristics also show differences between two groups. Patients with IgAN suffer more often of hypertension (9/40) compared to patients with HSPN (1/30, $p = 0,036$ Fisher test), while patients with HSPN more often have microscopic hematuria (28/33, IgAN 21/39, $p = 0,005$ Hi square).

Conclusion:

According to parameters of Oxford classification patients with HSPN and IgAN have similar histopathological marks of mesangial proliferation and segment sclerosis, but patients with HSPN have more severe endocapillary proliferation, higher percentage of cellular glomerular crescents and segment necrosis. This results show more severe damage of glomeruli in patients with HSPN.

OTHER

Title	The influence of various mouthwashes on tooth erosion
Author	Anna Lewandowska
Co-author(s)	-
Scientific coordinator	-

Introduction:

The aim of the study was to evaluate the impact of various mouthwashes from Polish market and their possible erosive potential on the teeth enamel in vitro.

Materials and methods:

Enamel was incubated with tested mouthwashes (Aquafresh, Listerine zero, Listerine Teeth and Gum Defence, Meridol, Parodontax, Gum, Sensodyne, Elmex Sensitive, Sensi Kin, Yotwel, Blanx White Shock, Listerine Stay White) for 72 h in 21°C to determine the following parameters: pH, titrable acidity (titration with sodium hydroxide, bromothymol blue indicator dye), concentration of calcium ions. The erosive potential was also measured by the loss of enamel after incubation with mouthwashes in artificial saliva.

Results:

Tested mouthwashes exhibited different effects on enamel. Their erosive potential is correlated with titrable acidity (linear correlation $R^2=0,52$). parameter with the highest value for Meridol (1,55 ml) and the lowest for Gum (0,3ml). pH varied from 3,41 for Meridol to 8,57 for Yotwel. Surprisingly, Yotwel which had the highest pH, leached the highest amount of enamel (10,03mg). There is no statistically important correlation between pH or calcium concentration and the number of dissolved enamel under the influence of mouthwash. However, in mouthwashes causing low release of calcium ions the mass of dissolved enamel varied from 0,93 to 10,03 [mg]. For mouthwashes that released more than 400 ppm of calcium ions, the mass of dissolved enamel remained on the similar level (4mg).

Conclusion:

Mouthwashes have different erosive potential related to titrable acidity. Obtained data can be used to perform clinical trials in vivo and advice patients susceptible to dental erosion which mouthwash is the most appropriate to their oral hygiene.

Title C-section versus natural birth - medico-socio-cultural perspectives, in Romania and Belgium

Author Mihaela Tolea

Co-author(s) Dr. Ileana Mardare

Scientific coordinator -

Background:

Romania is the country with the highest increase in caesarean section rates, from 7.2% of all births in 1990 to 36.30% in 2016 - in Bucharest, being over 70%. The World Health Organization recommends that the percent of caesarean deliveries does not exceed 10-15% of all births.

Purpose:

Analyze the factors that influence the choice of birth by caesarean versus natural birth from a medical, social and cultural perspective, in Romania and Belgium.

Methods:

Face to face semistructured interviews, review of academic literature and legislative regulations and opinion-type survey. Results: The women in the studied group were predominantly young (median 30 years old), 65%- higher education, 52.80% employed, 48%- an average income per member of the household >1250 lei / month, 62.78%- one child.

Conclusions:

Counseling pregnant women to manage their main fears regarding the natural birth, improving access to pregnancy monitoring medical services; better control of compliance with medical guidelines and protocols.

Title Antihypoxic effect of a new selenium-containing metal-complex compounds π Q1983 in laboratory animals

Author Olga Voskresenskaya, Denis Sosin, Andrei Evseev, Vitalii Pravdivtsev

Co-author(s) -

Scientific -
coordinator

Introduction

Attempts to develop efficient agents to fight hypoxia are regularly made. The aim of the study was to investigate a protective effect of a new metal-complex selenium-containing compound (π Q1983) synthesized in the research Institute of Experimental Diagnostics and Cancer Therapy of the Russian Cancer Research Center in acute exogenous hypoxia with hypercapnia (OG+Ha) in mice.

Material and methods

All studies were conducted on mice in accordance with International Recommendations to Biomedical Research with Animals and the Rules of Laboratory Trials. OG + Ha in mice were caused by placing in 250 ml glass pharmacy sucker rod. The antihypoxic effect was evaluated by the degree of increase in life expectancy (RV) of animals in the condition of OG+Ha. Using the new technique in mice recorded heart rate, respiratory rate and rectal temperature. The compound (π Q 1983) was administered to mice in doses 25 and 50 mg / kg 60 min before being placed in hypoxia.

Results

The life expectancy of the control group mice in the condition (OG+GC) was 27 minute (100%). Against the background of the introduction of π Q1983 in doses of 25 and 50 mg / kg of mouse life expectancy increased to 73 min (128%) and 123 min (279%), respectively. Rectal temperature decreased from 37.0 ° C to 29.1 ° C. In addition, after the introduction of π Q1983, changes in the General condition and behavior of animals were visually noted – research activity decreased, sometimes animals completely lost their ability to move. A respiration rate mouse was significantly less (156 ± 11 /min) in the control (362 ± 17 /min). Heart rate also decreased from 651 ± 23 /min (control) to 347 ± 18 /min.

Conclusion

In our study we confirmed a protective effect of a new metal-complex selenium-containing compound (π Q1983)

Title Hygienic evaluation of primary schoolchildren diet

Author Daria Avchinnikova, Catherine Tsukareva

Co-author(s) -

Scientific coordinator -

Background

Improper nutrition of schoolchildren can lead to formation of functional disorders and chronic diseases of the digestive system. According to research data the prevalence of obesity is recorded in 6-10% Russian schoolchildren. The aim of our study was to assess in a hygienic aspect the regime and structure of the diet in primary schoolchildren of the city of Smolensk.

Material and methods

The regime and structure of diet in 510 children of both genders (242 boys and 268 girls) aged 9-10 years have been studied. We used the Questionnaire of Cologne Sports University (Kinder heute, Bewegungsmuffel, Fastfoodjunkies, Medienfreaks: eine Lebensstilanalyse, 2010). Statistical analysis was carried out with the Statistica 7.0 software package (StatSoft, USA).

Results

The results showed that 92.7% children had breakfast at home, while 7.3% schoolchildren didn't have their breakfast. Hot meals for lunch and dinner were regularly had by 84.8% and 94.7% schoolchildren, respectively. Almost half of children (45.4%) stated that they ate just before bedtime, and in the boys (50.8%) it was significantly more common than in girls (41.0%) ($\chi^2=5,209$, $p=0,023$). Meat and meat products were in daily diet in 64.4% schoolchildren, while fish and fish products were regularly consumed only by 56.5% children. Milk and dairy products 4-5 times a week and more often had 68.9% schoolchildren, and boys (75.3%) ate dairy products significantly more often than girls ($\chi^2=6,635$, $p=0,010$). Fruit were consumed daily by 40.8% children, and only 33.6% children had vegetables. Daily 31.1% children ate confectionery. Sweet soda drinks were regularly chosen by 37.5% children. Fast food products were often consumed by 13.4% children.

Conclusion

The nutrition of schoolchildren is irregular, improper and insufficiently balanced and can negatively affect their health. The fact should be taken into consideration to control children's health and physical development.

Title How design of electronic tonometers to receive the accurate results of blood pressure measurement can be improved

Author Daria Avchinnikova, Andrey Russiyanov, Vitaly Pravdivtsev

Co-author(s) -

Scientific -
coordinator

Introduction

There is large number of electronic blood pressure monitors (EBPM) to measure blood pressure at home. EBPMs often record pressure with deviations because measurement is based on the oscillographic method associated with recording oscillations of the brachial artery vascular wall in the process of decompression. The «classic» oscillographic curve occurs only in 25-30% cases, whereas the curve most often has a form that prevents identifying the onset of oscillations of the wall due to the lack of amplitude gradient between vessel oscillations and background hydrodynamic jolts. The EBPM displays data based on calculations performed by the microcomputer of the EBPM using empirical formulas with as a reference point the value of the maximum oscillation of the vessel characterizing the average pressure. The aim of the study was to improve the accuracy in measurement pressure due to the introduction of a sensor that registers the volume pulse of a finger into the EBPM circuit.

Material and methods

Bench tests were carried out using a computer polygraph «Barrier-14». Sequencing: 1. The EBPM cuff was fixed on the shoulder. 2. A sensor was placed on the index finger. 3. The air was pumped into the cuff; the vessel was clamped, while the results of plethysmography were transformed into a straight line. 4. Decompression process was initiated. The moment of appearance of the first vibration on the results of plethysmography was correlated with the testimony of the EBPM display, fixing the value of the true systolic pressure.

Results

75 pressure measurements were conducted on participants of both gender aged 18-60. EBPM from various manufacturers were used. In 40% cases, overestimations in systolic pressure readings ranging 5-20 mm Hg were noted.

Conclusion

Implementation of the idea will significantly improve the accuracy of blood pressure measurement by household electronic EBPM.

Title Comparative analysis of peripheral circulation and indicators of the blood flow in the ascending aorta and renal artery experimental ischemic necrosis of myocardium

Author Dmitrii Malyshev, Olga Halepo, S. Bryndin, I. Dementieva

Co-author(s) -

Scientific coordinator -

Introduction

Myocardial infarction (MI) entails changes in macrohemodynamics, which determine the state of microcirculation, but at the tissue level there are also its own regulation mechanisms that control local homeostasis, which leads to the originality of microvessel reactions. The aim of the study was to compare the state of cutaneous microcirculation with blood flow in the aorta and renal artery (RA) in the acute period of MI.

Material and methods

MI in experimental rabbits was caused by coronary artery ligation. The state of macro and microcirculation was studied using Doppler study.

Results

Immediately after MI, the standard deviation of the microcirculation index (SD) increased by 33%, while in the RA, the average linear blood flow rate decreased by 2.7 times. In 15 minutes, in RA, the vascular resistance index (RI) exceeded the original values by 2.7 times. In the aorta, 4 minutes after MI, there was a decrease in linear blood flow rate by 1.8 times, and after 8 minutes, an increase in Vd by 1.7 times. Correlation analysis revealed a negative relationship between SD and Vd in the aorta ($R = -0.86$) and a direct relationship between changes in the microcirculation index characterizing the level of perfusion and RI in the renal artery ($R = 0.82$) 15 minutes after MI.

Conclusion

First changes in blood flow velocity after myocardial infarctions were registered in the RA, after 4 minutes unidirectional changes were found in the aorta. The revealed interrelation of macro- and microhemodynamic indicators can indicate that maintaining tissue blood flow is provided by activating local (increased SD) and central regulation mechanisms, by increasing RI and increasing blood flow velocity in major vessels.

Title Electrocardiographic features of emergency myocardial hypertrophy formation in experimental animals

Author Voskresenskaya O.N., Pavlova M.O, Khalepo O.V., Afanasenkova T.E.

Co-author(s) -

Scientific -
coordinator

The aim of our study was to identify the timing and the earliest and most reliable electrocardiographic signs of myocardial hypertrophy in aortic stenosis.

Materials and methods:

The study involved 19 chinchilla rabbits divided into 2 groups. For simulate myocardial hypertrophy in Group 1, after surgery, a nylon clamp was applied to the aorta. In Group 2 (false stenosis) clamp was applied, but not tightened. In Group 2 (true stenosis) a clamp was used. ECG registration was performed in all animals before surgery, immediately after surgery, on 1, 3, 7, 10 and 21 days after stenosis modeling in three standard and three enhanced leads.

Results:

In animals with false stenosis at the time ECG taking and immediately after surgery, significant differences were obtained in the value of the S wave in the third standard lead, it increased by 85.2% due to hemodynamic disorders (reaction to an unstrapped clamp). Further, these signs were not registered because of adaptive capabilities of the hemodynamic system. In true stenosis at the time of ECG taking immediately after surgery, there were no significant differences, and therefore no reaction to the ring, and only in 21 days they were found: the R wave in the first standard lead increased, compared with the initial data, by 58%, the R wave in the 3 standard lead decreased by 55%, which are a reliable ECG signs of hypertrophy.

Conclusions:

In false stenosis immediately after surgery, there is a reaction to the ring, which may be due to changes in hemodynamics, shock wave on the vessel with a changed peripheral vascular resistance. In true stenosis immediately after surgery, there is no reaction to the ring, but there is a change in the pressure gradient between the left ventricle and the aorta due to the difficulty of systolic emptying of the left ventricle, which leads to hypertrophy, the first signs of which are clear in 21 days.

Title Experimental morphological basis of microsurgical intestinal suture

Author Kozyreva V.O., Osipova N.N., Gaponova V., Rangus S., Turansky M., Zaytseva V.

Co-author(s) -

Scientific coordinator -

Introduction

In the study principles of microsurgical intestinal sutures and dynamics of intestinal wall healing are described on the basis of the results of surgical experiments on animals and morphological investigations. The aim of the study was to investigate the nature of the restorative processes in the microsurgical anastomosis zone when sticking organs of a homogeneous structure by the example of creating an anastomosis between loops of the small intestine.

Material and methods

The study was performed with Vistar experimental rats in three series using single-row interrupted sutures, continuous Z-sutures not captivating the intestinal wall mucosa, and double-row interrupted sutures.

Results

On the first day of the experiment between the muscle sheaths of the connected sections of the intestinal wall, the gap was filled with fibrin, red blood cells and connective tissue proliferating cells, with signs of tissue inflammation in the wound area appeared. Moderately pronounced edema and polymorphonuclear infiltration, as a response to an operative trauma were noted. Complete epithelialization occurred within 4-6 days. Healing of the deeper wound layers occurred later. Anastomosis was represented by mature collagen fibers and fibroblasts on the 14th day. Development of scar tissue did not occur, and the encapsulation of ligatures was completed. Determined by the complete adaptation of the layers, there was no leukocyte infiltration. A gentle, indistinctly defined scar by type of primary tension was formed. At a later date (3 months) of observations, the histological state of the suture area did not change. Around the ligatures are 2-3 rows of fibrocytes and collagen fibers, which together formed a thin connective tissue capsule. The thickness of this channel did not exceed 50 microns.

Conclusion

It is beneficial to use both single-row and double-row microsurgical sutures with adaptation and connection of the "end-to-end" layers, with obligatory suturing of the submucosal layer and without suturing the mucous membrane. Microsurgical techniques of sutures are optimal due to the least trauma to the wall of the body when performing sutures.

Title Role of temperament in athletes' achievements.

Author Alexandra Kudryashova, Pavel Pobokin, Vera Zaytseva

Co-author(s) -

Scientific -
coordinator

When a person is aware of his\her character and temperament characteristics, it is possible to have proper self-assessment of reactions to certain factors as well as predict behavior in various situations. It will allow us to present our goals and more clearly build an action plan to achieve them, which will generally increase chances for success. The aim of the study was to assess temperament characteristics in those involved into sports activities.

Material and method

We assessed mental personality type of female athletes with G. Eysenck's method and A.N. Belova's method "Formula of temperament" to determine the type of temperament prevailed and identify the representation in it of the properties of other types. The study involved 10 female athletes aged 10-12 years involved into artistic gymnastics and was based on their survey. Medical examination of athletes and watching the process of training were also performed. Sanguine preferred such sports where they had to show a sufficiently large mobility, activity, courage. This type of temperament is good in rhythmic gymnastics and sportswomen with this type of temperament will reach heights in this sport. Extravert athletes dominated (60%). The majority of extraverts had been going in for sports for 5 years.

Conclusion

The type of temperament has a great influence on the activities of athletes, 60% of the gymnasts have such a type of temperament as a sanguine person. This type of temperament, manifested in a fairly strong steady and mobile type of higher nervous activity.

Title Analysis of genetic markers of heart rhythm disorders in the panel "clinical exome"
Author Milena Papović
Co-author(s) Ilija Radosavljević, Dario Potkonjak, Ana Papović
Scientific coordinator -

Introduction:

The term "clinical exome" has been introduced relatively recently and represents a set of coding regions for over 4800 genes in which has been proven association with clinically significant phenotypes. The hereditary arrhythmic syndromes are rare, but an early diagnosis can significantly reduce the risk of sudden cardiac death. The aim of this study was to analyze the frequency, type and clinical significance of the variants in the genes responsible for hereditary heart rhythm disorders.

Material and methods:

The study included data obtained by sequencing the "clinical exome" gene panel in 14 participants. The indications for the genetic analysis were different conditions without cardiovascular pathology. The sequencing of clinical exome was done by using the Next-Generation Sequencing technology. From the overall data, data for genes of interest for this research were selected: TMEM43, DSP, PKP2, DSG2, DSC2, SCN5A, RYR2, and KCNH2.

Results:

Variants that have been identified have missense changes. Three such variants have been detected in the desmoplakin gene: G> A / A, A> A / G, A> A / T. In the plakophilin 2 gene, three variants were found: A> A / G, G> G / T, C> C / A. One variant was detected in the desmoglein gene - A> A / G and in the desmocolin-2 gene, three benign variants were identified: T> T / C, C> C / T, G> G / A. Two benign variants: T> T / G, A> A / G are present in RYR1. Also, three changes were detected in KCNH2: T> T / G, G> G / A and C> C / A.

Conclusion:

We can conclude that genetic testing is very important in patients in whom we suspect some of the hereditary arrhythmogenic syndromes.

Title	Detection of variants in genes responsible for cardiomyopathies in the gene panel "clinical exome"
Author	Ilija Radosavljević
Co-author(s)	Milena Papović, Dario Potkonjak
Scientific coordinator	-

Introduction:

Cardiomyopathies are a heterogeneous group of inherited myocardial diseases, which represent an important cause of disability and adverse outcome. Most cardiomyopathies show autosomal dominant inheritance, but also X-linked recessive, autosomal recessive, or matrilineal inheritance but in a less number of cases. Knowledge of the genetic basis of all types of cardiomyopathies is progressively increasing. By analyzing the whole genome or exome information is provided about variants that are not only associated with genes of interest for a given diagnosis, but also much wider. The American College of Medical Genetics and Genomics has published recommendations for reporting incidental findings in the exons of certain genes by making a list of 59 genes. On this list there are genes specific for cardiomyopathies. The aim of this research was to analyze the frequency, type and clinical significance of detected variants in genes responsible for cardiomyopathies. Data analysis was obtained from the gene panel "clinical exome"

Material and Methods:

Our research included 14 patients. Using the NGS (Next-Generation Sequencing) technique variants were detected in genes responsible for cardiomyopathies (MYH 7, MYBPC3, PRKAG2, TNNI3, TNNT2, TPM1, MYL2, MYL3) by analyzing data from the clinical exome which consists of 4813 genes. Only genes of interest were taken in account. Indication for genetic analysis was a variety of unexplained conditions, but without the existence of cardiovascular pathology.

Results:

One missense variant was detected in the MYH7 gene (G>G/C). In the MYBPC3 gene there were 4 variants (C>C/T, C>C/T, C>C/T, T>T/C). The PRKGA2 gene had one missense variant (G>G/C) In total, 6 missense variants were detected.

Conclusion:

In our research, we have shown that the NGS "clinical exome" analysis provides a great degree of information about genes significant for cardiomyopathies.

Title NVU Students academic achievements in life sciences according to their quality of sleep

Author Ana Adamia, Tato Abramishvili

Co-author(s) -

Scientific coordinator -

NVU (New Vision University) is a private university in Tbilisi, Georgia, where the students from nearly all around the world are enrolled. Here you can find students from as far as Brazil to India. We have very intensive courses and exams, one of our intensive course includes Life Science (Molecular Biology, Biochemistry and Histology) and to catch up with everything, as always, quality of sleep suffers. The aim of our research is to find out the connection between sleep quality and GPA (grade point average) of Life Sciences .

Materials and methods:

Period one: we asked students to fill the PSQI (PITTSBURGH SLEEP QUALITY INDEX) and analyzed statistical results
Period two: We asked University to share the information about students academic achievement in Life Science Courses
Period three: We compared academic achievement with PSQI.

Statistical methods :

ImageJ, Origin-Pro and ANOVA.

Conclusion :

As the result of our study we found out that the connection between sleep quality and academic achievement in Life Science courses is different depending on students country of origin. In one hand, statistics show that students who sleep good, have great GPA but on the other hand we gained the students who's PSQI scores are high (so their sleep quality is not good) but despite this, they have good academic achievement. As the conclusion there are two answers of our main question "how sleep quality affects grade point average of one of the intensive courses (Biochemistry, Molecular Biology and Histology)" The first answer is that less sleep leads to worse results and sacrificing sleep for more study generally doesn't help, at the end it is associated with worse academic performance. But we have few exception cases, for example Georgians, who sleep good (7 and more hours) but their academic achievement in Life Sciences is not as good as it can be.

Title State of micro- and microcirculation when exposed to low-intensity radiation in experimental ischemic myocardial necrosis

Author Kuznetsov A.A., Byrdin S.V., Halepo O.V.

Co-author(s) -

Scientific coordinator -

Introduction:

Peripheral circulation disorders are one of the leading pathogenetic factors of myocardial infarction and activation of the reserve capabilities determine survival rates and prognosis. The aim of the study was to evaluate the influence of low-intensity laser radiation (LLLT) on the blood flow in the aorta, renal artery (RA) and the microvasculature of the skin in ischemic myocardial necrosis (IMN).

Results:

After ligation of the coronary artery, animals of group 1 received LLLT, and in group 2 they performed placebo irradiation. The blood flow in the aorta and RA was assessed by Doppler study; the state of microcirculation was studied by laser Doppler flowmetry. In animals of Group 1 after IMD in the aorta, the average linear velocity of blood flow increased by 3.7 times with a decrease in peripheral vascular resistance (RI). In Group 2 the peak systolic velocity was 60% higher than in Group 1. In RA in rabbits of Group 1 after IMD, the blood flow rate decreased, RI was 2 times higher than the initial values. After the first, second and 15 minutes after the LLLT action, the blood flow rate in the RA increased. Vasomotor activity of the microvessels of rabbits treated with LLLT after IMD was 48% less than the initial, in the Group 2 this indicator was increased.

Conclusion:

Laser effect after IMD already after 4-minute exposure optimized hemodynamics in the aorta and in the RA, after repeated irradiation, the greatest effect was observed, which persisted after 15 minutes. LLLT normalized vasomotor activity of the microvessels in the acute period of IMD.

CASE REPORTS

Title Prevalence of Spinal cord Tumors in Sumy Region

Author Ogbodo Amobichukwu K. *,Oleksii Kmyta MD, PhD* Dr. Ileana Mardare

Co-author(s) -

Scientific -
coordinator

Introduction:

Nowadays, tumors of the spinal cord (SC) occur rarely, growing from its parenchyma, vessels, roots and membranes, often they develop not from the brain substance, but from surrounding tissue, and with the increase in size, compress the SC. AIM: Studying the clinical features of tumors of SC and connection between the diagnostic results and the nature of tumors in the Sumy region.

Methods:

Analysis of medical records of patients with SC tumors, which underwent inpatient treatment at the neurosurgical and neurological departments of Sumy Regional Clinical Hospital in 2017. 18 clinical cases were reviewed, leading symptoms, blood test, MRI, histological features (HF) used. Links with other diagnostic information for descriptive statistics conducted using the licensed version of the IBM SPSS Statistics17 program.

Results:

Patients aged 35-60 years (50.5 ± 15.5). HF & MRI; Th7-12: 8 meningioma, 1 schwannoma, 2 no research. Th1-6: 4 meningioma, L1-L3: 2 ependymoma, 1 chondroma. Localization: 2 intramedullary intradural, 15 extramedullary intradural, 1 extradural. leading syndrome – 11 Pain syndrome, 1 radicular, 6 sensitivity. ESR 16.5 ± 13.5 mm / h. Hgb 133 ± 31 g / l. RBC $4,025 \pm 0.975 * 10^{12}$ / l. WBC $9.95 \pm 5.65 * 10^9$ / l. Glucose 4.35 ± 1.05 mmol / l.

Conclusion:

Our study did not establish a reliable relationship between the presence of a spinal cord tumor and the alteration of laboratory parameters.

Title	Measles inclusion body encephalitis in a patient with leukemia during measles outbreak in Ukraine
Author	Natella Basa MD, Galyna Lytvyn Assoc. Prof. MD PhD
Co-author(s)	Maria Stasiv MD asst.
Scientific coordinator	-

Introduction

Patient M.P. 5 years old, in August 2018 admitted to the hospital with complaints about vomiting, tonic-clonic seizures, impaired consciousness, visual hallucinations, visual impairment, dysarthria and bilateral ptosis. Patient's condition is severe. Meningeal symptoms are negative. Case history These symptoms developed in the background of acute lymphoblastic leukemia established on 03/04/18. In June 2018 she suffered from measles. Chemotherapy resumed a month later (methotrexate intravenously and intrathecally). Despite the treatment, the child's condition progressively deteriorated, neurologic deficit with the formation of right hemiparesis increased, complete blindness developed, consciousness-coma I. There was a weakening of swallowing and cough reflexes, tonic-clonic seizures on the right side. October 2018 - January 2019 the patient's condition remained stably severe, coma I-III, increased atrophic changes in the brain, constant clonic twitching of eyebrows and the right hand. No photoreaction of the pupils.

Investigations

MRI results - formation of encephalomalacia sites in the parenchyma of the right and left cerebral hemispheres, spread of diffuse multifocal lesions of the parenchyma of both cerebral hemispheres. IgG, IgM to the measles virus was detected in the child's blood (IgM, IgG=2.7, positive result>1.1). Intrathecal synthesis of antibodies to measles virus in a laboratory in Germany was found.

Treatment/Results

Therapy with corticosteroids, anticonvulsants, antibiotics and antifungal drugs. In spite of intensive multicomponent treatment, the child's condition quickly deteriorated and remained severe due to neurological deficits.

Discussions/Differential Diagnosis

Encephalitis is the most frequent neurological complication of measles. Measles inclusion body encephalitis (MIBE) most commonly occurs in immunocompromised patients within 1 year of measles infection. We differentiated PRES syndrome and progressive multifocal encephalopathy. A PCR for JC polyomavirus was negative. The progressive deterioration of MRI results, transferred measles, antibodies synthesis against measles virus in the cerebrospinal fluid and a background disease allowed us to confirm the MIBE.

References

1. S. M. Katrak, A. Mahadevan, Arun B. Taly², S. Sinha, S. K. Shankar. .A 16-year old male with cortical blindness and focal motor seizures. *Annals of Indian Academy of Neurology*, July-September 2010, Vol 13, Issue 3, p 225-32.
2. HT Chong, Norlisah Ramli, KT Wong, LM Looi, T Iwasaki, N Nagata, Vimalan Ramasundram, Subacute measles encephalitis: A case of long term survival with follow-up MR brain scans. *Neurology Asia* 2007; 12 : 121 – 125
3. Robert T. Perry and Neal A. Halsey. The Clinical Significance of Measles: A Review. *The Journal of Infectious Diseases* 2004; 189(Suppl 1):S4–16
4. Acute Measles Encephalitis in an Immigrant Syrian Child: Case Report and Review of the Literature. Abdullah Al-Qayoudhi , Hanan Al-Kindi, Nabil Meki and Amal Al-Maani. *Oman Medical Journal* [2016], Vol. 31, No. 2: 150–153
5. Clara Thompson, Rachel Kneen, Andrew Riordan, Dominic Kelly, Andrew J Pollard. Encephalitis in children. *Arch Dis Child* 2012;97:150–161.
6. T. Nakano, Y. Shimono, K. Sugiyama, H. Nishihara et al. Clinical features of measles in immunocompromised children. *Acta Paediatrica Japonica* (1996) 38, 212-217
7. Jean Aicardi, M.D., Françoise Goutières, M.D., Maria-Leonor Arsenio-Nunes, M.D., and Pierre Lebon, M.D. Acute Measles Encephalitis in Children With Immunosuppression. *PEDIATRICS* Vol. 59 No. 2 February 1977
8. D.L. FISHER, S. DEFRES and T. SOLOMON. Measles-induced encephalitis. *Q J Med* 2015; 108:177–182
9. I Hughes, M E M Jenney, RW Newton, D J Morris, P E Klapper. Measles encephalitis during immunosuppressive treatment for acute lymphoblastic leukaemia. *Archives of Disease in Childhood* 1993; 68: 775-778
10. Alexandra F. Freeman, MD David A. Jacobsohn, MD, Stanford T. Shulman, MD William J. Bellini, PhD Preeti Jaggi, MD Guillermo de Leon, MD Gesina F. Keating, MD Francine Kim, MD Lauren M. Pachman, MD Morris Kletzel, MD and Reggie E. Duerst, MD. A New Complication of Stem Cell Transplantation: Measles Inclusion Body Encephalitis. *Pediatrics* Vol.114 No. 5 November 2004.
11. Sallie R. Permar, Diane E. Griffin, and Norman L. Letvin. Immune Containment and Consequences of Measles Virus Infection in Healthy and Immunocompromised Individuals. *CLINICAL AND VACCINE IMMUNOLOGY*, Apr. 2006, p. 437–443
12. Ari Bitnun, Patrick Shannon, Andrew Durward, Paul A. Rota, William J. Bellini, Caroline Graham, Elaine Wang, Elizabeth L. Ford-Jones, Peter Cox, Laurence Becker, Margaret Fearon, Martin Petric, and Raymond Tellier. Measles Inclusion-Body Encephalitis Caused by the Vaccine Strain of Measles Virus. *Clinical Infectious Diseases* 1999;29:855–61 © 1999 by the Infectious Diseases Society of America.
13. Chen RE, Ramsay DA, de Veber LL, Assis LJ, Levin SD. Immunosuppressive measles encephalitis. *Pediatr Neurol* 1994;10:325-327.

Title Ekiri syndrome

Author Maria Stasiv MD, G.O. Lytvyn MD, PhD, Assoc. Prof.

Co-author(s) Natella Basa MD

Scientific coordinator -

Introduction.

A 6-year-old boy, Yu. B., was hospitalized to the intensive care unit in severe condition with impaired consciousness, psychomotor agitation, headache, vomiting, clonic-tonic seizures, left-sided hemiparesis, smoothing of the nasolabial fold to the right, right tongue deviation, fever - 39.5 °C.

Objective examination:

Positive meningeal symptoms: neck stiffness, positive Kernig's sign and Brudzinski's sign on the right side, diminished abdominal reflexes on the left side, deep tendon reflexes on the left, muscle strength in the left limbs 1-2 points, paresis of the urethral sphincter, absence of stool.

Case history:

The boy was born with burdened obstetrical history (hypoxic ischemic damage to the central nervous system); on EEG slight diffuse changes of bioelectric activity were detected. From the anamnesis: watery diarrhea for 3 days before admission.

Investigations:

MRI: inflammatory changes in the parenchyma of the right cerebral hemisphere.

General blood test: leukocytosis $14.0 \times 10^9/L$ with neutrophilosis - 80%, ESR-29 mm/h. Na^+ - 129 mmol/L (reduced).

Ultrasound examination: bladder was significantly overfilled and distended.

Shigella sonnei was isolated from the feces. Treatment included acyclovir, cefepime, mannitol, furosemide, dexamethasone, diazepam, convulex. Positive dynamics was observed on the 9th day of treatment: active movements of the left limbs and the function of pelvic organs were restored.

Discussion

Differential Diagnosis Meningoencephalitis was diagnosed on admission. Treatment was administered according to the protocol. Spinal puncture was delayed for two days due to cerebral edema. Normal spinal fluid was detected. Bacteriological studies of liquor were negative. Cerebrospinal fluid and blood investigation denied viral etiology of the disease (PCR DNA and RNA viruses were not detected). Disturbances of cerebral circulation and neoplasma were excluded during differential diagnosis. Shigellosis is an infectious disease characterized by manifestations of the distal large intestine damage and extraintestinal symptoms. Early administration of osmotic diuretics, namely dexamethasone, and ceftriaxone helps speed up recovery.

References

1. Pourakbari B, Mamishi S, Kohan L, et al. Lethal toxic encephalopathy due to childhood shigellosis or ekiri syndrome. *J Microbiol Immunol Infect* 2012;45:147–50.
2. Monajemzadeh S. M., Assar S., Momen A. A. The case report of a survival from ekiri syndrome // *Iranian Journal of Pediatrics*. – 2007. – T. 17. – №. 4. – C. 375-378.
3. Schuster H. J., Gompelman M., Ang W., Kooter A. J. An adult case with shigellosis-associated encephalopathy // *Unusual presentation of more common disease/BMJ Case Rep* 2018. – T. 2018. – C. bcr-2017-222372.
4. Abebe W. et al. Prevalence and antibiotic susceptibility patterns of *Shigella* and *Salmonella* among children aged below five years with Diarrhoea attending Nigist Eleni Mohammed memorial hospital, South Ethiopia // *BMC pediatrics*. – 2018. – T. 18. – №. 1. – C. 241.
5. Nayyar C. et al. *Shigella sonnei* Sepsis in an Infant: A Case Report // *Journal of clinical and diagnostic research: JCDR*. – 2017. – T. 11. – №. 5. – C. DD01

Title Reparative process in articular head of temporo-mandibular joint

Author Konstantin Pryguniv, Nikolay Abolmasov

Co-author(s) -

Scientific -
coordinator

Clinical case:

A patient D., 52 years old, with temporo-mandibular joint (TMJ) dysfunction, came to the Department of Prosthetics in 2018. She stated that in 2012 the tooth 3 and 7 had been lost, but the patient didn't apply for prosthetic care in due time. Eventually pains appeared in the left TMJ as well as burning sensation in the tongue, throat, and clicks were observed when opening and closing the mouth. Since 2013, she frequently visited to doctors of various specialties such as prosthodontists, dental surgeons, and neurologists without any positive result. Pain in the joint and throat caused the patient's visit to a mental hospital with thoughts of suicide - (according to oral information provided by the patient: "I did not want to go on living"). In September 2011, on preliminary examination the patient had a removable prosthesis, made about a year ago, which the prosthodontist described as relieving occlusal splint. Occlusal splint was made as a removable immediate denture, but it did not take into account therapeutic position of the lower jaw and significant deformations of occlusal surface. Several computer tomograms with opinion of the radiotherapist were also presented: left TMJ osteoarthritis, subchondral erosion, perifocal osteosclerosis. CT scan identified lytic lesion in the left articular process of the lower jaw had significantly increased for 3 years. CT dated November 2015 showed that there was practically no space in the left joint between the lateral surface of the articular head and the glenoid fossa. Doctors' consilium: dentists of various specialties, a neuropsychiatrist, a neurologist, the patient was diagnosed with denture defects – maxillary defect class III, subclass 1, and lower jaw defect – II class, subclass 1 according to Kennedy's classification, dysfunction of the left TMJ, subchondral erosion of TMJ left head. Within prosthodontic treatment the repair of occlusal surface deformation was carried out, wherefore there was performed rough selective grinding of teeth 2.6 and 2.7, which had been significantly infraoccluded. Then the freeway height and occlusal height were determined by anatomical and physiological method. The difference between the latter was about 2-3 mm. The patient used temporary appliances during six months with their replacement. New position of the lower jaw and permanent dentures were made: non-removable porcelain fused metal ones for upper and lower teeth and a removable partial clasp (bugel) denture with lock system for the lower jaw. Three months after completion of prosthodontic treatment the CT showed reparative processes and signs of osteosclerosis in the former area of inflammable remodeling of articular process spongy substance. Healing of resorptive lesions and disappearance of radiographic inflammation signs were noted. Joint space was observed all over the articular head.

Conclusion

This clinical observation confirms importance of maintaining multipoint teeth contacts in posterior areas. Unilateral or bilateral deprivation of vertical supports in posterior area of dental arches may cause distorsion of articular heads, compression of TMJ bilaminar zone with further degenerative changes of articular surfaces. Planning of treatment and follow-up of patients with TMJ dysfunction must be performed with the participation of different profile doctors after discovery of the most probable cause and process of disease. Prosthodontic care for patients when the lower jaw position change is planned, must be carried out step-by-step under radiologic control of articular heads position with careful correction of occlusal and articulation relations and further dispensary follow-up.

Title Clinical case of organ-preservation operation in fertile woman

Author Benyuk V., Lastovetskaya L., Kovaliuk T., Zabala A.

Co-author(s) -

Scientific coordinator -

Clinical case

A 36-years old woman reported a list of health complaints, which includes: - bleeding from the genital organs that occurred 4-7 days before menstruation - intermenstrual bleeding - lower back tensive pain during last 6 months The patient doesn't have a record of similar health complaints in the past. Extragenital diseases are absent. During gynecological examination, mild uterus bleeding was detected. The transvaginal ultrasound revealed the endometrial hyperplasia, endometrial polyp and subserosa leiomyoma, located in the fundus, and left ovarian cyst. Due to the complications, physical and instrumental examination results and patient's desire to save the reproductive function, decision was made to perform laparoscopy and hysteroscopy. Laparoscopic observation of pelvic cavity revealed: subserosa leiomyoma 3,7x3,8 cm, normal right appendage, left distended fallopian tube 10 cm length with hemorrhagic content, left ovary 4,7x4,5 cm(contained cyst with solid brown fluid and capsule with smooth inner layer). The left cystectomy, left tubectomy and myomectomy were performed by laparoscopic method. The adhesion prevention was accomplished by using special solution of Sodium hyaluronate with Decamethoxine. The hysteroscopy was performed after desufflation. It revealed the areas of endometrial hyperplasia and endometrial polyp(2,2x1,5 cm), which were resected. The operation lasted for 80 minutes, had no complications. The perioperative period was managed according to ERAS(Enhanced Recovery After Surgery), postoperative course was unremarkable. The patient was discharged in satisfactory condition on the third day after operation. Follow-up gynecologist appointment was scheduled. The patient state after one month was adequate. Pregnancy prognosis was favourable. It is observed, that the rate of gynecological benign tumors morbidity is growing and is found more often in younger women. The most often benign tumors are leiomyoma and endometrial hyperplasia. Not only they influence reproductive outcome, but they are also the source of malignancy and deprivation of life quality. Each year the average female reproduction age rises due to the social and economical conditions and other factors. Therefore, organ-preservation operations should be performed in reproductive-aged women who are willing to retain their fertility.

Keywords

Benign uterine disease, laparoscopy, hysteroscopy, preservation of reproductive function.

References

DeCherney, A., Nathan, L., Goodwin, T. and Laufer, N. (2019). Current obstetrics & gynecologic. 12th ed. New York: McGraw-Hill Medical. Doubilet, P., Benson, C. and Benacerraf, B. (2018). Atlas of Ultrasound in Obstetrics and Gynecology. Philadelphia: Wolters Kluwer. Hofer, M. and Antoch, G. (2010). Teaching manual of color duplex sonography. Stuttgart: Thieme. Benyuk V.O., Honcharenko V.M., Kalenska O.V., Melnychuk O.P., Kovaliuk T.V. (2016). Rol' pryznachennya imunohistokhimichnoho profilyu endometriyu v likuvanni khvorykh reproduktyvnoho ta premenopauzal'noho viku z prostoyu hiperplaziya endometriyu, Kyiv. Reproduktyvna hinekolohiya №5 (31).

Title Sporadic Insulinoma as a Rare Cause of Recurrent Hypoglycemia in Children

Author Ali Sheikhy, Aida Fallahzadeh

Co-author(s) Hedyeh Saneifard, Ahmad khaleghnejad Tabari, Maryam Kazemi Aghdam

Scientific
coordinator -

Insulinoma is a rare pancreatic tumor in children and adolescents. Insulin hypersecretion leads to hypoglycemia and it's symptoms. A 10 year old obese boy was referred with history of recurrent episode of loss of consciousness for 6 months & attacks of generalized seizure for 1 month. BS was 35 mg/dl & insulin was 35.8 mIU/L. Abdominal CT scan revealed 7.6*13 mm solitary lesion at the neck of pancreas. He underwent open subtotal pancereatectomy, pathology confirmed insulinoma as the final diagnosis.

Title Sporadic Insulinoma as a Rare Cause of Recurrent Hypoglycemia in Children
Author Ali Sheikhy, Aida Fallahzadeh
Co-author(s) Hedyyeh Saneifard, Ahmad khaleghnejad Tabari, Maryam Kazemi Aghdam
Scientific coordinator -

Introduction

Insulinoma is a very rare tumor in children and adolescents. Diagnosis of insulinoma is often delayed because neuropsychiatric signs and symptoms such as confusion, personality change and seizure are commonly seen in other pediatric diseases. A 10-year-old boy was referred to pediatric endocrinology clinic with history of recurrent episodes of generalized weakness and loss of consciousness for six months. He had also multiple attacks of generalized tonic-clonic seizure for one month.

Case history

He was obese (90th percentile) and tall (75th percentile). Past medical, familial history and physical examination were normal. In initial laboratory investigations; blood sugar (BS) was 35 mg/dL. In complementary investigations at the time of hypoglycemia, serum insulin level was 35.8 mIU/L (high), C-peptide was 8.9 ng/ mL (high), urine ketone was negative, serum cortisol was 18.4 µg/dL (normal), serum ACTH was 28.5 pg/mL (normal), and serum GH was 12 ng/mL (normal). Because of normal serum GH and cortisol, GH and cortisol deficiencies were ruled out and high level of serum insulin confirmed hyperinsulinism as the cause of hypoglycemia. Investigation according to unusual age of the presentation, spiral abdominal CT scan with intravenous and oral contrast was done. CT scan revealed 7.6 × 13 mm solitary and enhancing lesion at the neck of pancreas in favor of insulinoma.

Treatment/ result

With clinical diagnosis of pancreatic insulinoma, the patient underwent subtotal pancreatectomy; pathologic examination with immune histochemical (IHC) staining confirmed insulinoma as the final diagnosis.

Discussions/Differential Diagnosis

Hypoglycemia has different etiology in children but insulinoma is cause of minority of them. Insulinoma is the most common neuroendocrine tumor of pancreas. Most insulinomas are solitary and sporadic, about 10% are associated with MEN1 syndrome. In our patient, due to normal level of serum prolactin, MEN1 was excluded.

References

K. Halpin, R. McDonough, P. Alba, J. Halpin, V. Singh, and Y. Yan, "Vague neuroglycopenic complaints camouflage diagnosis of adolescent insulinoma: a case report," *International Journal of Pediatric Endocrinology*, vol. 2016, article 14, 2016. I.Miron,S.Diaconescu,G.Aprodu,I.Ioniuc,M.R.Diaconescu, and L. Miron, "Diagnostic difficulties in a pediatric insulinoma: a case report," *Medicine*, vol. 95, no. 11, Article ID e3045, 2016. W.H.Peranteau,A.A.Palladino,T.R.Bhatti et al., "The surgical management of insulinomas in children," *Journal of Pediatric Surgery*, vol. 48, no. 12, pp. 2517–2524, 2013.

Title Systemic juvenile idiopathic arthritis complicated by macrophage activation syndrome – Approach to the patient pending biological treatment

Author Patrycja Iwaczyk

Co-author(s) Karolina Klee

Scientific coordinator -

INTRODUCTION

J.B.; 14 month old boy was admitted to hospital for quotidian fever up to 400C lasting 14 days, somnolence, maculopapular rash, red throat, reluctance to walk and hepatosplenomegaly. CASE HISTORY The boy of non-consanguineous Caucasian parents was born at term, healthy. His medical history was unremarkable with no family history of autoimmune conditions. Diagnosis of systemic onset juvenile idiopathic arthritis (sJIA) was made on the 20th day of fever.

INVESTIGATIONS

Laboratory studies showed anemia (7.7 g/dl), hyperferritinemia (3338.9 ng/l), hyperfibrinogenemia (6.83 g/l). Ultrasound revealed hepatosplenomegaly, right pleural effusion and arthritis of left ankle. On the 24th day, hyperferritinemia at >15675 ng/ml, aspartate transaminase at 94.7 IU/l, triglycerides at 262.3 mg/dl. Proinflammatory cytokines showed elevated interleukin 6 (>9807.9 pg/ml) and interleukin 8 (>5000 pg/ml). Clinical and laboratory findings established diagnosis of macrophage activation syndrome (MAS).

TREATMENT/RESULTS

Immunosuppressive therapy with pulses of methylprednisolone was started and then switched to oral prednisolone. A day after oral prednisolone, patient had recurrence of fever and rash. MAS was treated with intravenous dexamethasone, cyclosporine A and one time infusion of intravenous immunoglobulin. He had a good recovery with normalization of biochemical markers in the 11th week. Relapse occurred after 8 months and was stabilized with increased doses of oral methylprednisolone, cyclosporine A and by adding oral methotrexate.

DISCUSSIONS/DIFFERENTIAL DIAGNOSIS

MAS associated with sJIA requires prompt and proper management. Differential diagnosis included viral and bacterial infections, Kawasaki disease, other autoimmune diseases, malignancy, immunodeficiency and primary MAS. IL-1 blocking therapy is increasingly used in sJIA when conventional therapy fails. Another advantage of targeted therapy is reduced side effects due to immunosuppressive therapy. However, biological treatment in Poland is available for children older than 2 years. Our patient's proinflammatory cytokines profile suggests an early treat-to-target approach with IL-6 blocker could induce remission of sJIA.

REFERENCES

Prakken B, Albani S, Martini A. Juvenile idiopathic arthritis. *Lancet* 2011; 377: 2138-49 Ravelli A et al. A European League Against Rheumatism/American College of Rheumatology/ Paediatric Rheumatology International Trials Organisation Collaborative Initiative, 2016 Classification Criteria for Macrophage Activation Syndrome Complicating Systemic Juvenile Idiopathic Arthritis. *Arthritis Rheumatol.* 2016; 68: 566-576 Ringold S et al. 2013 Update of the 2011 American College of Rheumatology Recommendations for the Treatment of Juvenile Idiopathic Arthritis. *Arthritis Rheumatism.* 2013; 65: 2499-2512.

Title Neonatal complications as a result of intrauterine bowel perforation.

Author Bartosz Mioduszeński

Co-author(s) Natalia Gołuchowska, Piotr Rzepniewski, Oliver Jendro, Karol Taradaj, Tomasz Ginda, Prof. Bożena Kociszewska-Najman, MD, PhD

Scientific coordinator -

Introduction:

Intrauterine gut perforation as a cause of severe bowel obstruction and ascites.

Case report:

A first female infant from multiple pregnancy born at 36 WG suffered from ascites and bowel obstruction. Intrauterine gut perforation, intestinal atresia and point-wise mesentery attachment were diagnosed at 14 WG. It was crucial for the newborn child to undergo a surgery.

Conclusion:

Intrauterine bowel perforation can cause a far-reaching consequences.

Title Septate uterus and a twin pregnancy – case report.

Author Martyna Rożek

Co-author(s) Supervision: Ass. Prof. Katarzyna Kosińska-Kaczyńska

Scientific -
coordinator

Septate uterus is a congenital defect of female reproductive organs associated with high percentage of obstetric failure, such as infertility, miscarriage, preterm delivery or malposition of the fetus. According to literature 60% of patients with septate uterus terminate miscarry. A 26-years old woman, diagnosed with septate uterus, received antenatal care at the outpatient clinic at 1st Department of Obstetrics and Gynaecology, Medical University of Warsaw. She was 7 weeks pregnant. Dichorionic pregnancy presented with two gestational sacs located on both sites of the septum. From the obstetrics history she had one pregnancy miscarried in 9th week. First trimester scan revealed two alive foetuses with low estimated risk of trisomy. A prophylactic pessary treatment was applied at 15 weeks and vaginal progesterone was implemented. Second trimester scan revealed no anatomical abnormalities of the first foetus and suspected clubfoot of the second one. Placenta previa was excluded. The length of the cervix was 15mm. The further course of pregnancy was uncomplicated. The patient was admitted to the Department at 37 weeks of pregnancy to perform a planned caesarean section. The first female fetus was born weighing 2945 g (50th percentile) and the second female fetus weighing 2595 g (48th percentile), both in a good general condition. During the caesarean cession uterus with septum from fundus till 2/3 length of the corpus uteri was seen. Estimated blood loss during surgery was 600 ml. During hospitalization, one of the new-borns had thermoregulatory problems. Mother together with the children was discharged home on the 8th day after delivery. Pre-pregnancy diagnosis of the congenital defects of female reproductive organs is essential providing adequate perinatal counselling and allows to decrease risks of perinatal complications

Title Coexistence of severe osteoporosis and osteomalacia in a patient with autoimmune polyglandular syndrome type 3B

Author Arian Abdulkhalig

Co-author(s) Amir Yassin, Konstantinos Stassos, Oana Pînzariu, Carmen Georgescu

Scientific coordinator -

Introduction:

The 57-year-old female O.M. presented to the endocrinology department for fatigue, marked weight loss, early teeth loss, polyarthralgia and back pain. Physical examination revealed a BMI of 16.3 kg/m², dorsal kyphosis, lumbar lordosis, increased occiput-wall distance, bone deformities in the sternum and limbs and muscular atrophy and edentation with mastication and speech difficulties.

Case history:

The patient is known to have autoimmune polyglandular syndrome type 3B, including celiac disease (CD), pernicious anemia and Hashimoto's thyroiditis. The musculoskeletal symptomatology and denutrition progressively evolved within 10 years of CD diagnosis, given that the gluten-free diet has not been fully respected.

Investigations:

Lab tests showed decreased serum and urine calcium levels (3.65 mg/dl, 40 mg/24h respectively), decreased serum phosphorus levels (1.9 g/24h), elevated alkaline phosphatase levels (399 U/L) and an extremely low level of 25-OH-vitamin D (<4 ng/ml), suggesting osteomalacia. Bone densitometry showed a T-score of -6.3 SD in the L1-L4 vertebrae and -4.3 SD in the femoral neck, which in conjunction with vertebral compression fractures highlighted on the spine radiograph, suggests the diagnosis of severe osteoporosis.

Treatment/ Results:

Besides a gluten-free regimen and vitamin B12 supplementation, the patient required treatment with high doses of vitamin D (4000 IU/day), calcium (1500 mg/day) and bisphosphonates (risedronate 35 mg/week). Under medication, the patient presented a normalization of the calcium (4.45 mg/dL) and 25-OH-vitamin D levels (32.9 ng/mL) and an increase of the bone mineral content by 4.9% in the L1-L4 vertebrae, respectively 8.7% in the femoral neck.

Discussion:

This case highlights through showing the direct involvement of CD in the etiopathogenesis of osteoporosis and osteopenia that osteoporosis is a complex entity. Physicians should always evaluate all of the multiple risk factors and should avoid explaining the condition only via referring to advanced age and/or female gender; this way, treatable underlying conditions can be addressed.

References

1. Valenzise M, Aversa T, Saccomanno A, De Luca F, Salzano G. Epidemiological and clinical peculiarities of polyglandular syndrome type 3 in pediatric age. *Ital J Pediatr.* 2017 Aug 7;43(1):69. doi: 10.1186/s13052-017-0386-4.
2. Nuti R, Brandi ML, Isaia G, Tarantino U, Silvestri S, Adami S. New perspectives on the definition and the management of severe osteoporosis: the patient with two or more fragility fractures. *J Endocrinol Invest.* 2009 Oct;32(9):783-8. doi: 10.3275/6436.
3. Saghafi M, Azarian A, Hashemzadeh K, Sahebari M, Rezaieyazdi Z. Bone densitometry in patients with osteomalacia: is it valuable? *Clin Cases Miner Bone Metab.* 2013 Sep-Dec; 10(3): 180–182.

Title Alagille Syndrome: Role of genetic work up - A case report

Author Aditya Sharma

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Scientific coordinator -

Alagille syndrome (ALGS), also known as arteriohepatic dysplasia is a rare autosomal dominant multisystem disorder that affects the liver, heart, face, eyes, skeleton, kidneys and vasculature. However, there is significant variability in the involvement of the aforementioned organ systems in an individual, due to reduced penetrance and variable expression. The incidence of ALGS is estimated to be 1 per 70,000 live births, and approximately half result from de novo mutations. ALGS is primarily caused by heterozygous mutation of the JAG1 gene located on chromosome 20p12, encoding Notch ligand JAGGED1. Bile duct paucity in liver biopsy is the hallmark histopathological feature of ALGS. The affected children present within first year of life with signs of cholestasis classically with neonatal jaundice and pale stools. Many infants have significant pruritus as well. Cardiac involvement is present in 90% of children with ALGS with predominant involvement of peripheral pulmonary arteries. They have typical triangular facies. Most characteristic skeletal finding is the butterfly vertebra which is found in 33-87% of patients with ALGS. We report the case of an 18-month-old female baby who presented with jaundice and acholic stools since day 2 of life. The jaundice is persisting even now, but the acholic stools became normal by fourth month of life. She developed progressive itching of body since fourth month. She has typical facial dysmorphism, pulmonary stenosis and butterfly vertebra. Genetic work up (clinical exom) confirmed the diagnosis of ALGS. Her treatment consists of megavitamin therapy and management of pruritus. We aim to highlight the importance of careful clinical examination and genetic workup for a definite diagnosis of ALGS, thus avoiding an invasive liver biopsy.

Title Neurodermitis disseminata with polyallergic reaction in a 69-year old patient

Author Çelik A., Gincheva V., Binova M., Yordanova I., Gospodinov D

Co-author(s) -

Scientific -
coordinator

Neurodermitis disseminata with polyallergic reaction in a 69-year old patient Atopic dermatitis is a disease associated with higher IgE production and altered reactivity. The patient is a 69 years old male architect with anamnestic data of disseminated itching rash on the face, torso, and extremities dating 15 years back. Pathological alterations engage the skin on the face and the extensional surface of the upper and lower extremities presented by symmetrically located eritemosquamous plaques with insignificant infiltration and single excoriations. Subjectively moderate itching is reported. Visible mucosis and skin appendages show no pathological alternations. Peripheral lymph nodes are enlarged. Disease was initially provoked by strawberry consumption. Since then, there has been chronically recurring course mainly exacerbating due to consumption of certain types of food which are eggs and nuts, contact with softeners and industrial dyes. Concomitant diseases are hypertensive cardiovascular disease dating 30 years back, treated with Valsartan/Hydrochlorthiazide 160/25 tab. x 1 tab./day. There is family history of atopic eczema from mother's side. Conducted epicutaneous allergic testing with standard European series S-1000, with a prior two-week break of the patient medical intake. Findings of positive allergic reaction to 9 of the applied 30 allergens: PPD (++++), Nickel (+), IPPD (++) , Formaldehyde (++) , Fragrance mix I (++) , Methylisothiazolinone (++) , Fragrance Mix II (++) , Hydrohyisohexyl 3-cyclohexene(++), Textile dye mix (++++). Powerful reaction to PPD and Textile dye mix was detected (++++) having erythema, edema and vesicles. Multiple treatments with local and systematic corticosteroids, antihistamines have had temporary effects. The patient has been treated with Methotrexate 15 mg/week, Desloratidine and emollients for 6 months. We hereby present the case of a patient with long history of neurodermitis disseminata, having established polyallergic reaction to the tested allergens during epicutaneous allergic testing. The patient is under regular monitoring while he is subjected to methotrexate treatment.

References:

Blood eosinophilia in atopic dermatitis, M. Uehara, R. Izukura, T. Sawai, Clinical and Experimental Dermatology, 1990 Pharmacophysiology of atopic dermatitis, Jon M. Hanifin, Clinical Reviews in Allergy, 1986 Studies in hypersensitiveness in certain dermatoses Neurodermatitis (disseminated type), Marion B. Sulzberger, Florence Sammis, H.I.Shahon, Special notice The Fourth Annual Aspen Allergy Conference Institute, Aspen, Colo., 1986

Title Child with Evans syndrome

Author Michał Żurek

Co-author(s) -

Scientific -
coordinator

Introduction:

In 2010 a 11-month-old male patient visited our clinic due to petechiae and bruising on the skin with hepato- and splenomegaly. After few months of treatment and based on clinical manifestations and laboratory findings the diagnosis of Evans syndrome (ES) was made.

Case history:

In 2011 the patient occurred in the clinic 6 times due to remittent petechial haemorrhages and mucosal bleeding. The patient experience frequent exacerbations and remissions till today.

Investigations:

Complete blood count revealed thrombocytopenia, neutropenia and hemolytic anemia. During the following weeks bone marrow aspiration was performed, it showed acute thrombocytopenia with dysmorphic megakaryocytes. The direct Coombs test, anti-neutrophil and anti-erythrocyte antibodies were positive.

Treatment:

After first episode of thrombocytopenia and anemia hydrocortisone and intravenous immunoglobulin (IVIg) were given with good clinical response. Then patient was treated with prednisone. After second episode prednisone was replaced by methylprednisolone and etamsylate was added. Temporary improvement was observed. Because of deterioration the patient received in 2011 mycophenolate mofetil with periodic success. In 2017 he was treated with ciclosporin, but due to difficulty of dosing the treatment was suspended. A few months later the patient was qualified to the treatment with eltrombopag, but without success. Nowadays he receives prednisone and azathioprine.

Discussions:

ES is a rare autoimmune disorder characterized by presence of a positive anti-globulin test, autoimmune hemolytic anemia (AIHA) and immune thrombocytopenia (ITP). It is characterized by frequent exacerbations and remissions. Management of ES remains a challenge. Indications for treatment have not been established by evidence-based medicine. Before immunological tests the diagnosis was differentiated with thrombotic thrombocytopenic purpura, chronic cold agglutinin disease, drugs' side effects, infections and other causes of acquired or hereditary hemolytic anemia.

References:

1. Jaime-Pérez JC, Guerra-Leal LN, López-Razo ON, Méndez-Ramírez N, Gómez-Almaguer D. Experience with Evans syndrome in an academic referral center. *Brazilian Journal of Hematology and Hemotherapy*. 2015 Jul-Aug;37(4):230-5
2. Mohamed KK, Al-Qurashi FO, Al-Qahtani MH, Osman YS. Early-onset Evans Syndrome in a 4-Month-Old Infant: A Case Report and Review of Literature. *Saudi Journal of Medicine & Medical Sciences*. 2017 May-Aug;5(2):177-180
3. Porcaro F, Valenzise M, Candela G, Chiera F, Corica D, Pitrolo E, Santucci S, Romeo M, Nigro S, Zirilli G. Evans Syndrome: A case report. *Pediatr Med Chir*. 2014 Aug 31;36(4):91

Title A case of recurrent Streptococcus bovis endocarditis of unknown origin
Author Ardavan Kashtiar
Co-author(s) Jonathan Mertens, MD.
Scientific coordinator -

Introduction

Streptococcus bovis is a part of four major species belonging to group D streptococci (GDS). They are an important cause of infective endocarditis (IE) in adults. A strong association between GDS infection and colonic neoplasm is well described. Other known associations are urinary infections and hepatological disease.

Case history

A 92 year old male presented due to low-grade fever, cough and a generally unwell feeling to the hospital's geriatrics department. On presentation there was no clear focus of infection with complete physical examination being non-conclusive. The patient had a cardiac history of infarctions, valve disease and a previous IE due to S. bovis.

Investigations

Blood cultures were positive for S. bovis. Trans-esophageal echocardiography (TEE) showed no signs of vegetations, yet valve regurgitation had grown worse which is considered a major clinical criteria, rendering the diagnosis of IE certain. We searched for the etiology of the bacteremia, and due to its strong relation with colonic neoplasia. A colonoscopy was performed. No colorectal neoplasia were found. The patient had a 30-year old click-tite dental implant. PET-CT scan showed increased FGD uptake in the buccal area, matching the prosthesis. Buccal cultures could unfortunately not detect a specific species, as they all came back with multiflora.

Treatment

The patient was treated with gentamicin, which was later replaced with 14 days of IV amoxicillin. Removal of the prosthesis was considered too mutilating, therefore lifelong amoxicillin prophylaxis was given.

Discussion

We can assume an association between the prosthesis and the recurrent bacteremia. Suspicion towards colorectal neoplasia should remain high due to the described association. We want to highlight the importance of clinical reasoning and the Duke criteria considering a negative TEE for valvular vegetation does not rule out IE. Oropharyngeal and dental entry site remains an important differential diagnosis for bacteremia.

Title Early neonatal listeriosis- uncommon infection of the newborn. A case report.

Author Natalia Gołuchowska

Co-author(s) Piotr Rzepniewski, Oliver Jendro, Bartosz Mioduszeowski, Karol Taradaj, Tomasz Ginda, Prof. Bożena Kociszewska-Najman, MD, PhD

Scientific coordinator -

Introduction:

Listeriosis is rare and dangerous disease of the newborn.

Case report:

A male infant born at 26WG. The pregnancy was complicated by intrauterine infection. General condition was critical. The infant had a cardiorespiratory failure, an anuria, an intraventricular haemorrhage. Despite treatment with an artificial ventilation, surfactant and an antibiotic therapy, the patient died.

Conclusion:

Listeriosis is challenging due to nonspecific maternal presence and fatal infants' outcomes.

Title Neonatal complications as a result of intrauterine bowel perforation.

Author Bartosz Mioduszeński

Co-author(s) Natalia Gołuchowska, Piotr Rzepniewski, Oliver Jendro, Karol Taradaj, Tomasz Ginda, Prof. Bożena Kociszewska-Najman, MD, PhD

Scientific coordinator -

Introduction:

Intrauterine gut perforation as a cause of severe bowel obstruction and ascites.

Case report:

A first female infant from multiple pregnancy born at 36 WG suffered from ascites and bowel obstruction. Intrauterine gut perforation, intestinal atresia and point-wise mesentery attachment were diagnosed at 14 WG. It was crucial for the newborn child to undergo a surgery.

Conclusion:

Intrauterine bowel perforation can cause a far-reaching consequences.

Title Nuances of care in infants with Pierre Robin sequence.

Author Piotr Rzepniewski

Co-author(s) Natalia Gołuchowska, Oliver Jendro, Bartosz Mioduszewski, Karol Taradaj, Tomasz Ginda, Prof. Bożena Kociszewska-Najman, MD, PhD

Scientific coordinator -

Introduction:

PRS is a congenital abnormality associated with multiple changes of facial bones leading to feeding and breathing problems.

Case report:

The female infant born at 40WG by C-section in a good condition, suffered from a cleft palate and a micrognathia. The patient was put in prone position and a gastric tube was inserted. This promotes better respiratory pattern and helps with feeding.

Conclusion:

It is necessary to educate patients' parents of proper, different than usual home care.

Title Sepsis and brain abscesses caused by perinatal fetus infection during C-section-case report.

Author Oliver Jendro

Co-author(s) Natalia Gołuchowska, Bartosz Mioduszewski, Piotr Rzepniewski, Karol Taradaj, Tomasz Ginda, Prof. Bożena Kociszewska-Najman MD, PhD

Scientific coordinator -

Introduction:

A wound contaminated with amniotic fluid colonized by S.aureus can be an entry gate to systemic infection.

Case report:

A male infant born by C-section at 32 WG. During C-section the newborn's leg sustained injury. A bacterial wound and blood culture revealed MSSA. The patient was treated with Tazocin and Vancomycin. 40 days after birth the ultrasound image revealed 3 brain abscesses.

Conclusion:

C-section can be the cause of a serious infection in a newborn baby.

Title Langerhans cell histiocytosis complicated by fungal infection

Author Kseniia Mazanko

Co-author(s) Iuliia Shynkaruk, Oleg Iaremenko, Dmytro Fedkov

Scientific coordinator -

Introduction.

D.M., 29-year old man presented with dyspnea, productive cough, fever 37.5 ° C, fatigue, hemoptysis, dull sound over upper lobe of the left lung.

Case history and investigations.

In 2006 the patient had 3 episodes of bilateral tension pneumothorax. A thoracoscopy with bulla coagulation, pleurodesis, lung biopsy (polymorphic granulomas with a predominance of histiocytes) and drainage of pleural cavities were performed. The diagnosis "Histiocytosis" was established. Till 2018 the patient complained only about dyspnea on exertion and weight loss (25 kg). He received Symbicort 160 mg b.i.d. by inhalation. In August 2018 chest pain and fever appeared. According to computed tomography scan, he was diagnosed with left-sided lobar pneumonia. The treatment included augmentin 500 mg/day, clarithromycin 500 mg b.i.d. orally, moxifloxacin 400 mg/day, cefepime 1 g b.i.d., amikacin 500 mg intravenously. After the council physicians decided that pneumonia led to the exacerbation of histiocytosis and prescribed methylprednisolone 32 mg/day orally. Despite that, the disease progressed (hemoptysis) and in 3 months the chemotherapy was started (cytarabine 150 mg + methylprednisolone 125 mg orally). In the sputum culture *Aspergillus fumigatus* was identified. Therefore the patient started to take voriconazole 400 mg/day orally with methylprednisolone tapering until discontinuation. This led to rapid deterioration of the patient's condition: fever 39,5 °C, cough, dyspnea and acute respiratory failure (SpO₂ 72%). The patient was hospitalized to the intensive care unit.

Treatment.

The changes in disease management: oxygen, discontinuation of antibiotics, methylprednisolone (12 mg/day), voriconazole 400 mg/day 12 weeks, amlodipine 5 mg orally, Symbicort 160 mg twice a day by inhalation. 2 weeks follow up: normal temperature, *Aspergillus* is not detected in the sputum, SpO₂ 93%, dyspnea on exertion, cough with gray sputum.

Discussions.

Reason for life-threatening condition deterioration in patients with histiocytosis could be fungal infection, that has no specific symptoms and requires immediate prescription of antifungal therapy.

References: Girschikofsky M., Arico M., Castillo D., et al. Management of adult patients with Langerhans cell histiocytosis: recommendations from an expert panel on behalf of Euro-Histio-Net. *Orphanet J Rare Dis.* 2013. David W Denning, Jacques Cadranel, Catherine Beigelman-Aubry, et al. Chronic pulmonary aspergillosis: rationale and clinical guidelines for diagnosis and management. *European Respiratory Journal* 47 (1), 45-68, 2016. Cadena J et al. Invasive Aspergillosis: Current Strategies for Diagnosis and Management. *Infect Dis Clin North Am.* 2016.

Abstract 113

Title	The spontaneous triplet pregnancy after the laser treatment of conjoined twins – case report
Author	Klaudia Wilk, Iwona Szymusik MD PhD
Co-author(s)	Kinga Żebrowska, Martyna Rożek
Scientific coordinator	-

Introduction:

J.B, 29 y.o, female, abnormal ultrasound examination

Case history:

A patient was referred at 15 weeks of gestation to the clinic because of suspicion of conjoined twins and an apparently normal fetus in a triplet pregnancy. The ultrasound examination revealed the presence of connected thoracic chests with a single common heart. Due to the high risk of death of conjoined twins and subsequent death or neurological sequelae in a single fetus at a later stage of pregnancy, the patient was offered selective reduction at 15 weeks of pregnancy. During the procedure the vessels in the thoraxes of unseparated fetuses were coagulated - the procedure was performed without complications. The postoperative ultrasound examination did not show the flow within the common heart. The heartbeat of the single fetus was normal. The patient remained under the care of the clinic experts. At 39 weeks, the patient delivered living infant in a good general condition. A course of childbirth was free of complications. The patient with her son were discharged home on the 4th day.

Investigations:

Conjoined twins (thoracopagus) in a triplet pregnancy

Treatment/results:

Selective reduction of conjoined twins using laser fiber/further development of pregnancy proceeded without complications

Discussions/Differential Diagnosis:

The conjoined twins is a rare appearing complication in triplet monochorionic-diamniotic pregnancies with the frequency about 1 on 1 000 000 deliveries. They occur after the incomplete division of the embryonic disk after 12. day from the fertilization. The monochorionic in case of triplet pregnancies with conjoined twins additionally complicate the course of pregnancy. Early and proper prenatal diagnosis facilitate detection of congenital abnormalities and make the best decisions about the future of pregnancy at the right time. The early detection increases the chance of survival of a healthy fetus.

References:

[1] W. Sepulveda, H. Munoz, and J. L. Alcalde, "Conjoined twins in a triplet pregnancy: early prenatal diagnosis with three-dimensional ultrasound and review of the literature," *Ultrasound in Obstetrics and Gynecology*, vol. 22, no. 2, pp. 199–204, 2003.

[2] Mathew RP, Francis S, Basti RS, et al. Conjoined twins - role of imaging and recent advances. *J Ultrason*. 2017;17(71):259-266.

[3] Lynn J. Shepherd and Graeme N. Smith, "Conjoined Twins in a Triplet Pregnancy: A Case Report," *Case Reports in Obstetrics and Gynecology*, vol. 2011, Article ID 235873, 3 pages, 2011