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SMALL AIRWAYS DISEASE IN EOSINOPHILIC AND NON-EOSINOPHILIC ASTHMA

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Introduction: Small airways disease (SAD) is frequently encountered in asthma. We aimed to compare non-eosinophilic and eosinophilic asthma for SAD using impulse oscillometry (IOS).

Methods: 60 patients assessed between March 2016 and July 2017 were classified based on induced sputum criteria into eosinophilic asthma (17 patients, 41% males, mean age 50.06 ± 11.85 years) and non-eosinophilic asthma (43 patients, 44% males, mean age 53.21 ± 14.20 years).

We used MasterScreen™ IOS (Care Fusion, Germany) with a Lilly type *pneumotachograph* with a 36Pa.s.L-1 resistance and ± 1 flux accuracy, calibrated daily.

A minimum of three consecutive 30 seconds measurements with 5 impulses per second were done before and 30 minutes after bronchodilation with 400 mcg salbutamol (with spacer). SAD was assessed by R5-R20, resonance frequency (Fres) and reactance area (AX).

Results: PreBD values eosinophilic asthma: R5-R20 0.56 ± 1.48 , Ax 13.47 ± 10.09 , Fres 18.05 ± 5.65

PostBD values eosinophilic asthma: R5-R20 1.12 ± 0.89 , Ax 10.83 ± 10.22 , Fres 19.08 ± 7.43

Pre BD values non-eosinophilic asthma: R5-R20 1.94 ± 1.50 , Ax 24.30 ± 21.60 , Fres 24.99 ± 7.36

PostBD values non-eosinophilic asthma R5-R20 1.62 ± 1.38 , Ax 18.83 ± 18.95 Fres 22.26 ± 7.20

Conclusion: IOS confirmed a higher rate of small airway disease in patients with non-eosinophilic asthma thus implying a different approach for the management of this asthma phenotype.

SENSORS AND BIOSENSORS IN MEDICINE

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Medical sciences use different types of sensors and biosensors to test food and water contaminants, control of human biologic samples, contributing to the fast and precise early diagnosis, and monitoring of different chronic treatments.

In order to obtain and to optimize the functioning of sensors and biosensors, multi- and interdisciplinary knowledge (analytical chemistry, biochemistry, biophysics, cell and molecular biology, electronics, etc.) are used.

There will be presented an overview concerning the different materials that could be used as support, different biological active structures (enzyme, antibody, DNA, cells, aptamers etc.) and several applications in medicine (analysis of glucose, urea, lactate, intoxication with pesticides, different antigens/antibodies etc).

General and specific characteristics of the sensors and biosensors in medicine would be indicated in order to underline their importance in direct metabolite detection or in the multicare system, in invasive or non-invasive format of the tools.

LIPOID PNEUMONIA – A RARE CAUSE OF MINERAL OIL TOXICITY

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Lipoid pneumonia is a rare disease consisting in lipid-laden macrophages, causing inflammation, alveolar edema, disruption of the pulmonary surfactant and ventilation/ perfusion mismatching. There are two types of lipoid pneumonia: endogenous or cholesterol pneumonia (caused by released fats from damaged tissues) and exogenous lipoid pneumonia (with causes varying from household products use to professional exposure to causative agents) that can be a life threatening situation.

The challenge in diagnosing and management of lipoid pneumonia consists in its nonspecific clinical presentation, in some cases developing into a sudden, severe respiratory distress syndrome refractory to the treatment.

We present the case of a 42 year-old male without significant coexisting disease with a severe form of lipoid pneumonia attributed to the inhalation of smoke originated from mineral oil burn. Our case points to the need for increased awareness of the potential hazards of mineral oil inhalation/ aspiration during daily at-home activities or in professional life, both in adult or pediatric population.

Keywords: lipoid pneumonia, mineral oil, severe respiratory distress syndrome

MYROIDES SPP. RELATED SEPSIS: CASE REPORT AND LITERATURE REVIEW

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Myroides spp., a gram-negative, non-motile rod, opportunistic pathogen, is an emerging source of infection and subsequent sepsis. Even though there are reports of severe infections in immunocompetent patients, most often it occurs in immunocompromised patients. Of importance is the antimicrobial resistance profiles of *Myroides* spp, as this organism is most often being classified as multidrug-resistant and even extensively drug-resistant.

Infections with *Myroides* has an important significance for ICU patients dealing with severe infections, not because it remains a rarity as a source of sepsis and thus not studied at large, but because of its low antibiotic susceptibility profile.

We present a case report of an extensively drug-resistant *Myroides* spp. isolated in the urine of an oncologic patient who presented with urosepsis and acute urinary retention.

Keywords: *Myroides* spp., multidrug resistance, extensively drug resistance, antibiotics, sepsis

CELIAC DISEASE: CURRENT DATA AND REVIEW OF GUIDELINES, CASE SERIES PRESENTATION

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Introduction: Celiac disease remains a challenging multifaceted disease, but with a significant prevalence of 1% in the general population. Greater availability of sensitive and specific screening tests has allowed a significant raise in diagnosis worldwide and better awareness of the disease.

Materials and Methods: We reviewed current data in the literature regarding clinical practice, with emphasis on diagnosis, work-up, treatment and follow-up red flags.

Patients with celiac disease can present with diarrhea and failure to thrive; some may be asymptomatic.

We present 4 different cases of celiac disease, in an attempt to underline still-unclear and atypical phenotypes, such as slow-responsive and potential (minimal lesions) celiac disease, as well as possible traps and causes of delayed diagnosis. The first case was asymptomatic, the second patient was with inconclusive serology and minimal histologic changes, and the third reported case was associated with active sarcoidosis. The fourth presented case is rather typical but still particular because of initial high suspicion of colon cancer due to family history.

Discussions: The number of cases of celiac disease has raised in the last decades. Normal endoscopy, negative serology are possible misleading presentations and correct diagnosis may be delayed for months or years.

Conclusions: Significant complications of celiac disease are possible, so neglection is not an alternative especially in young and middle-aged patients. Several traps, as well as polymorphism of presentation can mislead early diagnosis approach.

VITAMIN D AND THE CARDIOVASCULAR RISK

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Epidemiological and experimental studies revealed a link between the serum level of vitamin D and the risk of cardiovascular diseases. The deficiency of vitamin D may be involved in the pathogenesis of arterial hypertension. Studies have raised the hypothesis of a relationship between vitamin D deficiency and high blood pressure, considering the key modulating effects of vitamin D on the renin-angiotensin-aldosterone system axis, the release of angiotensin promoting the arterial stiffness and endothelial dysfunction, involved in the appearance of hypertension. Hyperlipidemia is an important risk factor for cardiovascular diseases, especially for ischemic heart disease. Although studies confirmed a relationship between a normal vitamin D level and normal serum lipids, the consequences of vitamin D treatment remain unclear. Experimental studies highlighted the mechanisms by which vitamin D can be involved in glycaemia control, its deficiency promoting insulin resistance and increasing the diabetes mellitus risk. Although there is strong evidence about the etiological link between the deficiency of vitamin D and the risk of cardiovascular diseases, low 25-OH D levels may be a consequence of cardiovascular diseases, and not the cause, so their link may be an epiphenomenon. An insufficient level of serum vitamin D is associated with most cardiovascular risk factors and with cardiovascular morbidity and mortality, but the causal link between them has to be further investigated, especially in the light of vitamin D therapy for cardiovascular protection.

DEPRESCRIBING SKILLS – WHAT DO PHYSICIANS NEED TO KNOW?

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Multimorbidity, single disease guidelines, national targets, and the possibility of many prescribers across a variety of settings contribute to patients receiving many medicines (polypharmacy). Whereas many may benefit from such polypharmacy (defined as ≥ 5 regular prescribed drugs), it comes with increased risk of adverse events in older people due to physiological changes of aging that alter pharmacokinetic and pharmacodynamic responses to drugs.

Deprescribing is part of the good prescribing continuum. The use of this term emphasizes that stopping a medication is more complicated than just not renewing a repeated prescription, or simply, telling a patient not to take that medication anymore.

Prescribers' perspectives on factors shape their behavior towards continuing or discontinuing potentially inappropriate medications (PIMs). Knowledge or skill deficits, including difficulty in balancing the benefits and harms of therapy, recognizing adverse drug effects and establishing clear-cut diagnoses/indications for medicines and fear of negative consequences resulting from deprescribing were challenges prescribers faced in identifying and managing PIMs. Other barriers in deprescribing can occur at the patient level (individual), healthcare system and policy level (organizational), or be cultural.

Facilitators for reducing polypharmacy include: prudent prescribing; greater availability and acceptability of non-pharmacological alternatives; improved communication, collaboration, knowledge and understanding; patient-centered care and better communication between physicians.

To minimize the drug-related iatrogenesis a physician should accurately ascertain all current drug use, identify patients at risk of adverse drug reaction, estimate life expectancy, verify current indications for ongoing treatments, determine the need for disease-specific preventive medications and the time until benefit appears, determine absolute benefit-harm thresholds of medications, review the relative utility of individual drugs, identify drugs to be discontinued, seek patient consent and monitor for withdrawal symptoms.

LABORATORY TECHNIQUES FOR PRENATAL DIAGNOSIS

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Introduction: Prenatal diagnosis is important in detecting and preventing genetic diseases. The most of common prenatal diagnosis techniques are cytogenetics and interphase fluorescence in situ hybridization for detection of chromosomal abnormalities. Beside previously mentioned, molecular techniques are used for genetic disorders diagnosis. So, laboratory techniques currently are used in order to identify especially, chromosome aneuploidies such as chromosome 13, 18, 21, X and Y.

Material and methods: fluorescence In Situ Hybridization (FISH) and the most common application of iFISH in prenatal diagnosis is for the fast detection (1,2 days) of the numerical chromosome abnormalities using centromeric probes (alpha satellite) applied to interphase cells from amniocentesis and CVS.

Results: The examples interphase FISH image.: +21 are shown by using α satellite probe of 21 (red signal) and 13 (green signal); Normal are shown by using α satellite probe of 13 (green signal), 21 (red signal); +21 are shown by using α satellite probe 21 (red signal) and 18 (green signal). The examples interphase FISH image of uncultured amniocyte. +21 are shown by using α

satellite probe of 21 (red signal) and X (green signal); Normal are shown by using α satellite probe of X (green signal), Y (red signal) and 18 (aqua signal); C : Normal are shown by using α satellite probe X (green signal), Y (red signal) and 21 (aqua signal).

Conclusion:

The field of prenatal diagnosis was invented to new a technique known as noninvasive prenatal screening, The first-trimester pregnancy screen is a commonly. In the context of the study design, the concept of "geneticization" is introduced as a nowadays problem in discourses of health and disease.

Key words: Prenatal Diagnosis, PGD, Cytogenetics, FISH, cfDNA

METHODS FOR TYPING OF THE PATHOGEN PSEUDOMONAS AERUGINOSA GENOMES

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Introduction

Microbial typing methods are major tools in epidemiological investigation allowing the determination of the clonal relationships between isolates of the same species and clarifying the evolutionary history and population dynamics of microbial pathogens. A large variety of approaches for typing have been developed. These can be divided into two groups – phenotypic and genotypic methods. Some phenotypic approaches are time consuming, tend to more manual, and require greater skill to run. There are a large number of genetic typing methods with a high degree of discriminatory power. One of the most frequently used molecular-genetic methods is pulsed-field gel electrophoresis (PFGE). PFGE is considered as the “gold standard” typing method. Fifty eight genomes of *Pseudomonas aeruginosa* were downloaded and analyzed *in silico*.

Material and methods

In silico simulation of SpeI enzyme digestion PFGE was performed on *P. aeruginosa* genomes transformed into circular structure with Geneious software. Different Multilocus Variable Number Tandem Repeat Analysis (MLVA) schemes were analyzed by using primer pairs and software tools in order to produce amplification products. Based on PCR products, the number of repeats were calculated and rounded up to the nearest integer to obtain the numeric digit code of the isolates. These codes, referred to MLVA profiles, were subsequently used for clustering.

Results

Genomes of *Pseudomonas aeruginosa* were downloaded and analyzed *in silico*. Prior to converting into circular shape, the genomes were used to digest into fragments with a Spe I restriction enzyme in order to simulate PFGE ranges from 10 to 950 kbp. Amplification of MLVA loci were performed with *in silico* PCR using primer pair set (see Materials and Methods above). Results of simulation - PFGE with clustering based on band pattern and amplified loci of different MLVA schemes - was performed on whole genomes of *Pseudomonas aeruginosa* isolates.

Conclusion

Knowing that *Pseudomonas aeruginosa* infections are common in individuals with an immunocompromised state, more important is to show the results of complex studies. Concretly, in the above mentioned, visualization of similarities and differences of phylogenetic trees, in particular in multi-gene analysis, are good to note. So, the results, presented in the study, demonstrated discrepancies between the topology structure of MLVA methods and PFGE. From our dataset, we would like to inform about the relationship between genetic or genomic events that we observed in our strains.

Key words: *Pseudomonas aeruginosa*, investigations, typing, PFGE, MLVA *In silico*

STATISTICAL ANALYSIS OF PHYSICAL DEVELOPMENT PARAMETERS OF SCHOOL – AGE CHILDREN

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Introduction. Children's growing, more exactly physical development is referring to weight and height, as our priority. So, the topic of the study is in accordance with regional research referring to the physical youth development. In this context, statistical analysis of physical development parameters of school children residing in the territory of Central Kazakhstan, is the priority of the study. An assessment of the degree and harmony of the physical development of children and adolescents is a pressing issue due to the lack of regional standards in above mentioned country.

Objective: To study and to evaluate the average values of anthropometric indicators of school children of Central Kazakhstan.

Material and methods: The study of the children physical development included the definition of somatometric parameters as height, weight, chest circumference.

In order to show the results of studying and analysing the anthropometric data of 4,249 healthy children and adolescents aged 6 to 17 years old, the subjects were students of grades 1-11 from the general education institutions of Central Kazakhstan. The researched subjects were divided into 12 age groups 6-17 years, with further division by gender and by nationality, in accordance with the principle adopted in anthropology, with an annual interval

Results and discussion: As a result, it was established that 12-year-old boys are shorter than girls of the same age. However, from the age of 14, the height of boys prevails over the height of girls. Kazakh boys and girls are shorter than Russian boys and girls. At 9 years old, 16 years old and 17 years old, boys weigh more than girls do. Russian children are heavier compared with children of Kazakh nationality. Also, the results of the comparative analysis of the average values of the chest circumference of children of different age and gender groups found a significant correlation with height and weight indicators.

Conclusions: Thus, the results of studies allow us to conclude that the population of the school-age children in Central Kazakhstan has age and ethnic characteristics of growth and development. The comparative analysis of the results of the school-age children anthropometric indicators

showed an excess of the average values in children of Russian nationality at the senior school age in comparison with similar values among children of Kazakh nationality.

Keywords: children, physical development, school-age, parameters, analysis

OPPORTUNISTIC PATHOGENS: A HEALTHCARE PROBLEM

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Introduction: Urinary tract infections (UTIs) remain one of the most important problems of modern urology and medicine. Infections bring great discomfort and significantly reduce the quality of life... The most common pathogen of UTI are *E.coli*. The study of the etiology of UTI has great clinical and epidemiological importance in routine practice.

Objective: To assess the etiological significance of pathogens in the occurrence of urinary tract infections in the Karaganda region of Kazakhstan.

Methods: A total of 2378 patients presenting UTIs were enrolled and each provided a urine sample. The study was carried out in the Clinical Microbiology Laboratory MediTEC-NS from 2 January to 29 December 2018. Identification of isolated microorganisms was carried out on a WalkAway 96 Plus microbiological analyzer, Microscan model manufactured by Beckman Coulter (USA). Statistical Analysis was performed using the STATISTICA-6 package.

Results: Out of 2378 patients a total of 1177 (49,5%) urine samples tested positive by culture test. From these samples, 1356 strains of microorganisms were isolated, of which 84.79% were monoculture and 21% were of a mixed culture. Gram-positive bacteria 690 (50, 88%), Gram-negative bacteria 630 (46, 46%), and *Candida* 36 (2.65%) were identified. Gram-negative rods were represented by *Enterobacterales* 557 (88.41%) and non-fermenting bacteria 73 (11.59%). In the *Enterobacterales* group included *Escherichia coli* 371 (66.61%) of which 108 (29,1%) ESBL strains. The next etiological significant uropathogens were *Klebsiella*- 99 (17, 77%), *Enterobacter*-36 (6,46%) and *Proteus*-32 (8,09). *K.pneumoniae* prevailed

in comparison with other *Klebsiella spp.* ESBL producing was 34 (57, 6%) out of 59 *K.pneumoniae* isolates. Gram-negative non-fermenting rod were represented by *Acinetobacter spp.*-34 (46.57%) and *Pseudomonas spp* 31 (42.47%). Of 34 *Acinetobacter spp.* isolates 22 (64.7%) were identified as *Acinetobacter lwoffii*. Among the gram-positive pathogens of UTI, *Staphylococcus spp* prevailed - 411 (59.57%), followed by *Enterococcus spp* 197 (28.55%) and *Streptococcus spp* 81 (11.73%). Coagulase-negative staphylococci 381 (92,7%) isolates out of total 411 staphylococcal isolates. *Staphylococcus epidermidis* 245 (59,61%) and *Staphylococcus haemolyticus* 81 (21,17%) were the most frequent isolated coagulase-negative staphylococci. Of 411 staphylococcal isolates, 182 (44.28%) were MRS

Conclusion: We found that UTIs among our study population were predominantly caused by ten opportunistic pathogens. The most common uropathogens with a frequency of 66.9% were *E. coli*- 30.53%, *S. epidermidis* -20.16%, and *Enterococcus spp.* -16.21%. Frequently isolated pathogens included *Klebsiella*, *S. haemolyticus spp.*, and *Streptococcus spp.* which amounted to 21.98%. The distribution within the patient group was equable and ranged from 6,67% to 8,15%. Etiologically significant pathogens included *Enterobacter spp.*, *Proteus spp.*, *Acinetobacter spp.*, *Pseudomonas spp.* These bacteria accounted for 11.11%. The distribution within the group was again equable and ranged within 2,55% to 2,96%.

Key words: Urinary tract infections (UTIs), opportunistic pathogens, study, samples, statistical analysis

ACUTE DIARRHEAL DISEASE WITH MULTIPLE ETIOLOGY – CASE REPORT

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Introduction: Acute diarrheal disease is the second leading cause of morbidity and mortality in the world, after respiratory infections. The etiology of acute diarrheal diseases is varied, from viruses, bacteria, fungi and parasites. The evolution of the disease varies from a self-limiting to a life-threatening one by increasing the frequency, volume and fluidity of the stools. The importance of performing multiple laboratory investigations can be seen in the clinical case that will be exposed.

Material and method: We present the case of a 73-year-old patient, known with a history of hypertension and a stroke, who presented to the Emergency County Clinical Hospital Brasov and was later referred to the Clinical Hospital of Pneumoftiziologie and Infectious Diseases Brasov, for multiple diarrheal stools (15-20 stools by the time of presentation), nausea and vomiting, symptoms started on the day of presentation.

Results: Patient with acute dehydration grade I / II, with RT-PCR test for SARS-CoV-2 infection negative. Stool immunochromatographic test - positive for Clostridioides difficile toxins A and B; stool immunochromatographic test - positive for rotavirus and adenovirus; positive coproculture for Salmonella spp. Biological: leukocytosis and neutrophilia, nitrogen retention, hyposodemia and hypokalemia. Favorable evolution under treatment with Vancomycin and Trimethoprim-Sulfamethoxazole, pathogenic and symptomatic therapy. Particularity of the case: multiple concomitant etiology of acute diarrheal disease, which required associated treatment, adapted to the infection with Clostridioides difficile.

Conclusions: The correct diagnosis of an acute diarrheal disease, based on complete stool investigations, is essential for a proper therapeutic approach and a favorable prognosis of the disease.

Keywords: Clostridioides difficile, Salmonella, rotavirus, adenovirus, acute diarrheal disease

ACUTE RENAL FAILURE AFTER INTRAVENOUS THROMBOLYSIS WITH ALTEPLASE

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Introduction: intravenous thrombolysis with alteplase may have diverse side effects.

The aim of this case report is to present such a rare side effect.

A 71 year old female with a history of type 2 diabetes and hypertension, presented with sudden onset language impairment. The neurological examination revealed moderate mixed aphasia and mild hemiparesis, the NIHSS score being 4. Laboratory tests showed a mild hyperglycaemia, normal liver and renal tests, normal cell blood count.

Intravenous thrombolysis with alteplase (Actylise) was initiated. There was minimal gingival bleeding, without any other immediate side effects. After two hours, the focal neurological deficits, both aphasia and mild hemiparesis resolved.

After 48 h, the value of serum creatinine and urea increased. Urinalysis was normal, the culture negative. No urinary obstruction and any significant findings on the abdominal ultrasound were found. A urinary catheter was inserted.

The patient developed acute renal failure, with creatinine levels reaching a peak of 7.95 mg/dL in the sixth day of admission. Forced diuresis was induced with a urine flow rate up to 7-8 l/24h, with specific treatment for acute renal failure added. Over the next five days the value of the serum creatinine decreased to 1.28 mg/dL. CT-angiography of the renal vessels showed mild atherosclerotic plaques of the renal arteries. To the best of our knowledge, this is the first case report of acute renal failure after intravenous thrombolysis with Alteplase.

Conclusion: This case report highlights the importance of careful monitoring of patients after thrombolysis, even if neurological deficits resolved.

COMPARATIVE STUDY OF STROKE DURING THE FIRST AND SECOND WAVES OF COVID-19

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Background and aims: While we know that there has been an increase in the number of cases of acute stroke admitted to our hospital since the beginning of the COVID-19 pandemic, our aim was to compare the data gathered during the first two waves.

Methods: Retrospective, observational study of data of the patients admitted with acute stroke to the County Clinical Hospital of Brasov between 14th March 2020 and 15th of January 2021. In Romania, the first wave of COVID-19 ended on the 14th May 2020, while the second began on 1st of October 2020.

Results: During the first wave of the COVID-19 pandemic, we admitted to our hospital 105 strokes, 82 ischemic (78.09%; 58.53% males), 21 hemorrhagic (20%; 85.71% males), 2 transient strokes (1.90%), from which 23 have died during the hospitalization (21.9%; 60.86% males). During this period, following our screening, 8 patients presented with COVID infection (7.61%). Corroborating the data collected during the two waves, the total number of strokes admitted during the assessed period was 285 (80% ischemic, 18.24% hemorrhagic and 1.75% transient strokes), from which 61 patients were COVID-positive (21.4%) and 68 have died (23.85%). The gender-based distribution was 159 males (55.78%) versus 126 females (44.21%), 45.61% females with ischemic stroke and 36.53% with hemorrhagic stroke.

Conclusions: Comparing the first two waves of COVID-19 cases that occurred, there is a higher rate of mortality during the second wave. The higher number of COVID-positive cases during the second wave could explain this difference. The ischemic to hemorrhagic ratio was similar during the two periods.

STROKE DURING THE FIRST WAVE OF COVID-19

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Background and aims: The first wave of COVID-19 cases has been the surprising and unexpected for our health system, which may need to adapt quickly. The aim of this study was to analyze the stroke characteristics during this period.

Methods: This is a retrospective study based on data gathered at the County Clinical Hospital of Brasov, Romania. The data consists of the patients admitted with stroke during the period 14th March - 14th May 2020, which corresponds to the first wave of COVID cases that occurred in Romania.

Results: In this period of time there have been 105 cases of stroke admitted to our hospital, from which 82 ischemic (78.09%; from which 58.53% males). There were 67 cases (81.70%, from which 58.20% males) in the distribution of the carotid artery, while 15 (18.29%, 60% males) were vertebrobasilar strokes, 21 hemorrhagic strokes (20%, 85.71% males) and 2 transient ischemic strokes (1.90%). The overall mortality was 21.90% (60.86% males) with 12 cases ischemic stroke (52.17%) and 11 hemorrhagic stroke (47.82%). During this period 8 patients (7.61%) were confirmed with COVID-19 infection (37.5% males, 62.5% females).

Conclusions: The mortality was high in the first wave of cases of COVID-19 and it was similar for the two main types of stroke, even though the incidence of ischemic stroke is much higher. The incidence of stroke occurred in the territory of the carotid artery remains much higher than the vertebrobasilar stroke. The minor strokes were in lower percentage during this period of time. The percentage of COVID-19 positive patients affected by stroke is relatively high.

THROMBOLYSIS IN ISCHAEMIC STROKES – THE BRAȘOV EXPERIENCE

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Introduction: Ischemic stroke is one of the leading cause of death worldwide, and the patients who survive can get significant disability. Intravenous thrombolysis is an important treatment which can improve disability in some cases even save lives.

Aim: The aim of the study is to present our experience with the thrombolysis procedure in ischemic strokes.

Materials and Methods: This is a retrospective study that includes all ischemic strokes which had iv thrombolysis performed in the Department of Neurology in County Emergency Clinic Hospital of Brasov, Romania, since 1th March 2019 (first day this procedure was approved in our hospital).

Results: In this period of time we had a total of 611 iv thrombolysis performed in our hospital: 99 in 2019, 197 in 2020, 197 in 2021 and 118 in 2022, until 22nd May. The rates of recanalization were: 35,3% in 2020, 29,62% in 2021 and 34,53% in 2022- until 22nd May. The highest number of thrombolysis performed in a month was 27, and it was in March 2020 and also April 2022.

Conclusions: The number of thrombolysis is constantly over years with an increase in the last period of time. The recanalization percentage is significant high due to a very good collaboration of different departments of the Hospital.

A COMPARATIVE STUDY OF BRONCHIOLITIS CASES IN THE PREPANDEMIC AND INTRAPANDEMIC PERIOD AT THE EMERGENCY CLINICAL HOSPITAL FOR CHILDREN BRAȘOV

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Introduction: Bronchiolitis is characterized by acute inflammation of small airways and it is the most common viral infection found in children under 2 years of age.

Objectives: The aim of this study was to analyse and compare the seasonal bronchiolitis before and during the SARS-CoV-2 pandemic.

Patients and method: Patients included in the study were toddlers under 2 years of age who were hospitalized with a diagnosis of acute bronchiolitis in the prepandemic year (2019) and intrapandemic period at the Children's Emergency Clinical Hospital Brasov.

Results: The study included a total of 1409 toddlers, in 2019 there were 643 children admitted in our hospital, in the first pandemic year the number of cases decreased by more than half – 302 cases, and in the next year the number slightly increased – 464.

In terms of the seasonality, we have noticed that the number of cases of bronchiolitis has dropped dramatically since March 2020, remaining low until October 2021.

Due to severity of cases, we found a higher percentage of patients who received corticosteroid therapy in the intrapandemic years (2020 - 79.47%, 2021 - 85.13% vs. 2019 - 75.89%), also ant biotherapy was given in a significant proportion of cases (2020 – 63,24%, 2021 – 53,44% vs. 2019 – 46,34%). The average period of ant biotherapy has doubled in pandemic years (2020 – 6, 05 days, 2021 – 6, 21 days) compared to the pre-pandemic year (2019 – 3, 34 days).

The average hospitalization period increased in the intrapandemic period compared to the prepandemic one: in 2019 - 5.8 days, 2020 - 7.72 days, 2021 - 7.42 days.

Conclusion: With the introduction of SARS-COV2 prevention measures in our country, we noticed a decrease in the number of cases of children diagnosed with bronchiolitis.

We also concluded that during the pandemic, patients with a moderate or severe form of the disease were hospitalized, and mild forms were treated at home as the guidelines recommend.

ANTIBIOTIC PRESCRIPTION RATES IN HOSPITAL SETTING AND IN COMMUNITY

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Background: Antibiotic prescription rates remain high across the world. In children the main reason for prescribing antibiotics remains fever.

Objectives: to compare two years 2019 and 2021 in regard of antibiotic prescription at the Children's' Clinic hospital, Brasov Romania, along with a review of literature. The second objective was to evaluate the antibiotic resistance rates of pneumococcus before and after the implementation of PCV 13 in our country.

Patients and methods: we have evaluated the most prescribed antibiotics in our hospital and review the main antibiotic classes that are prescribed in hospitals across the world along with the one prescribed by the family doctors. We have reviewed also the antibiotic prescription rates in the emergency care unit to the ones in different hospital departments.

Results: When looking at the data in our hospital the most common prescribed antibiotics remain third generation cephalosporines along with aminoglycosides especially in neonatology and intensive care units both NICU and PICU. When looking specifically at pneumococcus the antibiotic resistance pattern tends to slightly decrease after the implementation of PCV13. However due to the pandemic when there was a decrease in the vaccination rate of infants and toddlers this pattern is more discreet compared to the literature.

Conclusion: most antibiotic prescribed in hospital remain third and second generation of cephalosporins. Family doctors prescribe unnecessary antibiotics in more than one third of cases at children.

A RARE CASE OF RETROPERITONEAL HEMATOMA

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Abstract

Retroperitoneal hematoma is a life-threatening condition. Pelvic fracture and kidney trauma are the most common causes of retroperitoneal hematoma. Spontaneous retroperitoneal hematoma is a rare condition. This pathology is most often caused by kidney tumors and vascular diseases. Spontaneous rupture of the Iliac Vein is very rare in practice. This condition is more common in women between the ages of 41-83. In over 90% of cases the venous lesion is located on the left side. The exact etiology of this condition is unknown. Spontaneous injury of the iliac vein is thought to be favoured by intense exercise, constipation, cough, labour, May-Thurner syndrome or pre-existing inflammatory changes in the venous wall are also implicated.

We present the case of an 82-year-old woman who is brought to the Emergency Department for abdominal pain located in the left flank and in the left iliac fossa with irradiation in the left lower limb, which appeared after a medium physical exertion. The patient shows clinical signs of haemorrhagic shock. The diagnosis of lesion of the left external iliac vein is established after performing CT with the contrast substance. Surgery is performed in extreme urgency by retroperitoneal approach and due to the very precarious condition of the patient, venous ligation is performed, wishing to perform a Palma-Dale venous bypass at a later time.

Although a rare cause of spontaneous retroperitoneal hematoma, non-traumatic rupture of the common or external iliac vein should be considered in patients in shock with massive retroperitoneal bleeding, accompanied by a high mortality rate.

MANAGEMENT OF BLUNT SPLENIC INJURIES IN CHILDREN AND ADULTS

Mircea Hogeia, Anda Szasz

Nowadays standard treatment for children with hemodynamically stable splenic injuries is conservative.

In adults, nonoperator management of splenic trauma shows an upward trend but still there is no standardized protocol on implementing this type of treatment.

The main purpose of the study is to establish a therapeutic management protocol of splenic trauma both in adults and children. It is a prospective study and it comprises 20 patients admitted to the Surgery Ward of the Emergency County Hospital of Brasov and 10 patients admitted in the Children Hospital Brasov.

The leading inclusion criteria implies the presence of a blunt splenic trauma.

In order to adequately assess the severity of splenic trauma we performed imagistic, clinical and biological monitoring of each patient.

In the study group, splenic injuries were more common in men (90%) and were the consequence of a car accident (65%). In 90% of cases surgery was needed seeing that hemoperitoneum amount exceeded 800 ml. In all pediatric patients, nonoperative treatment was successfully applied.

An important role in determining the management of splenic trauma is hemoperitoneum volume. For a more sensitive assessment hemoglobin and hematocrit may be taken into account. Tachycardia and falls in the blood pressure correlate with the severity of splenic injury ($p < 0.001$). All these data are good predictors for the success of the therapy.

Given the frequency of splenic trauma, it is imperative to realize and implement a management protocol. Using standardized protocols would "save" a large number of spleens and would also relieve patients of the risks of a major surgery.

ACINETOBACTER INFECTIONS AND RESISTANCE PATTERNS – STUDY IN A MULTIDISCIPLINARY HOSPITAL

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Background: Acinetobacter spp. are ubiquitous germs capable to survive extended periods of time on the surfaces of inorganic materials, such as medical equipment. Although a conditional pathogen, it represents a global threat due to the increasing number of healthcare acquired infections (HAI) caused by it. Patients from ICU, in needed for invasive medical procedures are prone to infections with these bacilli. Considering WHO labeled Acinetobacter species as "critical level or priority" due to their multi-drug resistance pattern, it is imperative to identify new alternatives of treatment.

Aims: The aim of the study is to asses Acinetobacter spp. involvement in hospitalized patients infections. Based on the detected mechanisms of resistance, the antimicrobial therapy could be optimized.

Methods: This retrospective study analyses 468 Acinetobacter strains isolated from patient samples at Clinical County Emergency Hospital of Brasov, during 1 January 2020- 31 December 2021. Biochemical tests were performed for bacterial identification. The disk diffusion method was used to determine the antimicrobial susceptibility of microorganisms, confirmed by automated VITEK 2 COMPACT.

Results: The number of Acinetobacter strains in 2021 is 1.63 times higher than the number registered in 2020. Acinetobacter spp. have been frequently identified in patient samples from ICU (57.69%), followed by Internal diseases yard (11, 54%). These germs were isolated mostly from respiratory secretions (48, 72%), wound secretions (21, 79%) and urine (7, 69%).

Acinetobacter spp. recorded high levels of resistance at tested antimicrobial. Over 80% of the tested strains were resistant to: piperacillin-tazobactam, cefepime, ceftazidime, imipenem, meropenem, gentamicin, amikacin, levofloxacin, ciprofloxacin. The sensitivity to colistin was 100%.

Conclusions: The frequency of infections with these germs and the tendency to increase each year are alarming. This study emphasizes the importance of continuous reassessment of antibiotic resistance pattern of Acinetobacter spp. involved in various infections in hospitalized patients.

Keywords: Acinetobacter, infections, antimicrobial resistance.

STUDY ON THE ANTIBIOTIC RESISTANCE OF GERMS INVOLVED IN VENOUS ULCER INFECTIONS

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BACKGROUND

Venous ulcers occur due to the existence of venous disease and are accompanied by damage to the epidermis. Their infections is a real challenge due to their varied etiology and the antibiotic resistance of the involved bacterial species.

AIMS

The aim of the study was to evaluate the bacterial species involved in these infections in the hospitalized patients and the patterns of antibiotic resistance of germs, in order to optimize the etiological therapy.

METHODS

The study was retrospective, descriptive, conducted between 1.01.2019 and 31.12.2020. The study group included 268 bacterial strains isolated from venous ulcers secretions of patients hospitalized in Clinical County Emergency Hospital of Brasov.

RESULTS

The etiological spectrum of venous ulcer infections was relatively broad including gram positive cocci and gram negative bacilli. A higher isolation rate of *Pseudomonas aeruginosa* (25,35%), *Staphylococcus aureus* (23,5%), *Klebsiella* species (13,43%) and *Enterococcus* species (11,19%) was obtained. Isolated bacteria have shown varying degrees of antibiotic resistance. Multidrug resistance phenotypes (MRSA, ESBL, CRE, HLAR) were also detected in the studied period.

CONCLUSION

The etiological spectrum of venous ulcer infections is varied and the antibiotic resistance of bacterial species involved in this pathology is an actual issue so the monitoring of germs and phenotypes contribute at the optimization of ethiological therapy.

KEYWORDS

Venous ulcers, infection, antibacterial resistance.

STUDY ON THE SPECTRUM OF INFECTIONS AND ANTIBIOTIC RESISTANCE OF ENTEROCOCCUS SPECIES

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BACKGROUND

An increasingly problem in hospitals, especially in the Intensive Care Unit, is the selection of multidrug-resistant strains of Enterococcus species that can become resistant even to rescue antibiotics. The involvement of Enterococcus spp. in nosocomial and community infections with various locations, the intrinsic resistance to some widely used antibiotics and the ability to acquire high-level resistance to aminoglycosides or even vancomycin justify the clinical and scientific interest in these germs.

AIMS

The aim of the study was the evaluation of the spectrum of Enterococcus infections in the hospitalized patients and the patterns of antibacterial resistance of these bacteria in order to optimize the therapy with antimicrobials.

METHODS

The study was retrospective, descriptive, conducted between 1.01.2020 and 31.12.2020. The study group included 447 Enterococcus strains isolated from various pathological products of patients hospitalized in Clinical County Emergency Hospital of Brasov.

RESULTS

The most common strains of Enterococcus came from patients hospitalized in Intensive Care Unit (39%), Internal Diseases (26,14%) and Nefrology (9,96%) wards. Most Enterococcus strains were isolated from wound secretions (35,29%) and urine (31,9%). Various degrees of resistance to the tested antibiotics were observed. The sensitivity was high to linezolid (100%), to teicoplanine (93,5%) and vancomycin (92,48%). The share of VRE (Vancomycin Resistant Enterococci) was 7,52% and of HLAR (High Level Aminoglycosides Resistance), 42,11%.

CONCLUSIONS

The etiological spectrum of Enterococcus spp. infections was relative various and the share of multidrug-resistant strains was significant, confirming the importance of these germs as agents of

nosocomial infections and emphasizing the necessity of monitoring in hospitals their anti-bacterial resistance profiles.

KEYWORDS

Enterococcus species, infection, antibacterial resistance.

A RARE CASE OF ACUTE MYOCARDIAL INFARCTION FOLLOWING BLUNT THORACIC TRAUMA INDUCED BY A MOTOR VEHICLE COLLISION

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We present a case report of an otherwise healthy 48-year-old male, without pertinent cardiac history or risk factors, who presented to the emergency department (ED) with chest trauma after a motor vehicle collision. The patient had no symptoms preceding the crash. Nevertheless, on arrival in the ED he suddenly developed cardiac arrest with ventricular fibrillation and after multiples attempts of CPR the ECG showed inferior ST-elevation myocardial infarction (STEMI). Acute aortic dissection was excluded by computed tomography (CT) and coronary angiography (CA) was subsequently performed. The CA revealed thrombotic proximal occlusion of the right coronary artery (RCA) at the level of an acute intimal dissection, confirmed by optical coherence tomography (OCT) - invasive imaging demonstrated mild atherosclerotic disease and unequivocally pointed toward dissection in the proximal segment (intimal tear surrounded by significant thrombus burden). Percutaneous coronary intervention (PCI) was performed with stent angioplasty of the dissected segment (OCT-guided) obtaining a final TIMI 3 flow. The case was challenging in terms of use of anticoagulation and antiplatelet strategy in a rare etiology of acute myocardial infarction following road traffic accident.

Keywords: STEMI, road traffic accident, traumatic coronary dissection, OCT, PCI

THE CONTRIBUTION OF TELEMEDICINE IN THE EMERGENCY MANAGEMENT OF VERTIGO

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ABSTRACT Telemedicine is one of the "alternative models of medical services" used in the Covid 19 pandemic, which minimizes the risk of infection (both for the patient and the doctor), provides accessibility, it gives the possibility to make an acceptable preliminary diagnosis in some acute balance disorders manifested by vertigo. Telemedicine with a diagnostic visa is feasible only for the detection of acute "dizzying" conditions and with very characteristic symptoms such as peripheral vestibular sd. and BPPV. This paper specifies the practical ways to perform a "telemedicine" consultation for patients with vertigo (a frequent medical emergency), shows how to make a rapid differential diagnosis of "life-threatening risk" caused by an acute vertigo and the decision to treat " home "vs. hospitalization. At the same time, it specifies the type of "vertiginous" diseases that can be managed correctly through telemedicine and which is the most appropriate therapeutic attitude in this context. The issue of liability and malpraxis dangers for the "tele-medical" act in these situations is briefly presented.

KEYWORDS: Telemedicine, vertigo, emergenc

A SYSTEMATIC REVIEW ON FERTILITY PRESERVING CONSERVATIVE TREATMENT OF THE CERVICAL CANCER

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Introduction

Cervical cancer is one of the most frequent types of cancer worldwide with a biased spread in the underdeveloped countries due to the lack of screening programs. Early stages can be treated conservatively with the preservation of the uterus and reproductive functions, while more advanced stages require radiation or a hysterectomy.

Materials and methods

Using the search terms ‘cervical cancer’, ‘fertility sparing’, ‘fertility preserving’, ‘conservative management’ and ‘trachelectomy’ a review of PubMed, Google Scholar and Cochrane databases was conducted providing 327 results. Studies of the last 5 years, English language, studies describing the treatment of early stages cervical cancer and clinical trials, reviews and meta-analyses study types were used as inclusion criteria. Studies in other languages, other associated pathologies, unfinished studies, and studies describing radical treatment were excluded. After the inclusion and exclusion criteria were applied, 14 relevant articles of the last 5 years summing a total of 4527 cases were selected; 2840 were treated using conization while 1687 were treated using partial or radical trachelectomy. The relevant surgical techniques for fertility sparing cervical cancer removal and their outcomes were described.

Results

Cervical cancer can be treated conservatively successfully only in the early stages (IA and IB) thus highlighting screening importance. The fertility sparing management consists in conization and simple or total trachelectomy with associated pelvic lymph node dissection. To preserve fertility, conization provides a high success rate (1%< mortality) for stage IA1 without lympho-vascular space invasion (LVSI), while radical trachelectomy associated with the excision of the lymph nodes can be used for stage IA1 (with LVSI), stage 1B1 and in selected patients with stage 1B2 cervical cancer. Some studies suggested that conization can offer better results in terms of recurrence rate (0.5% vs. 2.5%), mortality (0% vs. 0.8%), pregnancy rate (35.1% vs. 21.2%), miscarriage rate (14.5% vs. 24.2%) and preterm delivery (6.4% vs. 25.7%) compared to radical trachelectomy.

Conclusion

Young patients can be treated conservatively, preserving childbearing abilities but only in the early stages of the cervical cancer making regular screening a norm. Conization provides slightly better results than trachelectomy, but that can be explained by its use to treat the lower grade (1A1) cervical cancer.

Key words

Cervical cancer, Conization, Trachelectomy, Fertility Sparing.

A SYSTEMATIC REVIEW REGARDING THE PERITONEAL OUTCOMES OF SARS-COV-2 INFECTION

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Objective

The association between severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the first half of pregnancy and pregnancy loss is still unknown. The purpose of this review is to identify if SARS-CoV-2 infection in pregnancies increase the risk of abortion.

Data Sources

For this paper, we used Pubmed, SCOPUS, Google scholar and Medline databases as a search engine using keywords in different combinations such as: Covid-19, SARS-CoV-2, abortion, miscarriage, pregnancy loss and obstetrical outcomes. This review included articles published from December 2019 to January 2021.

Methods of study selection

In this study we included prospective or retrospective observational studies, clinical case series and cohort studies. Other criteria to include studies were those who contain data on pregnant women with SARS-CoV-2 infection confirmed using a PCR test and studies that included pregnant women in the first trimester or second trimester which have data about pregnancy loss at gestational age less than 24 weeks.

Results

From the 1507 studies identified initially, 34 studies were included in this review, who met the inclusion criteria: 5 observational studies and 29 case reports. Were involved 34 164 pregnant women, of which 17 599 were SARS-CoV-2 positive. There were reported 325 cases (1.84%) of abortion in pregnancies covid-19 positive compared with 121 cases (0.73%) in negative covid-19 pregnancies. From 325, 59 (18.15%) abortion were in the first trimester, 34 (10.46%) in the second trimester and 232 (71.38%) cases does not have data about the time of abortion.

Conclusion

Based on the data in the current literature, the miscarriage rate (<24 weeks) in women with SARS-CoV-2 infection is in the range of normal population. We observed an increase rate of Covid-19 abortion in the second trimester. Well-designed studies are urgently needed to determine whether SARS-CoV-2 infection increases the risk of miscarriage during periconception and early pregnancy.

INTRAUTERINE INFECTION WITH HERPES SIMPLEX VIRUS AND EPSTEIN-BARR VIRUS -NEONATAL OUTCOMES

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Introducere / Obiectiv: Herpes simplex (HSV) and Epstein-Barr (EBV) viruses are widespread infections within human population, with over 80% adults being infected during their lifetime, both being reactivated under psychological stress and immunocompromised state. HSV is estimated to affect around 2-3 % of pregnancies and new-borns with congenital HSV can develop serious consequences such as central nervous system and ocular diseases. Proven intrauterine infection with HSV is rarely documented and only the minority of affected fetuses survives this condition with severe systemic conditions. On the other hand, EBV rate in pregnancy is extremely low, especially due to lack of primary screening tests, and it is stated that congenital abnormalities may occur in case of fetal infection. This review covers the importance of HSV and EBV infections in pregnancy along with neonatal consequences, diagnostic approaches and therapeutic management.

Metode / Metodologie: We selected the studies from PubMed database and reviewed articles from literature, aiming to evaluate and analyse data about HSV and EBV infections in pregnancy and their neonatal outcomes. We included systematic reviews as well as clinical trials and theoretical

studies. Our research included all the publications during the period of January 2010 to April 2022 using the following Medical Subject Headings: HSV, EBV, pregnancy, placental infection, neonatal outcomes.

Rezultate: Most maternal herpes infections during pregnancy do not result in severe maternal illness, in contrast to the potentially devastating consequences of neonatal infection. Prevention of neonatal exposure to HSV in the maternal genital tract has been the main preventive strategy, as early diagnosis can be difficult and prompt initiation of antiviral therapy for neonatal HSV does not decrease severe sequelae in many cases. Primary EBV infections during pregnancy are rare due to a low incidence of susceptibility. However, once it occurs, EBV may cross the placenta causing placental infection. Fetal infection has little consequences on the outcome of the pregnancy. The current studies indicate that the EBV infection in pregnancy does not impose a serious problem on maternal and neonatal outcomes.

Concluzii / Discuții: Further prospective studies with large number of patients with active or recurrent HSV/EBV infection are needed to identify a possible disease-pattern in infants related to these viruses.

IMPLICATIONS OF METALLOPROTEINASES SERUM LEVELS CORELATED WITH MATERNAL-FETAL DOPPLER PARAMETERS IN PREECLAMPSIA

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Introduction / Objectives: Preeclampsia is a pregnancy specific disorder which affects around 8 million pregnancies worldwide. While the pathogenesis of preeclampsia remains unclear, poor placental perfusion is accepted as a major mechanism of preeclampsia, however, prior studies suggest that matrix metalloproteinases (MMPs) are involved into the pathophysiology of this syndrome. MMPs are zinc-dependend proteases that degrade extracellular proteins and their role is mostly connected to remodelling the endometrial tissue during the menstrual and estrous cycles. In preeclampsia, Doppler ultrasound evaluation is considered one of the most useful method for prediction and its parameters can reveal hemodynamic repercussions of preeclampsia.

Methods / Methodology: Our research included publications from PubMed related to the role of MMPs (MMP-9 and MMP-2) in preeclampsia as well as Doppler parameters in all three trimesters

of pregnancy. Studies ranging from May 2015 to May 2021 were selected by the following including criteria: full-text articles, written in English, human-based studies, MMPs serum levels and Doppler parameters in patients with preeclampsia.

Results: Most of the studies concluded that in preeclampsia the levels of MMPs, especially MMP-9 and MMP-2 are decreased in preeclampsia compared to normal pregnancy. When it comes to maternal-fetal examination, there was observed a significant decrease of uterine artery PI in all three trimesters. In patients with preeclampsia, uterine artery Doppler RI was significantly higher which suggests an abnormal development of placenta. Considering the fact that the decreased Doppler PI of uterine artery in pregnancy indicates the process of trophoblastic invasion and MMP-2 and MMP-9 are related to the same process, the concentration of these serum proteases should be increasing during the pregnancy. It has been reported that MMP-2 plasma levels are elevated in preeclampsia and this event is mediated by the vascular endothelial growth factor (VEGF), which controls vascular permeability. Also, some studies show that MMP-9 increases along both, normal and preeclampsia-complicated pregnancy, while its inhibitor TIMP-1 increases in preeclamptic compared to normal pregnant women.

Conclusions: Most of the studies have not revealed a significant correlation between the plasma concentration of MMPs and maternal-fetal Doppler. The maternal blood levels of MMP-2 and MMP-9 associated with maternal-fetal Doppler could be used as parameters to improve the screening of preeclampsia but further studies need to be made in order to evaluate the sensibility and the specificity of these methods taken together.

IMMINENT RISK FOR PRETERM DELIVERY- MAGNESIUM SULPHATE AS A NEUROPROTECTIVE AGENT

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Introduction / Objectives: Defined as childbirth before 37 weeks of gestational age, preterm birth is the leading cause of neonatal mortality, being one of the most challenging public health issues through the neonatal mortality, high and complex long term morbidity and socio-financial burden of neonatal final rehabilitation. Even though the survival rate depends on endogenous and exogenous factors, the risk of developing medical and neurodevelopmental impairment remains high. One of the most important adverse neurological outcome associated with preterm birth is cerebral palsy which describe a group of permanent disorders of the development of movement and posture disorders. The use of magnesium sulphate has steadily gained acceptance as a tocolytic

agent and now is the drug of choice in many centers for its actions in preeclampsia in preventing seizures and in preterm labour, however its use in obstetrical practice is being controversial. The aim of this paper is to present the beneficial role and to summarize the relevant evidence and practice recommendations of magnesium sulphate in neuroprotection in infants as antenatal treatment based on the current studies.

Methods / Methodology: We selected the studies from PubMed databases and reviewed recent articles from literature, aiming to evaluate the impact of magnesium sulphate as antenatal treatment in imminent risk for preterm delivery. Our research included all the publications during the period of May 2015 to May 2021 using the following Medical Subject Headings (MeSH): magnesium sulphate, neuroprotection, preterm delivery, cerebral palsy. Our research included the publications in which the cohort is bigger than 100 subjects and antenatal MgSO₄ was prescribed either for preeclampsia or for fetal neuroprotection. We have analysed the impact of MgSO₄ from multiple points of view, including the impact on hearing function and cerebral oxygen perfusion as well as on necrotizing enterocolitis.

Results: Most of the studies demonstrate significant results for antenatal magnesium sulphate reducing the risk of cerebral palsy. It is unclear whether gestational age is a key factor in the neuroprotective effect of the magnesium sulphate, but several studies suggested that the outcome of death or cerebral palsy was decreased when magnesium sulphate was administered before 34 weeks of pregnancy.

Conclusions: Delivery before 32 weeks of gestation is responsible for approximately one third of all cases of cerebral palsy. The enormous economic and societal costs associated with cerebral palsy underscores the need for primary and secondary neuroprotection measures. In conjunction with antenatal corticosteroid therapy and tocolysis to optimize completion of steroid therapy, which both are effective interventions, the antenatal administration of MgSO₄ remains a question in clinical practice. Given the lack of long-term clinical benefit, there is considerable ongoing controversy around whether MgSO₄ has true neuroprotective effects in preterm infants. Well-designed studies that focus on to clarify the underlying mechanisms of neuroprotection are still required.

RISK FACTORS IN THE APPEARANCE AND PROGRESSION OF THE DYPLASIC LESIONS FROM THE CERVIX – A RETROSPECTIVE STUDY

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BACKGROUND

In cervical dysplasia, the abnormal cells are found on the cervix and create the characteristic lesions, that could regress, persist or progress. Although cervical dysplasia can appear at any age, this pathology affects most often women between 25 and 35 years old.

OBJECTIVES

The purpose of this study is to investigate the risk factors correlated with cervical dysplasia in patients who are asymptomatic or who present symptoms at the moment of the examination.

MATERIAL AND METHODS

This study included 218 patients aged between 20 to 80 years old, that were diagnosed with cervix dysplasia. A retrospective study carried out between January 1st, 2016 and December 31, 2021 in the Clinical Hospital of Obstetrics and Gynecology "Dr. I. A. Sbârcea" Brasov. The different socio-economic and demographic aspects of women with an abnormal cytological test were studied. The data was collected from the patients' consultation sheets.

RESULTS

According to this study, the risk for cervical cancer begins to increase after 25 years old. From 218 patients who were identified with lesions with a possible carcinogenic evolution, the higher incidence was observed in the age range of 25 to 34 years (43%). The most common lesion that was found is high-grade intraepithelial lesion (HSIL) 90% compared to low-grade intraepithelial lesion (LSIL) 10%. The majority diagnosed with precancerous lesions were from the urban areas (79%) compared to the rural areas (21%). Most of the patients had an university degree or they graduated high school (70%). A bigger chance to develop precancerous lesions were seen at the women that had a greater number of sexual partners (49%) and at those who were smoking (60%). The risk factors that are connected with an inappropriate sexual behaviour, such as a sexual activity that begins before 18 years old (46%) , are associated with a higer danger in developing precancerous lesion during the lifetime of the patient.

CONCLUSION

In conclusion, there are various factors that can increase the risk of the cervical lesion that progresses into cancer. Some of the risk factors cannot be avoided, like the women's age or the enviroment. In most cases of cervical dysplasia, they may be prevented by behavioural modifications, such as reducing smoking and using contraceptive barrier methods.

KEY WORDS

Precancerous cervical lesions, cervical dysplasia, risk factors, intraepithelial lesions

THE EFFECTS OF COVID-19 INFECTION ON PREGNANCY OUTCOMES AND COMPLICATIONS – A SYSTEMATIC REVIEW

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OBJECTIVE:

To determine the prevalence of maternal complications, as well as the severity of maternal illness, in pregnancies affected by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), in comparison to those unaffected by the disease.

DATA SOURCES:

A systematic research of Europe PMC and Science Direct was conducted between the 1st of January 2020 and the 31st of December 2021. Different combinations of the following keywords were used: “COVID”, “coronavirus”, “Sars-Cov-2”, “pregnant”, “pregnancy”, “maternal”, “clinical”, “outcome”. The analysis was limited to reports with at least 10 pregnant patients with SARS-CoV-2 infection that reported on maternal outcomes.

METHODS OF STUDY SELECTION:

The inclusion criteria were pregnant women with a confirmed diagnosis of SARS-CoV-2 infection through rt-PCR/ PCR. All study types that contained comparisons between healthy pregnant women and those suffering from Covid-19, or among pregnant women with different disease severity were included. Exclusion criteria were studies with less than 10 Sars-Cov-2 positive participants and those that compared pregnant and non-pregnant women.

RESULTS:

Of the 5744 studies identified initially, 41 studies met all the inclusion criteria involving 430500 pregnant women, of which 11922 were Sars-Cov-2 positive. Those suffering from Covid-19 infection during pregnancy were at a higher risk of developing preeclampsia (8.79%) compared to (6.64%) in the negatives. Symptomatic illness was also associated with a higher risk (10.28%), compared to asymptomatic (7.69%). Gestational diabetes was more often seen in Covid (-) participants (11.87%), vs. (10.21%) in Covid (+), and in those who had the illness, a stronger correlation was observed in severe patients (8.89%) compared to (6.83%) in mild disease. Premature birth was observed in (8.85%) of the ill compared to (5.84%) in healthy pregnancies. Symptomatic disease raised premature birth rates to (18.65%) and severe disease to (29.10%) of deliveries. Stillbirth rates were more than double (0.73%) in those affected, compared to

(0.33%) in healthy pregnant women. Sars-Cov-2 positive participants suffered premature rupture of membranes in (12.27%) of cases compared to (10.88%) in controls. The same can be said about fetal distress syndrome (12.39%) vs. (4.46%). Finally, pregnant women suffering from Covid-19 had a significantly higher (3.33%) rate of ICU admission, compared to (0.44%) in healthy women.

CONCLUSION:

Due to the rapidly changing data on Covid-19 infection and pregnancy, results should be interpreted with caution. The present review suggests a higher rate of preeclampsia, premature birth, stillbirth, and higher ICU admissions in pregnant women who are Sars-Cov-2 positive. Complications also seem scale up with the severity of the disease.

THE INCIDENCE OF REGNANCY LOSS AT WOMEN WITH COVID-19 INFECTION – A SYSTEMATIC REVIEW

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Objective

The association between severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection in the first half of pregnancy and pregnancy loss is still unknown. The purpose of this review is to identify if SARS-CoV-2 infection in pregnancies increase the risk of abortion.

Data Sources

For this paper, we used Pubmed, SCOPUS, Google scholar and Medline databases as a search engine using keywords in different combinations such as: Covid-19, SARS-CoV-2, abortion, miscarriage, pregnancy loss and obstetrical outcomes. This review included articles published from December 2019 to January 2021.

Methods of study selection

In this study we included prospective or retrospective observational studies, clinical case series and cohort studies. Other criteria to include studies were those who contain data on pregnant women with SARS-CoV-2 infection confirmed using a PCR test and studies that included pregnant

women in the first trimester or second trimester which have data about pregnancy loss at gestational age less than 24 weeks.

Results

From the 1507 studies identified initially, 34 studies were included in this review, who met the inclusion criteria: 5 observational studies and 29 case reports. Were involved 34 164 pregnant women, of which 17 599 were SARS-CoV-2 positive. There were reported 325 cases (1.84%) of abortion in pregnancies covid-19 positive compared with 121 cases (0.73%) in negative covid-19 pregnancies. From 325, 59 (18.15%) abortions were in the first trimester, 34 (10.46%) in the second trimester and 232 (71.38%) cases do not have data about the time of abortion.

Conclusion

Based on the data in the current literature, the miscarriage rate (<24 weeks) in women with SARS-CoV-2 infection is in the range of normal population. We observed an increase rate of Covid-19 abortion in the second trimester. Well-designed studies are urgently needed to determine whether SARS-CoV-2 infection increases the risk of miscarriage during periconception and early pregnancy.

THERAPEUTIC MANAGEMENT OF ENDOMETRIOSIS OVARIAN CYSTS – A SYSTEMATIC REVIEW

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OBJECTIVE:

The purpose of this paper is to analyze surgical, medical therapeutic interventions and combination of both managements, on the control of chronic pelvic pain within the pathology and recurrence of ovarian endometriomas.

DATA SOURCES:

For this systematic review were used articles searched on medical databases such as PubMed, Google Scholar, published between 2016-2022. Different keywords were used for the search: „Endometriosis”, „Endometrioma”, „Pelvic pain”, „Infertility”.

METHODS OF STUDY SELECTION:

The inclusion criteria in this systematic review were clinical trials evaluating different types of management: imaging, pharmacological treatment and surgical treatment. Subjects with ovarian endometrioma accompanied by chronic pelvic pain, and/or dysmenorrhea were analyzed. The objective was to observe the pelvic pain after the intervention, comparing the surgical treatment to the drug treatment. The second inclusion criteria was the recurrence of ovarian endometriomas after ablative and excisional surgical treatment. The risk of recurrence of symptoms was monitored by comparing the surgical treatment alone to the surgical treatment associated with pharmacological treatment, administered postoperatively.

RESULTS:

Following the inclusion and exclusion criteria, there were selected a number of 36 studies, out of the 4226 systematic reviews initially found. Resulting out of the first objective, which tracks the effects of hormone treatment on chronic pelvic pain, improvements can be seen in reducing symptoms in patients with endometrioma. The effects of hormone treatment are as follows: Elagolix (89%), IUD LNG (Intrauterine Device with Levonorgestrel) (73%), Progesterone (87%), COC (Oral Combined Contraceptives) (83%). Within the second objective, the minimal invasive laparoscopic surgery brings benefits in reducing symptomatology of ovarian endometriosis, as well as the prevention of recurrence in ovarian endometriotic implants. The benefic results for these are as follows: 635 patients who underwent surgery , 591 patients (93.07%) showed a significant reduction in pain, 44 patients (6.93%) reported no changes in to the detriment of pain, 59 cases suffered recurring, 53 patients required additional interventions.

CONCLUSION:

Excisional surgery for ovarian endometriomas gives a more favorable result than drainage and ablation in terms of the risk of recurrence, recurrence of pain symptoms, previously subfertile patients who increase the chance of spontaneous pregnancies. All combined oral contraceptives, GnRH analogues, Progesterone and Elagolix (an oral GnRH analogue) were the best approaches in reducing pain associated with endometriosis.

DISORDERS OF GUT-BRAIN INTERACTION – WHAT IS NEW?

L.Nedelcu – University Transylvania Brasov

Functional gastrointestinal disorders are common diseases encountered in the clinical practice. The appropriate and accepted term of this pathology is Disorders of Gut-Brain Interaction. A lot of criteria for classification have been developed over time (Roma criteria). The latest Rome IV consensus was presented in May 2016.

Recently The Rome Foundation proposes a modification of the diagnostic criteria for clinical practice. These criteria do not replace the standard Rome IV criteria for clinical trials or epidemiological studies, but will improve patient acceptance and reduce unnecessary diagnostic studies. The main changes related to Qualitative symptom criteria, Bothersomeness, Frequency and Duration criteria. The main differences between organic and functional gastrointestinal diseases are discussed together with the biopsychosocial conceptual model.

A critical analysis of the role of dietary intervention was made, including Fiber supplementation, Elimination diets, Low Carbohydrate Diet, Low Fructose Diet, Low/No Gluten Diet and Low FODMAPs Diet.

The current information requires active dissemination among patients and healthcare professionals.

ILIZAROV EXTERNAL FIXATION AS A TREATMENT OPTION FOR ANKLE'S SEVERE POST-TRAUMATIC COMPLICATIONS – CASE SERIES

Necula Bogdan-Radu

Coordonator: Lecturer Necula Radu-Dan MD, PhD

Background

The external fixation is the last treatment option, for a selected group of patients with high comorbidities or septic complications. The invention of the circular fixation by professor G.

Ilizarov has offered a treatment method for complex tridimensional deformities, limb salvage and limb lengthening.

Aims

This study observes the evolution of patients for whom the circular external fixation has been used because of its biomechanics advantages. The aim of the research is to note the benefits of using the Ilizarov fixator.

Methods

The patients included in the study have been admitted to the orthopaedic department of the County Hospital of Brasov between 2018-2022, diagnosed with ankle pathology, treated using an Ilizarov fixator, and followed up for 1 year. To quantify their evolution, we have compared the time wearing the frame, the AOFAS score, and the complication rate.

Results

We have selected seven patients by applying the inclusion criteria. Those have been clustered into three categories: open fractures, septic pseudarthrosis and complex deformity. The mean time of wearing the frame has been 13 weeks in the open fractures group, 33 weeks in the second group and 15 weeks for patients with complex ankle deformities. AOFAS ankle hindfoot score has improved by 30 points in the first category, 50 points in the septic pseudarthrosis cluster and 43 points in the last group.

As for the complications have been divided into haemorrhagic and septic. We have observed minimal haemorrhagic complications during the implantation surgery. No pin tract infection has been marked.

Conclusion

To conclude, the Ilizarov fixator is a suitable option for treating tridimensional ankle deformity as shown by the improvement of the AOFAS score. Septic pseudarthrosis is an indication for using this fixator. This method is preferred in the treatment of unstable patients, as the haemorrhagic complications are minimal and do not alter the clinical status of the patient.

Key words: Ilizarov; external circular fixator; septic pseudarthrosis; complex ankle deformity

HUMAN RESOURCES DURING COVID-19 PANDEMIC, A CHALLENGE FOR PRIMARY CARE – BRAȘOV EXPERIENCE

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During the Covid-19 pandemic, one of the most challenging tasks of healthcare system coordinators was to ensure human resources in the community for new tasks such as triage of patients, testing, home monitoring and vaccination. The process needed to put in place new locations of care, to ensure their functioning, training of the human resource, coordination and financial reimbursement mechanisms. The state was not always sensitive to the needs in primary care but spontaneous coagulation of healthcare workers from the community, starting with family doctors and nurses, school doctors and nurses, community nurses, dental doctors and nurses, emergency doctors and nurses, doctors and nurses from the social system and even hospitalists has proven the sense of responsibility and devotion to the wellbeing of patients.

For most health professionals, doctors and nurses, 2020 has been extremely difficult. We all faced a new, treacherous changing enemy, about whom we read new things every day. We lived and worked under increasing pressure, both in hospitals and in family medicine practices. Society projected us between extremes, from holy martyrs to perfidious criminals.

That's why when the vaccine became a reality, towards the end of the year, we felt that we could breathe again and that there was a possibility of an end to this nightmare.

In this article, we present the experience from the vaccination campaign in Brașov County and the involvement of the primary care team.

It should bring into the agenda of the Ministry of Health the need to support primary care teams and to facilitate intersectoral cooperation in the organization of primary care Health centers.

THE GUT MICROBIOTA – BRAIN AXIS

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A growing body of evidence of contemporary research is revealing a very complex “conversation” between the gut microbiota and the brain. Microorganisms in the gut may influence the brain through their ability to produce and modify certain metabolic, immunological and neurochemical factors that ultimately impact the nervous system. This new perspective has led to a flood of research correlating microbial communities, and their function, to neuropsychiatric disorders associated with development (autism spectrum disorder (ASD) and schizophrenia), mood (depression and anxiety) and neurodegeneration (Parkinson disease (PD), Alzheimer disease (AD) and multiple sclerosis). The ‘gut–microbiota–brain axis’ refers to the network of connections involving multiple biological systems that allows bidirectional communication between gut bacteria and the brain, and is crucial in maintaining homeostasis of the gastrointestinal, central nervous and microbial systems. The communication pathways in these biological networks include both direct and indirect signalling via chemical transmitters, neuronal pathways and the immune system. New technologies are being developed to move beyond correlative studies to the discovery and validation of biological mechanisms of action that offer real potential to new diagnostic and therapeutic options to prevent or even treat neurologic and neurodegenerative conditions. Continued advances from this frontier of biomedicine may lead to tangible impacts on human health.

EMERGENCY SUBTOTAL COLECTOMY FOR DIGESTIVE BLEEDING THROUGH DIFFUSE COLIC POLYPOSIS IN A PATIENT WITH WARFARINE OVERDOSE – CASE REPORT

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Introduction: Major surgery for severe inferior digestive bleeding remains a challenge due to intraoperative difficulties and associated morbidity and mortality.

Case-report. We report a 70 years old patient, with a history of dementia and an axilo-bifemoral by-pass performed for aorto-iliac obstruction. The patient was emergency admitted with important rectoragia and signs of hemorrhagic shock, in the context of a warfarine overdose (INR at admission 7.2). The persistence of rectoragia after the correction of INR, the impossibility to visualize the source of bleeding through endoscopy and the risk of by-pass thrombosis required emergency surgery with subtotal colectomy with ileo-rectal anastomosis. The postoperative course was difficult but slowly favorable. The pathologic examination of the operative specimen showed a diffuse colic polyposis, some polyps being with severe dysplasia but without malignant transformation.

Conclusions: The case is interesting due to the association colic polyposis – warfarine overdose, which required a subtotal colectomy for hemostasis.

BRAIN IMAGING IN PATIENTS WITH ACUTE PSYCHOTIC EPISODE

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Background: Studies of brain alterations in the early stages of psychotic disorders are crucial for understanding the neurological foundations of acute psychotic episodes and schizophrenia. Some of these anomalies appear to progress throughout the early years of psychosis and remain far into the chronic periods.

Aims: The aim of the study is to see if structural changes in the brain occur in patients experiencing their first psychotic episode, and if these changes alter as the disease progresses.

Methods: Retrospective study of 150 patients admitted to the Clinical Hospital of Psychiatry and Neurology Brasov, Romania, between 2019 and 2021. Patients were divided into three groups: 50 patients who were undergoing a first psychotic episode, 50 patients who had been diagnosed with schizophrenia for at least 5 years, and 50 patients who had not been diagnosed with a psychotic disorder. All of the patients underwent a brain CT scan, which was then analysed by an expert.

Results: When compared to the control group, patients in their first psychotic episode had reduced brain volumes, larger lateral ventricle volumes, and progressive cortical thinning in the superior and inferior frontal cortex. This was more noticeable in the group of patients diagnosed with schizophrenia. This could be due to both disease progression and the effect of antipsychotic medication.

Conclusion: There is growing evidence to prove that schizophrenia is associated with progressive brain abnormalities, especially in the early stages of the illness. Neuroimaging research in subjects with psychotic disorders has improved our understanding of the pathophysiology of these disorders, but more research is required.

Key Words: first-episode psychosis, brain imaging, computed tomography, schizophrenia, brain structure.

WEST NILE VIRUS NEUROINVASIVE DISEASES, 1996-2019, DR VICTOR BABEȘ CLINICAL HOSPITAL OF INFECTIOUS AND TROPICAL DISEASES EXPERINECE

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West Nile virus is an arthropod-borne virus, transmitted especially by mosquitos in a zoonotic cycle that include birds as reservoir and amplifiers and dead-end hosts (humans and horses). 80% of infected patients are asymptomatic, 20% have febrile illness and less than 1% of infections involves central nervous system.

Eight lineages are known, with only two, lineage 1 and 2, associated with the disease in humans. In 1996, Romania experienced first large human outbreak of West Nile virus neuroinvasive disease with hundreds of cases produced by lineage 1. Until 2010 only sporadic cases were registered in Romania (78 cases in 13 years).

New epidemic outbreaks produced by lineage 2 have been documented in our country since 2010, with an increase in mortality and disease severity. Co-circulation and replacement of strains were reported and were linked with increase of neurovirulence, neuroinvasiveness, efficient vector transmission and dissemination, increased and sustained viremia in birds, leading to high epizootic potential and higher mortality rates.

Studies from our hospital showed a high mortality rate occurred during 2016–2017 and that coma, confusion, obtundation, sleepiness and depressed deep tendon reflexes were symptoms predicting a severe outcome. Cancers, cardiovascular diseases and age older than 75 years were risk factors for mortality.

Clinicians should be aware of the WNV neuroinvasive infection with a special focus on risk groups with the highest mortality rates.

POSSIBLE ETIOLOGIES OF PNEUMOPERITONEUM DETECTED BY COMPUTER TOMOGRAPHY

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The obstruction of a diverticulum's neck, with subsequent inflammation, perforation and infection, which occurs mostly in the sigmoid colon is the definition of colonic diverticulitis.

MDCT with intravenous and oral contrast is the primary imaging method used for diagnosis of diverticulitis, in order to assess the abdominal cavity for colon perforation resulting in pneumoperitoneum, for detecting abscess or fistula formation, bowel obstruction or associated vascular complications.

Colonic carcinoma presents similar imaging findings, making the differential diagnosis very important, because of different treatment options.

In case of diverticulitis, a longer colon segment is involved than in case of colon carcinoma, pericolic fat stranding, and different (stratified) mural attenuation pattern.

Colon cancer is visualized MDCT as an irregular surface and asymmetric mural thickening, there is pericolic extension of the tumour into the adjacent structures and there can be found metastasis in the regional lymph nodes, peritoneum and liver.

In case of complicated diverticulitis and colon carcinoma, the appearance of the pericolic abscess, fistula and pneumoperitoneum resembles to that of complicated inflammatory bowel disease such as Crohn's disease. Moreover, affected intestines in Crohn's disease can suffer malignant transformation. CT findings that plead for Crohn's disease are the discontinuous asymmetric wall thickening, the narrowing of the intestinal lumen (minimal in the acute phase and increased in the chronic, cicatrizing phase), the different mural attenuation pattern with low density middle ring in the acute phase, possible lymphadenopathy, loss of stratification and homogenous attenuation of thickened bowel wall during the chronic phase.

The purpose of the current study is to compare through MDCT imaging the aspect of the developed complications in case of the three colonic diseases mentioned above (pneumoperitoneum, abscess or fistula formation) and the extent of colonic involvement in each of the diseases.

PREDICTORS OF ATRIAL FIBRILLATION RECURRENCE IN CARDIOVERTED ISCHAEMIC PATIENTS USING OUTPATIENT HOLTER ECG MONITORING

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Aim: Established Atrial Fibrillation remains a significant cause of disability and morbidity worldwide accounting for a significant amount of preventable hospitalizations. Predictors of late recurrence of Atrial Fibrillation (LRAF) analyzed by follow up Holter Electrocardiography were evaluated in a group of patients with coronary artery disease whom have undergone medical or electrical cardioversion.

Material and methods: An analytical retrospective study comprising of 330 patients seen in the outpatient setting (*mean age: 67 years, 47% women, paroxysmal AF: 75%*), without recurrence of

AF within 12 months and without antiarrhythmic drugs use. Potential predictors of AF recurrence in Holter electrocardiography analysis used were: the atrial premature complexes (APC) burden; the prematurity index of the APC, and the profile of the APC, as well as ischaemic load (1mm ST segment depression for at least 1 minute).

Results: Twenty five percent of patients (25%) had LRAF during the follow-up period. The cumulative incidence of APC burden in the patients found with LRAF (0.310% [95%CI, 0.078 to 1.308]) was significantly greater than in those without LRAF (0.128% [95%CI, 0.051 to 0.478], $p=0.020$), shorter minimum prematurity index of the APCs (45 ± 7 vs 54 ± 8 , $p=0.001$), and longer number of APC run 6 (4 to 12) vs 3 (0 to 6), $p=0.015$. The optimal cutoff value for the APC burden, maximum number of APC run, and minimum prematurity index of the APC to predict LRAF was 0.160%, 10%, and 50% respectively. Ischaemic load was also higher among patients with LRAF (30%) presented ischaemic loads for at least 1 minute on Holter EKG. The multivariate analysis using Cox regression method proved that the minimum prematurity index of the APC ($\leq 50\%$) was strongly associated with LRAF.

Conclusion: In patients with late recurrence of atrial fibrillation without antiarrhythmic drugs, the minimum prematurity index of the APC ($\leq 50\%$) found on outpatient Holter ECG monitoring at 12 months after conversion can be considered an independent predictor of arrhythmia recurrence and could play an important role in further deciding therapeutic strategies and long term follow-up.

CONSERVATIVE MANAGEMENT OF SPONTANEOUS ILIOPSOAS HEMATOMA AFTER ANTICOAGULANT THERAPY WITH HGMM IN PATIENTS WITH SARS-COV-2 INFECTION – CASE REPORT

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Introduction

Spontaneous hematomas are one of the complications caused by anticoagulant therapy and can have severe potential. The clinical manifestation of spontaneous hematoma of the iliopsoas muscle is nonspecific and may cause severe pain, mimicking neurological or orthopedic disorders by muscle impairment, including paresthesias or paresis of the lower limb due to compression of the nerve plexus. Therapeutic approaches are not well established, ranging from conservative therapy to surgery or arterial embolization.

Case report

A 78-year-old patient with known hypertension is hospitalized for myalgia, cough, fever, dyspnea. At admission, the patient has a moderately altered general condition with altered biological values and positive SARS-CoV-2 test. The specific treatment of SARS-CoV-2 is administered according to national guidelines, treatment that includes also HGMM anticoagulant therapy.

At 14 days after hospitalization, the patient is transferred to the urology department due to severe diffuse abdominal pain, in the right iliac fossa and in the right lower limb and a sudden decrease in hemoglobin. Abdominal CT scan with contrast is performed and spontaneous retroperitoneal hematoma of right iliopsoas muscle is revealed. Due to the SARS-CoV-2 infection, the hemodynamic stability of the patient and the present coagulation status, the conservative treatment is decided and the anticoagulant therapy is interrupted.

CT reevaluation is performed every 2 days with no significant changes in the size of the hematoma and no signs of active bleeding. Following the slow favorable evolution under hemostatic treatment, with the administration of CERUA and PPC and the stationary appearance of the retroperitoneal hematoma, the indication for conservative treatment is maintained.

After 6 days, the patient's general status changes and he is transferred to ICU where he dies due to complications of SARS-CoV-2 infection.

Conclusions

Anticoagulant therapy, also administered to SARS-CoV-2 patients, may cause bleeding complications such as spontaneous retroperitoneal hematomas. In case of their occurrence, different therapeutic methods can be approached, the conservative treatment being preferred in less severe cases, in patients with hemodynamic stability.

THE NEED FOR AN INTERDISCIPLINARY APPROACH AND NEW THERAPIES IN FOURNIER GANGRENE PATIENTS

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Fournier gangrene is a fast-spreading type of necrotizing fasciitis and a life-threatening condition marked by necrotizing fasciitis of deep and superficial planes the perineal, genital, or perianal region caused by synergistic polymicrobial gangrenous infection.

The condition is one of the few urological emergencies that necessitates immediate surgical debridement and antibiotic treatment due to the inflammation that spreads along fascial planes and nearby soft tissue in order to reduce morbidity and mortality.

Diabetes, immunodpression, liver cirrhosis, dyslipoproteinemia, acute and chronic renal failure, alcoholism, malignancies, malnutrition, perineal infections, morbid obesity, paraphimosis, acute arterial obliteration represents predisposing factors for the development of Fournier Gangrene.

Although disease's prognosis has not improved in the recent years, for a favourable clinical outcome it is critical to make an early choice to investigate and extensively debride the necrotic tissue. Patients should be closely watched and handled by a multidisciplinary team.

Several treatments like hyperbaric oxygenation, vacuum-assisted wound closure and maggot therapy represents new promising wound conditioning techniques. The use of intravenous immunoglobulins is supported by minimal evidence, although there is a theoretical benefit to neutralizing streptococcal toxins in necrotizing fasciitis patients with toxic shock syndrome. Therapeutic plasma exchange has been proposed as a method of removing inflammatory mediators. Further studies are needed regarding the roles of this new therapies.

Fournier Gangrene remains a serious disease with a poor prognosis necessitating the urgent development of new therapies that could only be accomplished through further research.

Key words: Fournier Gangrene, necrotizing fasciitis, debridement, immunoglobulins.

ANATOMICAL VARIANTS OF THE RENAL ARTERIES, ANATOMICAL AND IMAGING STUDY

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INTRODUCTION:

Renal arteries present the greatest anatomical variability in the whole organ, both in number and morphology, due to the laborious embryological process and the ascension of the kidney from the pelvis to the abdomen. They represent embryological vestiges of the kidney's blood supply. The

accessory renal arteries (ARA) can also access the kidney through parts other than the hilum: superior pole, inferior pole or anywhere on the surface of the kidney. **MATERIALS AND METHODS:**

This study is a review and all information was selected by accessing the PubMed platform, searching for the terms: 'Anatomical variants of renal arteries'. The articles included in this study were published from 2012 to 2020, accumulating a total of 15 papers. A total of 1956 subjects were analysed in the study, with an average age ranging from 0- 99 years. Methods used: Subjects were selected based on renal contrast-enhanced CT angiography (MDCT)- Multiple Detector Computed Tomography and cadaveric dissections. Exclusion criteria from the study included clinical and abdominal surgical pathologies that may alter the renal anatomical appearance. The topography of the renal arteries was analysed taking into account the origin of the blood vessels at the aortic wall, their branching and site of effusion. **RESULTS:** Incidence of renal arterial anatomical variations was identified in 598 (30.57%) of cases. Accessory renal arteries had mostly aortic artery as origin (36.27%). Other origins of accessory renal arteries were: principal renal artery (5.73%), or branches originating from common iliac artery (0.18%). For the right kidney, the renal hilum is the predominant site where arteries enter the kidney (79%), the superior renal polar region (5.3%), the inferior polar region (2%). Double accessory renal arteries were identified in (6.4%) of the participants. For the left kidney, a single renal artery was found (93.6%) of cases, two renal arteries (6.4%). The point of penetration of the artery into the kidney is predominantly through the hilum (79%), but there may be variations: upper renal pole (2.6%) and lower renal pole (3.3). **CONCLUSIONS:**

The origin, number and topography of accessory renal arteries is complex, associated with the complex embryological process of renal vasculature development. Accessory renal arteries are present in approximately 30% of cases, with the most common form having the hilum as the access point to the kidney. Double renal arteries are common variations found as renal anatomical variants. The importance of knowing these anatomical variants is necessary in renal transplantation and minimally invasive surgery.

KEYWORDS: renal arteries, anatomical variants, accessory renal arteries.

IMAGING AND DISSECTION EVALUATION OF CELIAC TRUNK BRANCH VARIANTS

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Introduction:

The celiac trunk is the main source of vascularization of the upper abdominal floor, being the site of multiple anatomical abnormalities. Aims: To assess the literature in relation to the incidence of anatomical variants of the celiac trunk and its branches discovered by both imaging and dissection methods. The origin of the celiac trunk in the aorta, its branching, the origin of the branches of the celiac trunk, and the comparative assessment of these methods were evaluated. The aim was also to assess the average incidence of these anatomical anomalies of particular importance for abdominal organ surgery.

Material and Method:

The study is of review type obtained from 40 bibliographic sources, including case studies, literature works, books as well as other specialized publications. Bibliographic sources were found on PubMed website, Google Scholar, National Library of Medicine and in libraries for cited books. Publications in English were included, excluding studies on samples of less than 10 patients, as these were not sufficiently conclusive. Results and discussion: Celiac trunk anomalies are quite common, so that an average of 20% was observed in studies of the European population. Some authors noted that different anatomical variants had a higher prevalence depending on the geographical area from which the samples were selected, the study conducted in Kenya showed 60% of patients as having a normal celiac trunk. Araujo Neto noted that 90% of patients studied had no anatomical variants on CT, while 8.3% of patients had a hepatosplenic trunk and 1.7% had a hepato-gastric trunk. Marco-Clement I. points out in "Anatomical variations of the celiac trunk: cadaveric and radiological study" that type 1 of celiac trunk (complete) was found in 90.5% of cases; type 2 - incomplete celiac trunk was found in 9.5% of cases. Types 3 (absence of celiac trunk) and 4 (celiac-mesenteric trunk) were not captured in the study. Patients with type 1 celiac trunk were divided into type 1a - bifurcated celiac trunk in 57.6% cases, type 1b - trifurcated trunk in 32.1% cases and type 1c - tetrafurcated trunk in 0.8% cases. Among the cases with trunk type 2, 4.5% cases with hepatosplenic trunk, 5% cases with gastrosplenic trunk were noted. No differences were found between the results of the dissection and CT study, age difference and gender were not statistically significant variables.

Conclusions:

Knowledge of the anatomy of the celiac trunk and its vascular branches is of paramount importance, especially before surgery, the easiest method to observe it being imaging. Certain anatomical variations may alter the surgical technique or contraindicate certain techniques with increased risk of bleeding as well as some laparoscopic approaches. An average of 5% of the subjects studied in the articles cited had more than one anatomical variation which required a correct assessment of the vasculature for surgical success considering that the method of choice for the assessment of branches is computer tomographic angiography.

Key words: celiac trunk, anatomical variants, left gastric artery, hepatic, splenic, computed tomography.

TACHYCARDIOMYOPATHIES – AN UNDEREVALUATED PROBLEM

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Background: Arrhythmias have been long considered part of the clinical presentation of heart failure (HF), but supraventricular or ventricular tachyarrhythmias alone can result or trigger a reversible nonischemic CM.

Methods: The current study is a retrospective review of the files of patients admitted to our clinic with arrhythmias in the previous two years to identify individuals with arrhythmia-induced cardiomyopathy (AiCM).

Results: AiCM has been discovered in 9 (6, 6%) cases out of 136 patients referred for ablation. Atrial flutter affected four individuals (all males), ventricular premature beats/ ventricular tachycardia affected four patients (two females), and atrial fibrillation affected one male patient. The average age was 54, 77 ± 13.27 years (32-73), and the average left ventricular ejection fraction (LVEF) was 36, $44 \% \pm 7$, 52. The patients having atrial flutter/fibrillation were all men and slightly older (58, 8 ± 8.97 years) than patients with ventricular premature beats (49.75 ± 7.9 years). Arrhythmias were treated with RF ablation, and all patients received standard HF treatment. All the arrhythmias were effectively ablated using a 3D mapping technique for premature beats, ventricular tachycardia, and atrial fibrillation ablation. The results were assessed one month and three months after the ablation procedure. Three patients - one with VT and the other two with flutter - did not reach a normal LVEF after one month of FUP. Co-morbidities were found in all

three of these patients (re-vascularized ischemic disease, hypertension). LVEF was normalized in all patients after 3 months of follow-up, increasing from a mean LVEF of 50 ± 6 , 23 at one month to 56.66 ± 4.08 after 3 months.

Conclusion: AICM is not an infrequent disease and in these patients, the elimination of arrhythmia by ablation leads to the normalization of the LVEF in about three months after procedure.

RETROSPECTIVE STUDY ON THE ETIOLOGY OF TRAUMATIC LIVER RUPTURES IN PEOPLE WHO DIED IN 2020 IN BRASOV

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Introduction

The liver is the most vulnerable organ to blunt abdominal trauma, because of its anatomical position and also due to its friability. This study aims to investigate the incidence of liver ruptures, and also the etiology and the mechanism of traumatic injuries.

Material and methods

This retrospective study was conducted at the Brasov County Legal Medicine Service and included autopsy cases from year 2020, in which hepatic ruptures were described.

Results

There were 27 cases studied, of which 66.67% were men and 33.33% were female, with an average age of 49 years. Of the total number of cases, 40.74% were the consequence of road accidents, including 22.22% of pedestrians. The second cause of traumatic injuries was falls from height, with 18.52% cases. The majority of liver ruptures were consequence of blunt abdominal trauma- 88.89%. The liver ruptures were associated in 59.26% of the cases with other, abdominal or extra-abdominal injuries, sometimes vital lesions responsible for death. In cases of polytrauma, the following viscera were affected: pleura and lungs- 21 cases, meninges and brain- 10 cases, heart- 10 cases, kidneys- 8 cases, spleen- 7 cases. The most affected injured site was the diaphragmatic surface.

Discussion

Data from literature show road accidents as the main cause of traumatic liver rupture, with a high prevalence in males. Blunt abdominal trauma is the most described situation.

Conclusion

Traumatic liver ruptures are frequent cases of polytrauma and sometimes are associated with other vital lesions responsible for death. The anatomical factors are responsible for the site of injuries, while the injury mechanism is responsible for the type and severity of lesions.

Keywords: traumatic liver rupture, polytrauma, anatomy of the liver, blunt abdominal trauma

TURNER SYNDROME – CASE STUDY

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1. Introduction and objectives of the study

Turner syndrome, known as nullisomy X, is the only life-compatible monosomy. Being a classic aneuploidy, defined as gonadal infantilism, it affects between 1/2500 to 1/5000 live newborns, female. In these patients the second sex chromosome is completely absent. Thus, the formation of the gonad is defective resulting in a dysgenetic gonad. The diagnosis is made in 2/3 of cases postpartum, due to the risk of miscarriage in 95% of cases.

The aim of the study was to describe the anatomical and clinical features of a 54-year-old patient with a confirmed cytogenetic diagnosis of Turner syndrome, who had received postpubertal gonadotropic hormone replacement therapy.

1. Material and method

We considered the case of a patient with monosomy X, documented by karyotype and Barr test, of female sex chromatin, to highlight the macroscopic dysmorphic peculiarities compared to the classic case series. Medically documented anamnestic, cytogenetic, paraclinical, imaging data were used. Classical as well as particular dysmorphisms were analyzed during the clinical examination. The diagnosis was supported by the use of heart-lung X-ray examination, echocardiography, abdominopelvic ultrasound, Barr test, ENT examination and gynecological examination, elements proposed as an objective of study.

2. Results

Craniofacial dysmorphic features revealed microcephaly, pterygium colli, as well as a short neck, pointed palatal arch. Hypostaturality (147 cm), low ear insertion, long intermammary distance, discrete hypertelorism and cubitus valgus supported the particularity of the case. The presence of nasal voice and bradypsychia, accompanied by a slight dysarthria support the diagnosis. The quasi-abnormal presence of mammary glands with a lack of axillary hair as well as cardiomegaly and middle aortic stenosis were detected. Uterine hypoplasia was detected.

3. Discussions

The presence of only some of the classic signs at the clinical and paraclinical examination are explained by the estrogen-progestational hormone replacement used post-puberty, with the induction and partial maintenance of secondary sexual characteristics, even after therapeutic abandonment. The peculiarity of the case consists in the development of the uterine hypoplasia, as well as of the mammary glands, in contrast to the specialized literature.

4. Conclusions

The anatomical and clinical peculiarities of the patient consisted in the quasi-abnormal morphological development of the secondary sexual characters, due to the temporary hormone replacement treatment.

Keywords: Sdr. Turner, pterygium colli, ogival palatine vault

ETHICAL LIMITATIONS REGARDING THE IMPLEMENTATION OF STEM CELL THERAPY

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As a result of deciphering the DNA code and studying stem cells, it is being foreseen that in short time many hereditary diseases and malformations will be eradicated through the conclusions obtained in these studies and therefore newborns will benefit from medical discoveries.

Stem cells can be stored in a specialized bank and used in curing severe diseases affecting children. In the last years only two thousand Romanian women applied for this technique.

Stem cells have the ability to regenerate abnormal organs. The departure point was set by successfully cloning in 1996 the Dolly sheep, after 276 attempts.

Pregnant women will be able to donate stem cells which would be used later on, in case their children become ill. The first public stem cell bank in Romania has been opened inside the County Hospital of Timișoara

PARTICULARITIES OF THE VASCULARISATION OF THE PINEAL GLAND

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Introduction: Epiphysis is an endocrine neurotransductor.

First objective was that pineal gland has an extremely developed vascular supply. This study -particulare aspects of the kind of vascularisation .

Material and method:

Epiphysis - gathered with the habenular commissure

- Fixation - in formol 10% for 2-3 days and then: 1. Dehydration 2. Clearing 3. Paraffin treatment 4. Including 5. Sectioning 6. Pasting the sections 7. Coloring the sections

Results: The epiphysis –between 2,1-8 mm / 3-3,9 mm.

- Between the epiphysis and the diencephalon - no clear anatomical → induce a “palisade” look
- Pinealocytes- in curled cordons –less vascularisated then the one with cells “dumps” → granular incomplete “lobs”

Discussions:

1. the formation of the follicles-central lumen
2. there are present acidophil cells ,laid in “thimble” → seems like the “photoreceptors”
3. Exist other types of cells
4. Conjunctive tissue –reduced

Vessels of all the types pass:

- After the age of 3-4 years ,the central areas degenerate progressively → necrobiosis
- The degenerescence → digitale epiphysis and for isolated islands.

Conclusions: → The pinealocytes are: glial cells, neurons, lymphocytes, macrofages

→ pinealocytes - ¼ from them persists

→ restante pinealocytes - source of melatonin

- secretion is photochemical regulated

Keywords: “palisade”, “dumps”, “photoreceptors”

Remained pinealocytes - melatonin