diagnosed with immunohistochemistry. Microscopic examination of the tumour revealed the presence of poorly defined nests and strands of undifferentiated epithelial tumour cells, admixed with prominent lymphoplasmacytic inflammatory infiltrate. Immunohistochemical staining of the neoplastic epithelial cells demonstrated positivity for epithelial markers and was negativity for ER, PgR, HER2, AR, p63, CK5/6. The lymphocytes were predominantly CD3 positive, with focal CD20 positivity. The differential diagnosis included medullary, metaplastic, and lobular carcinomas of the breast, as well as primary breast lymphoma. This case represents a scarce variant of breast cancer. The morphological diagnosis is based upon a thorough histological and, additionally, immunohistochemical examination.

Key words: breast carcinoma, lymphoepithelioma-like carcinoma, immunohistochemistry

PEDIATRICS AND MEDICAL GENETICS

PLENARY LECTURE

IMPLEMENTATION OF LABORATORY GENETICS IN NORTH-EAST BULGARIA DIAGNOSTICS IN THE GENOMICS AGE

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Summary

The Laboratory in Medical Genetics in Varna turned 16 years in June 2019. It was founded as a genetic center, based in the University Hospital "Saint Marina" to provide patients and their families with qualified laboratory genetic tests and counseling. The aim of this announcement is to present the structure and the dynamic activity from foundation in 2003 to present days and upcoming perspectives. The molecular-cytogenetic section had gradually introduced conventional chromosome analysis of lymphocytes (2003), bone marrow (2004), amniocytes (2006), fibroblasts (2012) and fluorescent in situ hybridization (FISH) analysis (2016) of onco-hematological diseases. The biochemical screening section was the first out-capital division (2005) involved in mass genetic prevention in our country. The molecular – genetic division for genetic predispositions and DNA banking of patients with rare diseases started in 2014. Hematopoietic stem cell transplantation started in 2015 at the Centre of Translational Medicine and Cell Therapy. From

the implementation to the end of 2018 a total of 4053 patients were studied by conventional chromosome analysis of lymphocytes, 2 952 patients from bone marrow samples, 801 from amniocytes, 72 patients by FISH analysis. The biochemical screening test served 40 058 pregnant women; DNA analysis for thrombophilia, celiac disease, Y microdeletions, fragile X, HLA immune tolerance was applied to 225 patients and 664 patient samples were banked. A total of 89 transplantations – 65 autologous and 24 alogenetic HSCTs were performed, mostly on adult patients. This year conventional sequencing by Multiplex Ligation-dependent Probe Amplification was tested as an effective first-tier diagnostic test for screening patients with microdeletion and microduplication syndromes and a good alternative option for cytogenetic laboratories where aCGH and NGS techniques are not readily available. Despite the development in the technology of NGS and increases in computational power for complex data analysis, the interpretation of results and conveying this information to the patient, have been lagging behind. Annually around 3 000 patients require genetic counseling (in total 44 161) about various genetic conditions, predominated by outpatients from Obstetrics and Gynecological clinics. New tools provided by next generation sequencing opened novel questions related to informed patient consenting, reporting of unwarranted finding and genome-based identifiability, which are key points for discussion before implementing the new technologies into clinical practice. We consider extremely significant development with steady tendency of increase in number and types of genetic investigations and consultations in Varna. All the activities give stable am good background - the strategy for development in the fields of research in Varna Medical University make it probable that total genome analysis by next-gene sequencing will occupy a central place in close future. Now we see this technology pushing towards medical applications, dramatically changing the way for target therapeutic approaches.

Key words: genetic laboratory, new genetic approach, genetic service

ORAL PRESENTATIONS

CONGENITAL CYSTIC ADENOMATOUS MALFORMATION

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Summary

Congenital cystic adenomatous malformation (CCAM) is known in the past as "polycystic lung disease". It can be combined with abnormalities of the excretory system, cardiovascular system, intestinal atresia, diaphragmatic hernia or skeletal anomalies. CCAM is most commonly diagnosed prenatally. It is caused by adenomatous proliferation of bronchial structures and the formation of cysts instead of alveoli, usually during 7th-10th week of embryonic development. According Stocker classification there are Type I (variable cysts with at least one dominant over 2 cm in diameter, in 75% of cases), Type II (small, almost identical cysts under 1 cm in diameter, in 10-15% of cases) and Type III (solid mass of bronchoalveolar microcysts). The clinical presentation is determined by the severity of the subsequent respiratory infections. Most often, the first symptoms appear in childhood, but the disease may be asymptomatic for a long time. Patients with widespread changes have evidence of respiratory failure - at rest or at physical exercise. Differential diagnosis includes congenital diaphragmatic hernia, pulmonary sequestration and bronchogenic cysts. Operative treatment is a thoracotomy with resection of the respective segments or lobes.

Key words: congenital cystic adenomatous malformation, polycystic lung disease

DIFFERENTIAL DIAGNOSIS IN CHILDREN WITH HEART FAILURE WITH LEFT VENTRICULAR SYSTOLIC DYSFUNCTION

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Summary
The treatment of patients with left ventricular systolic heart failure is difficult and there is high mortality. Proper and fast differential diagnosis in these conditions can be life-saving. The objective of the study was to follow up of children with systolic left ventricular dysfunction who have been treated in UBALDB for a period of 1 year. We followed up 8 patients aged from 10 days to 13 years old (mean age 7) who had evidence of heart failure and left ventricular dilatation and congestion of EchoCG. We divided them into four groups: Group 1. Cardiomyopathy (2 with dilated cardiomyopathy, 1 with non-compacted left ventricle, 1 with mixed type cardiomyopathy), Group 2. Congenital heart malformations (1 with aortic coarctation, 1 with aortic valve dysplasia with insufficiency and stenosis in the context of bacuspidia), Group 3. Inflammatory diseases (1 with myocarditis), Group 4. Extra-cardiac symptomatology (1 with renal anomaly and chronic renal failure). The diagnosis was based on the clinical and echocardiographic findings, being the primary diagnosis in five patients, and in three patients with cardiomyopathy it was associated with the chronic course of the disease. The child with myocarditis was cured from it. The children with congenital heart malformations were urgently listed for surgical interventions. Two of the patients are being monitored as outpatients. Three patients passed away later in other hospitals – two with dilated cardiomyopathy and rhythm disorders and one with chronic renal failure and systemic thromboembolism. Patients with heart failure require timely, rapid and accurate EQG diagnosis. This will contribute to formulating an adequate treatment and management plan.

Key words: systolic left ventricular heart failure, left ventricular dilatation and congestion, childhood

CARDIAC INVOLVEMENT IN TURNER SYNDROME

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Summary
Turner syndrome frequency is 1:2500 live birth girls. It is characterized by low stature, gonadal dysgenesis and infertility, facial dysmorphism with pterygium car, low occipital hair line, cubitus valgus, lymphedema of the hands and feet. Intellectual development may be preserved, sometimes the renal, endocrine and musculoskeletal systems are affected. Congenital heart malformations in Turner syndrome occurs in 17-45%. Left-sided obstructive lesions are characteristic. The aim of this study was to description of cardiac status in children with Turner syndrome hospitalized in the University Pediatric Hospital "Prof. Ivan Mitev" MU-Sofia, for a period of 1 year and 9 months. Twenty six girls aged 4 months to 16 years (mean age 9.3 years±4.0) with Turner syndrome were involved in the study. Echocardiography was performed with color and pulse Doppler. Normal echocardiographic findings were observed in 12 children. Bicuspid aortic valve (BAV) was proven in 8 children, 3 of whom had normal function, 4 had mild aortic insufficiency and 1 – mild aortic stenosis and insufficiency. Two of the patients with BAV had dilated aortic root and ascending

aorta. Aortic coarctation was also diagnosed in 2 children, 1 – with mild aortic stenosis and 3 – aortic valve insufficiency, 1 with mitral insufficiency mitral valve prolapse, 1 with an atrial second defect, 2 – with adiposity (one with extrasystole and the other with hypertension). Timely and accurate refinement of cardiac status in children with Turner syndrome determines the right strategy.

Key words: Turner syndrome, cardiology, children

GENETIC AND GENE MODIFYING THERAPY FOR CYSTIC FIBROSIS - FICTION OR REALITY

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Summary

Cystic fibrosis (CF) is a complex autosomal recessive disorder that affects the functions of the respiratory system, the digestive tract, and all exocrine glands. The loss of function of the transmembrane conductance regulator (CFTR) is the main cause for the disease. The gene responsible for CF localized in the long arm of chromosome 7 (7q31.2) was cloned in 1989, and since then an intensive research and quests for gene therapy begun. After 2012 (when the first officially approved genetic modifier drug was launched on the market), the pharmaceutical industry is investing millions of dollars, resulting today in many molecules in development and three approved in the US and Europe. Treatment aimed at correcting a particular genotype is a completely new direction to CF therapy. Gene therapy modifiers significantly improve the prognosis and quality of life of CF patients carriers of specific mutations in the CFTR gene. Our goal now remains to maintain the health of all other patients with CF at the highest level so that they can also benefit from the more effective target treatment that will be available to them in the future and why not the achieving the true gene therapy.

Key words: cystic fibrosis, gene therapy, gene modifying therapy

BALANCED CHROMOSOMAL REARRANGEMENTS IN COUPLES WITH INFERTILITY

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Summary

Balanced chromosomal rearrangements (BCR) are among the common genetic factors in the aetiology of human infertility. We aimed to investigate the profile of BCR detected in couples with a deferent type of infertility. The retrospective study (2006-2017) included patients with established BCR, referred to Section of Medical Genetics, Pleven for genetic counselling and testing. The patients were divided into the following groups: (1) couples without pregnancy +/- one or more unsuccessful ART procedure; (2) couples with two or more spontaneous abortions. All patients were analyzed cytogenetically for detection of major chromosomal abnormalities. For the study period, a total of 38 cases (32

translocations and 6 inversions) of BCR were detected: 16 (42%) of them in couples of group (1) and 22 (58%) - in group (2); 23 (60%) cases with a female carrier and 15 (40%) – with a male carrier. The most common type of BCR in group (1) (88% of these cases) were translocations, more often (69%) established in males; in group (2) – translocations (82% of these cases), more frequently (82%) in females. The proportion of BCR established as a causal factor is bigger among couples with spontaneous abortions than in couples with sterility. Translocations are the most common type of BCR detected in 90% of couples with infertility, more frequently carried by the female partner. The results of the study show the significance of BCR in the aetiology of human reproductive pathology and highlight the need for timely cytogenetic testing and genetic counselling of couples with infertility.

Key words: balanced chromosomal rearrangements, infertility, genetic counselling

THE ROLE OF GERMLINE BRCA MUTATIONS – A RESEARCH ON BREAST AND OVARIAN CANCER PATIENTS AT UNIVERSITY HOSPITAL OF PLEVEN

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Summary

Most of the cases with breast cancers (BC) and ovarian cancers (OC) are sporadic. Although, it is estimated that 5% of BC and 15 % of OC are hereditary, linked with germline mutations in susceptibility genes BRCA1 and BRCA2. Our study aimed to investigate the prevalence of five deleterious BRCA1/2 mutations in Bulgarian women with BC and OC. The patients, 123 women with BC and 18 with OC, selected from the Cancer Registry of University Hospital, Pleven (2009-2014) were tested for five common mutations (C61G, 5382insC in BRCA1 and 6079del4, 9326insA, 9908delA in BRCA2). The criteria for genetic testing selection were: for BC patients, according to NCCN Guidelines, and for OC – according to histological type (high-grade serous OC). The detected prevalences of BRCA mutation in both groups. In the BC group, 1.6% (two women) were found with 5382insC in BRCA1: one was diagnosed at age 39 with triple-negative breast cancer, the other one – diagnosed with BC at age 43 (her mother had been diagnosed with ovarian cancer at the age of 56). In the OC group, the prevalence was 5.5% (one patient with C61G in BRCA1). We identified a relatively low total prevalence of deleterious mutations among all tested patients, with a higher prevalence in the group of OC. Next-generation sequencing (NGS) platforms would increase the rate of BRCA1/2 mutation detection; improve the speed and the efficiency of testing and is recommendable for future investigations.

Key words: breast cancer, ovarian cancer, BRCA1, BRCA2

FOLLOW-UP OF THE NEWBORNS WITH BIRTH WEIGHT BELOW 1000 GRAMS

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Summary
Extremely low birth weight newborns (<1000 grams, ELBWNs) require intensive medical care. They are at a high risk of mortality, and survivors – of long-term disability. The aim of this study was to evaluate survival rate, morbidity and factors influencing mortality in ELBWNs. The studied period is 2005-2018. Inclusion criteria were birth weight ≤1000 grams, the follow-up to discharge or death, absence of life-incompatible congenital anomalies (LICA). Patients' groups included survived to discharge (group 1), and deceased (Group 2). The indicators studied were obstetric history, anthropometric data, gestational age (GA) at birth, morbidity, mortality. One hundred ninety-eight ELBWNs were hospitalized in this period; eight of them were excluded because of LICA (4%). History of prenatal corticosteroid prophylaxis was found in 20.3% of the newborns, and 22% suffer from intrauterine growth restriction (IUGR). Of the patients, 53.1% survived to the day of discharge from hospital, and 38.6% of them had residual problems. Group 2 was significantly different from Group 1 in gender (boys predominated, p 0.05), birth weight (777±123 vs. 834±106 g, p<0.001), GA (26.0±2.1 vs. 27.1±2.1 gestational weeks, p<0.001), percentage of delivery room intubations (83.5 vs. 60%, p<0.001), incidence of intraventricular hemorrhage (44.7 vs. 28.7%, p 0.02), and hemorrhagic syndrome (36.5 vs. 9.9%, p<0.001). The survivors suffered predominantly from bronchopulmonary dysplasia (41.6%), retinopathy of prematurity (22.8%) and cerebral damages (15.8%). Mortality of the ELBWNs is high in our centre. Contributing factors are IUGR and insufficient prenatal corticosteroid prophylaxis. They result in severe asphyxia and hemorrhagic complications – the leading causes of death. Long-term disability is due to respiratory and neurological complications.
Key words: neonate, extremely low birth weight, outcome

PEDIATRIC HEALTH CARE IN AN OUT-PATIENT SYSTEM: SITUATION, PROBLEMS AND PERSPECTIVES

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Summary
Pediatric health care in Bulgaria and all over the world is organized in two sectors: in – and outpatient pediatric health care sector. Both sectors have undergone a dynamic change over the last 30 years, and stay unpaid and underestimated for this period in Bulgaria. We present the actual situation of the sector, problems and possible solutions, as well as future perspectives.
Key words: pediatric health care, out-patient system

RHEUMATIC DISEASE IN CHILDHOOD – ARE WE DIAGNOSING IT TODAY?

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Summary

Rheumatoid disease is a "forgotten disease" due to its decreasing frequency. Early diagnosis, proper treatment, and sustained prophylaxis are the most important components needed for the prevention of adverse consequences - infective endocarditis and congestive heart failure. A description of three cases of Childhood Rheumatoid Disease with different presentation that have been Diagnosed and treated in Rheumatic Diseases in Rheumocardiology at the USBALTB "Prof. Ivan Mitev "- Sofia for a period of 1 year was the aim of report. Three cases were presented: 2 girls aged 10 and 6 (clinical case 1 and 2) and a boy aged 8 years (clinical case 3). The diagnosis was based on the Jones Rheumatic Disease Criteria (AHA 2015). We also used Clinical and paraclinical criteria as well as colour pulse Doppler echocardiography. In all of the cases we found evidence of subclinical valvulitis with mitral valve and aortic insufficiency. In Case 1 we found moderate type and mild to moderate in the other two. In Case 3 we also found first degree AV block. We diagnosed minor chorea in Case 1 and articular syndrome affecting major joints or arthralgias, as well as erythema marginatum rash in Case 2 and Case 3. We also diagnosed IgA glomerulonephritis in the younger girl. There were more than 2 major Jones criteria for rheumatic illness and positive secondary criteria – fever, ACT, CRP, and ESR in all of the three cases. There is ongoing morbidity of Rheumatic illness in infancy. The current manifestation of the disease is with various debut and subclinical valvulitis. It requires treatment of chronic bacterial carriers of beta-haemolytic streptococcus as well as echocardiographic screening of the patient with unclear joint syndrome associated with erythema marginitum as well as minor chorea.

Key words: rheumatic fever, diagnosis, childhood

NGAL – A NEW OPPORTUNITY FOR EARLY DIAGNOSTICS OF ACUTE RENAL INJURY IN CHILDHOOD

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Summary

Acute renal injury (ARI) is characterized by a sudden failure of renal function, accumulation of end-products of nitrogen exchange, and water-electrolyte imbalance. It usually presents with an increase in serum creatinine and is a common problem in critically ill patients. Concerning the slow dynamics of this indicator following the clinical manifestations of the already existing disorders, there is a growing need for a new, early diagnostic approach towards ARI. Many recent publications have identified neutrophil gelatinase-associated lipocalin (NGAL) as one of the most accurate biomarkers of ARI. This study aimed to analyze the literary data about the role of NGAL as an indicator for early diagnosis of ARI in critically ill children. Anatomical and physiological features of the urinary system in childhood, associated predominantly with manifestations of immaturity, are an essential

precondition for ARI. Those renal disorders are often subclinical and difficult to detect with conventional laboratory methods. The increase in serum creatinine is a lagging indicator for the diagnosis of impaired renal function, which in critically ill children increases the risk of adverse consequences. The level of NGAL in serum and urine increases significantly in the initial phase of the disease and correlates with the severity of a renal injury that occurs later. Therefore, NGAL is indicated as an essential prognostic criterion for the development of ARI. Detecting the NGAL levels provides an opportunity for early diagnosis, adequate treatment of ARI in critically ill children, in order to normalize renal function and achieve a favourable outcome.

Key words: acute renal injury, neutrophil gelatinase-associated lipocalin (NGAL), childhood renal injury

NEW APPROACHES TO DIAGNOSIS OF NOSOCOMIAL INFECTIONS IN NEONATAL INTENSIVE CARE UNIT

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Summary

Nosocomial infections (NI) are a major problem in neonatal intensive care units. The specific neonatal population is at higher risk for acquiring NI and developing severe short- and long-term consequences, with high mortality rates. Early and accurate diagnosis of these infections is often difficult because of the non-specific clinical signs and insufficiently informative laboratory tests. This report reviews new markers of diagnosing systemic inflammation in newborns with longer hospital stay than 72 hours. They are compared to the already accepted methods in our practice, discussed are the advantages and possible challenges for use. This literature review covered the most outstanding articles from the last years; and the results were compared, pointing out the most promising markers. We focused on interleukins, procalcitonin, TNF-alfa, leukocyte differentiation antigens, and granulocytes colony-stimulating factor. Serum inflammatory biomarkers are detected earlier in the course of infection than haematological markers. Plasma concentrations of interleukin 6 and 8 and procalcitonin seem to be more sensitive and specific predictors of late-onset neonatal sepsis than other cytokines and even C-*reactive protein* in many studies. Leading neonatal care centres abroad have introduced the use of the reviewed markers of early detection of late-onset infections. However, more studies are needed for these markers to be established as firmly recommendable and accurately interpreted in neonatal practice.

Key words: neonatal intensive care unit, nosocomial infections, diagnosis

TUMOURS IN HYPOTHALAMO-PITUITARY AREA LEADING TO GH DEFICIENCY IN INFANCY

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Summary

Tumours in the hypothalamic-pituitary area (HPA) may cause endocrine disturbance either directly, or secondary to treatment (surgery, radiotherapy). Clinically evident endocrine effects are caused by pituitary hormone deficiencies. Growth hormone (GH) deficiency and growth failure are early endocrine manifestations, followed by gonadotropin and thyroid-stimulating hormone deficiency. Half of the patients have diabetes insipidus at presentation. Pituitary tumours in children often present with signs and symptoms of increased intracranial pressure (headache, vomiting) or visual disturbances. Symptoms related to hypothalamic neuroendocrine dysfunction include obesity, behavioural changes, disturbed circadian rhythm and sleep irregularities, daytime sleepiness, and imbalances in regulation of body temperature, thirst, heart rate and/or blood pressure. The most common neoplasm of the HPA in children is craniopharyngioma (CP). Its incidence is 1.3 per million per year, and about 25% affect children younger than 14 years. CP patients should be treated by specialized and experienced multidisciplinary teams. Treatment aims to relieve acute signs and symptoms of compression, to preserve hypothalamic function, to substitute pituitary hormone deficiency, and to provide long-term control. We present 2 girls with CP, who were diagnosed and treated when the Partners4Growth twinning program was started in Pleven. One of the girls was treated neurosurgically and developed multiple pituitary hormone deficiencies after that. She received multiple hormone replacement therapy, including growth hormone and hydrocortisone. For the second girl, neurosurgical treatment is pending.

Key words: craniopharyngioma, growth hormone deficiency, children

REFLEX EPILEPSIES: A PRESENTATION ON CLINICAL CASES

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Summary

Reflex epilepsies are rare epileptic syndromes affecting patients of all ages. Seizures are induced by specific triggering factors which are identifiable internal or external stimuli and specific activities. Visual-stimuli sensitive epilepsy is the most common among the various types of reflex epilepsies. We present two clinical cases: a child with idiopathic photosensitive occipital lobe epilepsy and a child with Lowe syndrome and eating epilepsy. We used detailed history, neurological examination, neuropsychological tests, EEG, CT and MRI scans. Clinical case 1. A ten-year-old boy had episodes of "compulsive attraction to the TV screen" and light-provoked visual hallucinations of multicoloured dots and circles, accompanied by pleasurable experience, sometimes eyelid fluttering and followed by a headache. He had had those episodes for three years. His neurological status, neuropsychological development and head CT scan were normal. EEG showed photo paroxysmal response on 12, 18, 20 Hz photostimulation. Clinical case 2. A ten-year-old boy had a genetically verified Lowe syndrome. The patient had seizures only during eating, which comprised staring, jaw clenching, head shaking, slurred speech, and drooling. He had those episodes for six months. The neurological examination revealed common signs and symptoms of the syndrome: dysmorphic face, cataract, glaucoma, spontaneous nystagmus, muscle hypotonia, neuropsychological developmental delay, and proteinuria. Head MRI showed pathological changes consistent with Lowe syndrome. After antiepileptic treatment was initiated, the interictal EEG did not show paroxysmal activity. The key factor for diagnosis and management of reflex epilepsies is identifying the specific trigger that leads to electrophysiological changes and clinical manifestation of the seizures.

Key words: idiopathic photosensitive occipital lobe epilepsy, eating epilepsy

POSTERS

INSULIN RESISTANCE – DIAGNOSIS FROM FIRST SIGHT

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Summary
Insulin resistance (IR) is widely considered to be among the significant pathophysiological features in many socially-significant disorders such as metabolic syndrome, diabetes mellitus and several cardiovascular pathologies. Early identification and treatment of IR might counteract the higher risk of their severe complications. Acanthosis nigricans (AN) is a well-known cutaneous sign of IR and represents the earliest detectable abnormality in various insulin-resistant states. The study aimed to make a descriptive presentation of the clinical diagnosis of AN. A descriptive analysis of 132 pediatric patients with AN and metabolic syndrome was made. We selected cases with most demonstrative skin lesions. We used a quantitative scale of AN by Burke et al. for evaluation of AN. A visual description of the severity of AN in most affected areas: neck, axillae, knuckles, elbows and knees was made, using skin lesion images. We described neck and axilla severity index by four stages: present, mild, moderate and severe. AN is an easily detectable, informative and cost-effective marker for the first diagnosis of IR and its long-term consequences. We illustrated clinical features of AN providing easier identification of AN and hence earlier diagnosis of IR.
Key words: insulin resistance, Acanthosis nigricans, diagnosis

OBESITY: NOT ONLY A METABOLIC ISSUE

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Summary
Obesity and overweight are the most common metabolic disorders in childhood. They can affect both physical and psychological health of children, leading to diabetes, cardiovascular complications or poor self-esteem and depression. In addition to the well-known etiological factors associated with feeding and hypokinesia, other reasons such as endocrine disorders, chromosomal abnormalities, or brain damage may be involved in the pathogenesis of obesity. We present two clinical cases of children with obesity as the first clinical manifestation of various central nervous system (CNS) disorders. In both patients, complaints started with rapid obsessive weight gain, followed by frequent headaches, nausea, visual disturbances and polydipsia. In connection with these symptoms, they were admitted to the Pediatric Endocrine Unit of Dr Georgi Stranski University Hospital - Pleven for further investigation. Laboratory, hormonal and imaging studies were conducted. Two different CNS afflictions – a craniopharyngioma and a congenital vascular

malformation, were diagnosed. Both children underwent surgical treatment at a specialized Neurosurgery Clinic with regular follow-up and hormonal replacement therapy. As a socially significant disease, obesity is associated with serious cardiovascular and metabolic complications that determine the quality of life and earlier adult death. CNS pathology is another crucial risk factor for the development of obesity. With the clinical cases presented, we would like to focus the attention of paediatricians and general practitioners on rapid weight gain in combination with visual disturbances and polydipsic-polyuric syndrome as symptoms for CNS pathologies.

Key words: children, obesity, CNS disorders

ALLERGIC COLITIS AS THE MOST COMMON MANIFESTATION OF COW'S MILK PROTEIN ALLERGY

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Summary
Cow's milk protein allergy (CMPA) is the leading food allergy in infants and children up to three years of age and has the most common and early manifestations of allergic colitis. The aim of our study was to establish the clinical manifestations of food allergy in infants in the Pleven region. A study was conducted among ninety-four infants with manifestations of food allergy and 180 healthy controls. The information was processed statistically with Statgraphics Plus for Windows XP and Microsoft Excel. We found that allergic colitis occurs primarily during the first six months of life 85%, predominantly boys 54,3% (n=51). 73.4% (n=69) of the surveyed children had noticeable restlessness, heavy crying, bloating. 28.7% (n=27)of children had diarrheal stools and mucus, and 17% (n=16) - difficult defecation. IgE and Eo values among children with colitis were increased – IgE in 72,9% (n=35) of the tested children with an average value of 36,5 IU/ml and Eo 54,3%. The early clinical manifestations of allergic colitis and confirmation of cow's milk protein allergy with IgE and Eo require the introduction of an elimination diet and long-lasting feeding (6-12 months) with protein hydrolysate.

Key words: cow's milk protein allergy, infants, allergic colitis

RICKETS: A "KNOWN" DISEASE WITH SERIOUS CONSEQUENCES

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Summary

Rickets is a common disease in infants and young children. It presents with muscle weakness, dental problems, various skeletal deformities, growth retardation, neurological symptoms and specific laboratory changes. Despite its typical clinical picture and increasing prevalence in the last decades, vitamin D deficiency remains still unrecognized and untreated. We aimed to present a clinical case of rickets in an infant with severe seizures as the first symptom. A 3-month-old boy delivered prematurely by vaginal birth of a 7th, unfollowed pregnancy with birth weight 2400g. The child was breastfed for only one month, then fed with formula. Data on prophylaxis with vigantol was uncertain. The child was raised in poor socio-economic conditions. A medical interview, physical examination, laboratory tests (serum levels of calcium, phosphate, alkaline phosphatase, 25-hydroxyvitamin D, parathormone/parathyroid hormone, imaging studies) were performed. The disease manifested with a series of afebrile tonic seizures, which improved with anticonvulsant therapy. After a lumbar puncture, a central nervous system infection was excluded, and head CT-scan showed no pathologies of the brain. Blood tests demonstrated severe hypocalcaemia, elevated alkaline phosphatase and parathyroid hormone – 185.40 pg/ml in association with low vitamin D level – 18.56 nmol/ml. This makes us assume that nutritional deficiencies, late diagnosis and treatment, and vitamin D deficiency may cause severe complications and developmental delay in children.

Key words: rickets, vitamin D deficiency, infant prophylaxis

CHARACTERISTICS OF HOSPITALIZED CHILDREN WITH DIABETIC KETOACIDOSIS IN INTENSIVE CARE UNIT OF UNIVERSITY PEDIATRIC HOSPITAL – SOFIAFOR 5-YEAR PERIOD

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Summary

Present a part of a study, including pediatric patients with newly diagnosed diabetes presenting with Diabetic Ketoacidosis (DKA) or recurrent DKA. We aimed to identify the quality of care and to identify treatment problems in DKA patients and to compare our results with those of similar centers elsewhere. Patients were treated at the University Children's Hospital ICU, Sofia, where children with DKA are admitted, predominantly from Western Bulgaria. A retrospective study was performed for five years (January 2104 to December 2018), in which 146 children with DKA were included. We obtained data from the patients' medical records stored in the archives of the hospital. Statistical analysis was performed with SPSS. The patients were divided into different groups regarding the severity of DKA – moderate and severe, newly found and chronic cases, the quality of glycemic control in cases with recurrent DKA was defined as "on the goal" HgbA1c<7.5%, good – 7.5-9%, poor>9%. The mean age of all participants (n=146) was 10.56 years at the date of admission. Of them, 72 were boys (51%), and 74 were girls (49%), 83 patients had newly diagnosed diabetes, and 63 patients had recurrent DKA. From those with recurrent DKA, only 12 (19%)

were with HgbA1c<7.5%, 20 (31.8%) were with good, and 31 (49.2%) were with poor glycemic control. We found that there was no significant difference between our results and the results of other centers. These results may help us try to find other possible causes for the problems with DKA management in pediatric patients.

Key words: kketoacidosis, newly diagnosed diabetes

DIABETES MELLITUS ASSOCIATED WITH SPINAL MALFORMATION: A CASE REPORT

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Summary

There is an association between diabetes mellitus and congenital anomalies of the nervous system. A wide variety of disorders affecting the peripheral and central nervous systems, either directly or indirectly, may be encountered in patients with diabetes. Congenital vertebral malformations (CVM) are a significant health issue because they can be associated with spinal deformities, such as congenital scoliosis and kyphosis, in addition to various syndromes and other congenital malformations. There is a wide gap in understanding of how genetic factors contribute to CVM development. We present a 6-year-old girl, diagnosed with diabetes type 1 with substitutional subcutaneous insulin therapy, complaining of numbness, pain and restricted movements of the left foot. She suffered from chronic back pain. We performed a complete neurological examination, and neurophysiological and neuroimaging methods to evaluate the patient. The neurological exam revealed scoliosis, left lower limb peripheral paresis with hypotrophy and hypoesthesia, mostly along the L5 dermatome. EMG showed chronic failure with reduced speed of conducting in L5-S1 with evidence for axonal degeneration, and MRT of a lumbar region visualized a complex malformation of the vertebrae and spinal cord with progressive neurological symptoms. Physiotherapy was performed, with oral administration of Nivalin and Vitamin B complex. Movements of the foot and fingers were improved. Performing a neuroimaging study is essential for establishing the diagnosis and prognosis. Knowing the risk factors and early diagnosis are essential for reducing the complications of congenital neural tube defects.

TRACE ELEMENTS IN CHILDREN WITH ANAEMIA

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Summary

Iron deficiency anaemia (IDA) is a serious health problem associated with increased morbidity and mortality, impaired growth and cognitive development of infants and children. Inadequate dietary intake is one of the most common reasons for IDA in children. The study aimed to evaluate the effect of nutrition and severity of IDA on the growth in children aged 6 to 24 months. Fifty – seven children with IDA were examined. The children were treated in the Pediatric Clinic – Pleven for respiratory tract infections from between March 2018 and June 2019. The children were divided into three groups (6-12 m, 12-18 m, 18-24 m). IDA was defined as haemoglobin (Hb) values less than 110 g/l, and the presence of the following parameters: MCV below the respective age-related WHO reference values, serum iron <7.50 μmol/l, TIBC<72. Anaemia was classified as severe (Hb<70 g/l), moderate (Hb, 70-99 g/l), and mild (Hb, 100-110 g/l). The assessment of nutrition revealed high proportions of children predominantly fed on cow's milk compared with children who were breastfed, formula-fed, or had been introduced to complementary foods.We concluded that the most common reason for IDA among the patients was the inadequate dietary supply of iron. Severe

anaemia has a negative effect on physical growth during the second year of life. The aim of a future study is the correlation between serum levels of trace elements and anaemia in children.
Key words: children, anaemia, diet, deficiency

CORRELATION BETWEEN DIET AND ANEMIA IN CHILDREN

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Summary

Iron deficiency anaemia (IDA) is a severe health problem associated with increased morbidity and mortality, impaired growth and cognitive development of infants and children. Inadequate dietary is one of the most common reasons for IDA in children. The study aimed to evaluate the effect of nutrition and severity of IDA on growth in children from 6 to 24 months of age. Fifty – seven children aged from 6 to 24 months with IDA were examined. The children were treated in the Pediatric Clinic – Pleven due to respiratory tract infections from 03.2018 to 06.2019. The children were divided into three groups (6-12 m, 12 – 18 m, 18-24 m). IDA was defined as haemoglobin (Hb) values less than 110 g/l, and presence of the following parameters: MCV below the respective age-related reference values of WHO, serum iron <7.50 μmol/l, TIBC<72. Anaemia was classified as severe (Hb <70 g/l), moderate (Hb, 70-99 g/l), and mild (Hb, 100-110 g/l). Assessment of nutrition revealed high proportions of children predominantly fed on cow's milk were compared with children who were breastfed, formula-fed, or had been introduced to complementary foods. The most common reason for IDA among infants and children is the inadequate dietary supply of iron. Severe anaemia has a negative effect on physical growth during the second year of life. The aim of our future study will be a correlation between serum levels of trace elements and anaemia in children.
Key words: children, anaemia, diet, deficiency

JUVENILE IDIOPATHIC ARTHRITIS. HISTORICAL DEVELOPMENT OF DISEASE ACTIVITY SCORES

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Summary

Juvenile idiopathic arthritis (JIA) is a collective name for a heterogeneous group of conditions with chronic synovitis and a wide variety of extra-articular symptoms, diverse clinical presentation and prognosis. The incidence of JIA is between 2 and 20 cases per 100 000. There are two peaks – ages 1-3 and 12-15 years, the incidence being higher in girls. The choice of proper treatment requires an evaluation of the disease activity. Disease activity scores (DAS) have been developed in order to create a well-defined and easy to use way to do it. We present the historical development of the ways to evaluate disease activity in patients with JIA. The criteria used most commonly are number of inflamed joints, number of joints with restricted movement, elevated values of *erythrocyte sedimentation rate and C-reactive protein*, as well as analogue scales for evaluation of pain, as well as and the overall condition of the patient. At first, the criteria were used separately. Clinical practice showed that each of them could be affected by other acute or chronic conditions, definitive damage to the joints or the subjective evaluation of the patient. That is why using the criteria together as a part of DAS is preferred. Creating a DAS scale precise enough and applicable in everyday clinical practice is an essential requirement for adequate treatment. That is why the scores are modified continually to make the most use of the least amount of information. Also, the subjective data getting reduced in order to have more reliable results.
Key words: juvenile idiopathic arthritis, disease activity scores

LATE COMPLICATIONS OF FOREIGN BODY ASPIRATION – A CASE REPORT

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Summary
Foreign body aspirations occur mainly in early childhood from 1 to 3 years of age. Aspirated foreign bodies are most often of plant origin, X-rays negative, and the evidence for their presence is indirect. Typically, the period of chronic complications occurs 10-15 days after aspiration. We present a clinical case of complication as a result of foreign body aspiration with a 2-year duration. A 3-year old boy was admitted in the Pediatric Unit of Dr Georgi Stranski University Hospital with recurrent fever and cough in the last month and pathological X-ray with atelectasis. There was a history of bronchoscopy, performed 2 years before because of aspiration of sunflower seeds. Numerous small particles of the seeds were removed from the left bronchus and the right segmental bronchi. Since then, the child had suffered from bronchopneumonia 5 times. Because of recurrent cough, bronchial asthma had been diagnosed. We performed computed tomography of the chest, which revealed infiltrative lesion on the basal segment of the right lung and air bronchogram. We concluded that these findings were late complications, probably due to the aspired foreign body. The child was transferred to Pirogov Emergency Hospital – Sofia, where a second bronchoscopy was conducted. Multiple pieces of sunflower seeds flakes were extracted. Late complications of an aspired foreign body could be irreversible and may require surgical treatment. Early diagnosis of an aspirated foreign body and its adequate treatment are the main factors in the prevention of chronic inflammation and further complications.
Key words: foreign body aspiration, late complications, bronchoscopy

INFLAMMATORY ACTIVITY AND FLUE INFECTION IN A TWO YEAR- OLD CHILD: IS THERE ANY CLINICAL AND LABORATORY EXPLANATION?

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Summary
Viral infections manifest with normal or slightly elevated levels of C-reactive protein (CRP) and normal or low levels of leucocytes and lymphomonocytosis from differential blood count. Whether CRP can be changed or elevated in preliminary viral infection is a controversial question. We present a clinical case of a child with verified diagnosis influenza type B with elevated levels of CRP. A 23-month-old girl with a prenatally detected anomaly of the urinary tract (nephrosclerosis of the right kidney) was admitted. Her past medical history included pneumonia, frequent infections of the upper and lower respiratory tract, and wheezy bronchitis. The child had a high fever, fatigue, and catarrhal syndrome. After a full examination and a rapid test, an influenza type B was confirmed. The results from the CBC were as follows: WBC – 12.9 G/L, LIM – 9.7 %, MON – 2.8 %, GRAN – 87.5 %, RBC – 4.2 T/l, HGB – 113 g/l, HCT – 0.349 %, PLT – 206 g/L, and high levels of CRP

– 114 mg/l. Symptomatic and antiviral therapy was prescribed. The child was followed daily, with clinical evaluation and lab checks, showing an excellent improvement. Two weeks after recovery, following contact with her sick brother, tests confirmed Influenza type A. The approach to every patient is individual, laboratory tests are necessary for the diagnosis, but not as a primary reason to start therapy. Objectivity on physical examination is the essence of an individual approach like dynamical follow-up. Prescription of antibacterial therapy based only on laboratory findings is not good clinical practice.

LOW BACK PAIN IN CHILDREN

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Summary

In the past, back pain was considered uncommon in children and adolescents. The rate increases with increasing age, and by the age of 15 years, 20 to 70% of children will report some back pain. The current study aimed to explore the aetiology, clinical picture, diagnostic tools and treatment of back pain in children. One hundred fourteen pediatric patients, admitted and treated in the Clinic of Pediatrics, were evaluated with clinical, genealogical, neurophysiological, neuroradiological and statistical methods. Eighty-four children were diagnosed with disc herniations. The most common level was L5-S1, followed by L4-L5, with diffuse or central (median) localization. Neurophysiological examination most often showed damaged the L5 root, followed by a combined L5, S1 damage. Our data did not reveal a statistically significant difference between the number of prolapses and gender, age and family predisposition. The most common causes for the rest 28 patients were a muscular strain, injury, overuse, scoliosis or kyphosis, spondylolysis, or without a known cause of pain. A coordinated effort from general practitioners, paediatricians, child neurologists and family members is necessary for timely diagnosis and proper management of the condition.

Key words: back pain, disc herniation, children