Mutations of the interleukins genes may determine the balance between cytokines production and affect the development of chronic sinusitis.

A hundred of children with chronic sinusitis (CS) were genotyped for the IL-1β (C-511T) single nucleotide polymorphism (SNP) and the IL-4 (C-590T) SNP as well as 35 children of the control group (CG).

The mutant T-allele of C-511T SNP of IL-1β gene was associated with increasing of IL-1β production (71,17±3,23 pg/ml vs. 62,21±2,17 pg/ml; $p<0,05$) as well as T-allele of C-590T SNP of IL-4 gene - with increasing of IL-4 production (65,73±3,98 pg/ml vs. 46,03±1,37 pg/ml, $p<0,05$). Significantly higher frequency of the T-allele of the IL-4 SNP was revealed in CS-children (43,5% vs. 24,3%, $p<0,05$). The CC-genotype of the IL-1β dominated in the CS-children (46% vs. 22,9%, OR - 2,9 (CI-1,2-6,9)) as well as domination of the CT-genotype (65% vs. 42,9%, OR-2,5(CI-1,1-5,4)) and TT-genotype (11% vs. 2,9%, OR-4,2 (CI-0,5-33,8)) of the Il-4 SNP was found in CS-patients.

Thus, T-allele of the IL-1β (C-511T) SNP decreases and T-allele of IL-4 (C-590T) SNP increases the risk of the development of chronic sinusitis.

Mabrouk Ben Othmen

THE FEATURES OF CLINICAL MANIFESTATIONS IN CHILDREN WITH ACUTE OBSTRUCTIVE BRONCHITIS AND THEIR ASSESSMENT

Department of pediatrics, neonatology and perinatal medicine
Bukovinian State Medical University

The Broncho-obstructive syndrome is one of the most urgent problems of pediatrics. Its relevance is primarily caused by high prevalence of this pathology, especially among infants. Acute obstructive bronchitis (AOB) often has lingering course, recurrent episodes of bronchial obstruction are observed in some children. Therefore, it is important to carefully study the features of clinical manifestations in children with AOB and their assessment for early diagnosis of pathogenic changes leading to repeated episodes of obstruction.

Goal of the study was to assess the features of clinical manifestations of acute bronchitis in children with obstruction and without it. The Study was conducted with 143 participants aged 7 to 16 years (83 boys and 60 girls). Participants were divided into 3 groups: 48participants with obstructive bronchitis, 30 without obstruction and 45 healthy participants. The study included an assessment of physical activity habits, tests of the functional state of the cardiorespiratory system and the readiness of the child's body for physical activity (Ruffier and volitional breath-holding tests), and the assessment of the BSS-ped which is a short version of the Bronchitis Severity Scale (BSS). The following three items were selected from the BSS for the BSS-ped: coughing, pulmonary rales at auscultation, and dyspnoea. Their presence is to be assessed in each case according to a 5-point scale:0 = absent, 1 = mild, 2 = moderate, 3 = severe, 4 = very severe. The points are summed up to form a total score that can amount to between 0 and 12 points and should indicate the overall severity of AOB. Statistical analysis conducted with program Statistica.

Physical activities play a role in the occurrence of bronchitis. The frequency of children involved in sports in the1stgroup was 84% and in the 2ndgroup was 85%which was less than in the 3rdgroup =97%. Physical activities are a key to improving the health of the children population. Smoking parents is one of the most important risk factors for developing bronchitis. Frequency of smoking fathers was 48% in 1stgroup and 13% smoking mothers, in 2ndgroup smoking fathers were 41%, smoking mothers were 1%, a noticeable lower frequency of smoking parents in healthy children, which was 11% in fathers and absent in mothers. BSS-ped parameters, cough 2.76±0.89 for 1stgroup, 2.20±0.66 for 2ndgroup, wheezing 2.69±0.90 in 1stgroup, 2.53±0.86 in 2nd group and dispnoe which was 2.33 ± 0.78 in 1st group and 1.73 ± 0.63 in 2nd group, thus shows that the manifestation of symptoms of acute bronchitis is more pronounced in participants with bronchial obstruction. Moreover, the total BSS-ped score is higher in the 1stgroup, which was 7.78 more than in the 2ndgroup, which was 6.46. Thus, symptoms of the bronchitis are more severe in children with obstruction. Breath-holding test on inspiration (test Stange) was 28,6±1.14 sec, on exhalation (test

Genchi) 19.5±1.09 sec in 1st group while in 2nd group was 32,8±1.88 sec for test Stange and 19.26±1.36 sec for test Genchi, however were less than in 3rd group which was on inspiration 38,95±1.51 sec and on exhalation 28.73±1.30 sec. In children with AOB and, to a lesser extent, with non-obstructive bronchitis, a noticeable decrease in the Stange and Genchi tests was noted. Level of evidence was statistically significant (P <0.05).

Thus, a regular physical activity in children and adolescents promotes health and fitness. Smoking cessation of parents should always be recommended. Clinical manifestations of acute obstructive bronchitis are more pronounced than in acute bronchitis without obstruction. The functionality of the cardiovascular system decreases in acute obstructive bronchitis.

Mazur O.O.

THE ROLE OF MICROBIAL ASSOCIATIONS IN CHRONIC PURULENT RHINOSINUSITISIN PATIENTS FOR TYPE 1 DIABETES MELLITUS

Department of Pediatric Surgery and Otolaryngology
Bukovynian State Medical University

The aim of the study was to determine the species and population composition of the microbiota of chronic purulent maxillary rhinosinusitis in patients with type 1 diabetes mellitus of moderate severity, type 1 diabetes mellitus (DM) and 10 patients with chronic purulent rhinosinusitis (CPRS) of the same age without concomitant pathology.

Bacteriological and mycological methods were used to study the species, population level, quantitative characteristics of the microbiota and associates of the maxillary sinus biotope in 38 patients with CPRS and type 1 diabetes mellitus (DM) and 10 patients without CPRS of the same age pathology.

In patients with CPRS, combined with type 1 diabetes mellitus of a moderate severity, bacteria of the genus Bifidobacterium and Lactobacillus, as well as bacteria of the genus Streptococcus (S.salivarius, S.sanguis, S.mitis, L.lactis), Corynebacterium were determined. Against this background, the contents of the maxillary sinus cavity are contaminated with pathogenic and opportunistic bacteria of the genus Prevotella, Fusobacterium, Streptococcus (S.pneumoniae, S.pyogenes, S.viridans), Staphylococcus (S.aurens, S.epidermidis), H.influenzae catarrhalis, E.coli and yeast fungi of the genus Candida. Such changes have led to disturbances of the dominance of indigenous obligate bacteria in the microbiocenosis.

CPRS in patients with type 1 diabetes disturbs microbial associations. In patients with CPRS, the number of associations consisting of 3 species increases 2.7 times, but the number of associations consisting of 4 species of microorganisms decreases 1.4 times. The number of associations consisting of 5 species in patients decreases by 3.5 times.

Among the most numerous associations consisting of 3 species of pathogenic and opportunistic autochthonous facultative microorganisms, the associations of the following representatives are more common: M.catarrhalis, S.aureus and Bacteroides spp.; Prevotella spp., S.viridans and S.salivarius; M.catarrhalis, Prevotella spp. and S.epidermitis; H.influenzae, Prevotella spp. and S.epidermitis. Associations consisting of 4 species were found in 34% of patients and consist of S.pneumoniae, M.catarrhalis, S.pyogenes, Fusobacterium spp; S.pneumoniae, E.coli, S.aureus and Candida spp.; S.pneumoniae, E.coli Hly+, S.viridans and Candida spp.

The dominant pathogens of chronic inflammatory process in the maxillary sinuses are S.pneumoniae, H.influenzae, M.catarrhalis. Other bacteria (S.pyogenes, S.aureus, E.coli Hly+, B.fragilis) are additional or accidental (E.coli Hly+, B.fragilis) pathogens. All leading pathogens persist in the habitat in the association.

In patients with CPRS, combined with type 1 diabetes mellitus of a moderate severity in the contents of the maxillary sinus cavity, the imbalance of autochthonous obligate, facultative and allochthonous microorganisms is formed due to the elimination or formation of a pronounced deficiency of autochthonous obligates, genus Balibacterus sanguis, S.mitis, S.mutans, L.lactis, etc.) and a significant increase in the number and dominant role of pathogenic and opportunistic