

Andriychuk D., Andriychuk T.

IMPROVEMENT OF DIAGNOSTICS OF ULCER DISEASE IN CHILDREN

Bukovinian state medical university, Chernivtsi, Ukraine

Department of Pediatrics and medical genetics

(scientific advisor - M.D. Sorokman T.)

INTRODUCTION. New informative methods of determining, experimental models, new synthesized substances – donors and inhibitors of nitric oxide (NO) allows to evaluate the role of NO in many diseases, including the gastrointestinal tract.

OBJECTIVE. To increase the effectiveness of prognosis of ulcer disease in children by optimizing the diagnosis of the disease.

MATERIAL AND METHODS. We conducted a comprehensive clinical, molecular-genetic and laboratory-instrumental examination of 120 children with ulcer disease, aged 7-18 years (main group) and 100 healthy children of appropriate age (comparison group). To verify presence of mucosal ulcers, detection of refluxes and comorbidity conducted fibroesophagogastroduodenoscopy.

RESULTS AND DISCUSSION. The level of NO in plasma of children with ulcer disease was $11,62 \pm 0,9$ mmol/l which is in 1,3 times lower than in comparison group of children $15,84 \pm 0,8$ mmol/l, $p < 0,05$. The level of NO in saliva in children of the main group was $41,06 \pm 1,9$ mmol/l and in 1.37 times lower than in the comparison group $56,08 \pm 1,8$ mmol/l, $p < 0,05$. Considering the importance and relevance of the value of NO in the pathology of gastrointestinal conducted molecular genetic studies of children with ulcer disease (UD) – namely G954S polymorphism identified iNOS gene promoter in terms of single nucleotide substitutions. Probably higher level of NO in biological fluids was observed in patients of the main group and individuals homozygous for allele G in comparison, and probably lower – in persons homozygous for allele C ($p < 0,05$). Also in heterozygous individuals NO concentration was significantly lower, and in those with genotype CC higher than in patients with genotype GG ($p < 0,05$). We found a strong direct correlation between the likely level of NO in children with UD, and the presence of GG genotype in this category of children ($r = 0,9$, $p < 0,05$) and a strong probable inverse correlation with genotype CC ($r = -0,96$, $p < 0,05$).

CONCLUSION. In patients with peptic ulcer disease genotype distribution of iNOS (G954C) was as follows: individuals homozygous for G-allele – 47,5%, heterozygous individuals – 38,3%, individuals homozygous for C-allele – 14,2%. The total prevalence of mutant C-allele iNOS is 52,5%. Genotype CC gene iNOS (G954C) increases the risk of disease by 3,9 times (95% CI 0,21-73,83, $\chi^2 = 9,6$, $p = 0,0007$).

Vlasova O., Ortemenka Y., Fochuk M., Fochuk N.

INFLUENCE OF SOME FACTORS ON CYTOLOGICAL COMPOSITION OF SPONTANEOUS AND INDUCED SPUTUM IN SCHOOL-AGED CHILDREN WITH BRONCHIAL ASTHMA

Bukovinian state medical university, Chernivtsi, Ukraine

Department of Pediatrics and Pediatric Infectious Diseases

(scientific advisor - M.D. Bezrukov L.)

The significance of identifying of inflammatory phenotype of bronchial asthma (BA) is determined by the inefficiency of the standard basic therapy in 30-40% of cases, and often associated with neutrophilic inflammation of the bronchi.

The aim: To study the effect of some factors on the cellular composition of spontaneous and induced sputum in school-aged children suffering from bronchial asthma and, as well, to determine the best method of identifying morphological variant of airway inflammation.

Materials and methods. At the allergological department of the Chernovtsy Regional Children Clinical Hospital (Ukraine) the comprehensive examination of 116 school-age children with bronchial asthma has been performed. Based on the method of sputum collection in children, a total cohort of the patients was divided into two clinical groups. The first (I-st) clinical group consisted of 33 children (29,3%) with spontaneous sputum. The second (II-nd) comparison group entered 82 patients (70,7%) in whom sputum was induced by inhalation of hypertonic serial (3%, 5%, 7%) solutions of sodium chloride (NaCl). Cellular sediment of sputum was stained by the method of Romanovsky-Himze with subsequent determination of cytological profile, calculated as percentage of neutrophils, eosinophils, mast cells, lymphocytes and alveolar macrophages out of 200 cells (excluding epithelial cells).

Results. There has been found the following features of spontaneous sputum cytology: lower cell viability, neutrophilia and reducing the relative number of alveolar macrophages. The main clinical characteristics (place of residence, gender and age of patients, as well as severity and duration of BA) of clinical comparison groups did not differ essentially, indicating the insignificance of these factors in the emergence of a large number of neutrophils (relative neutrophilia) in spontaneous sputum. However, in the I-clinical group the symptoms of acute respiratory viral symptoms and "passive smoking" of children have been identified in 55,9±8,5% and 64,7±8,2% of cases, respectively. Among patients of II-nd comparison group these factors of bronchial neutrophilia were recorded in 24,4±4,7% (P