PREDICTORS OF RENAL AMYLOIDOSIS DEVELOPMENT IN JUVENILE IDIOPATHIC ARTHRITIS IN CHILDREN

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ABSTRACT

Currently, juvenile idiopathic arthritis (JIA) has become a medical and social problem and attracts serious attention of rheumatologists and pediatricians, which is due to a noticeable increase in cases of the disease among children, severe and progressive course and early disability of patients. In this regard, serious attention is paid to kidney damage in JIA in children with immunodiathesis, which has a tendency to progression of JIA and the development of chronic renal failure (CRF).

Keywords: predictors, amyloidosis, kidneys, arthritis

The aim of the study: to study the predictors of the development of renal amyloidosis in juvenile idiopathic arthritis in children.

Materials and methods: We observed 30 children aged 3 to 18 years suffering from the articular-visceral form of JIA against the background of immunodiathesis(ID) (autoimmune + lymphatic). The control group consisted of 25 practically healthy children of the same age. The clinical diagnosis was made on the basis of anamnesis, clinical and laboratory, immunological indices, functional research methods and diagnostic criteria of JIA. The state of the immune status in children was studied.

Results and discussion: In our observations, lesions of the cervical spine, hip and temporomandibular joints were frequently noted. Joint lesions occurred in the form of polyarthritis (64.0%), oligoarthritis (32.0%) and relatively rarely in the form of pauciarthritis (2.0%) and monoarthritis (2.0%). The majority of sick children were preschool and primary school age children. The results of X-ray examinations of joints allowed us to determine stage I of X-ray changes in 25.0% of patients, stage II in 44.0%, stage III in 20.0% and stage IV in 11.0%. According

to the results of the study of partial renal functions in patients with articular-visceral JIA with ID, a periodic decrease in the relative density of urine (P<0.01), daily diuresis (P<0.001), an increase in selective proteinuria (P<0.001), daily erythrocyturia and leukocyturia were revealed. A slight increase in the daily excretion of creatinine in urine (P<0.01), a decrease in glomerular filtration by endogenous creatinine clearance (P<0.01) were noted. The results of our immunological studies showed that compared with the control group, patients during the exacerbation period (before treatment) showed a statistically significant decrease in the percentage of T-lymphocytes (CD3), T-suppressors (CD8), T-helpers (CD4) and FAN (P<0.001). A significant increase in the number of B-lymphocytes (CD19), an increase in the serum content of IgA, IgM, IgG, IgE, and the concentration of CIC (P<0.001) were noted.

Conclusions: **1**. In children with juvenile idiopathic arthritis, immunodiathesis (autoimmune + lymphatic) are predictors of the development of renal amyloidosis, which is based on interrelated and interdependent immunopathological processes that are characteristic of autoallergic pathologies, manifested by secondary immunological deficiency.

2. The development of renal amyloidosis in JIA in children is characterized by a latent course and progression, which manifests itself in the form of: a periodic decrease in the relative density of urine, daily diuresis, an increase in selective proteinuria, daily erythrocyturia, leukocyturia, daily excretion of creatinine in urine, a decrease in glomerular filtration by clearance of endogenous creatinine.