FEATURES OF THE PREMORBID COURSE OF PURINE METABOLISM DISORDERS WITH CHRONIC PYELONEPHRITIS IN CHILDREN

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Abstract*. A comparative clinical-laboratory-instrumental evaluation of 85 children with chronic pyelonephritis was carried out, it was found that the clinical picture of pyelonephritis, which flows against the background of the ural nephropathy, is characterized by a pronounced clinical symptom, characteristic of increased uric acid exchange.*
Keywords*: chronic pyelonephritis, purine exchange, children.*

The role of combined immunological insufficiency in the pathogenesis of secondary chronic pyelonephritis in children has been proven in a number of studies [3], and various immuno-corrective therapy options have been developed [1]. In most cases mono-immunocorrecting was performed for various diseases, including chronic pyelonephritis, i.e., stimulation of one of the immune links, which can be acceptable only if the patient has an isolated location of one of the links of the immune system. Therefore, the development of clear principles of immunocorrecting in combined immunodeficiency states has now become relevant [2].

In the light of the above, chronic pyelonephritis, developed against the background of the uraturia, occupies a special position, as children with metabolic disorders of purines make up a contingent in the child population, from - initially immunocompromised. This is due to the fact that the violation of the metabolism of nucleosides causes the dysfunction of the immune system, impaired differentiation and proliferation of lymphocytes [4].

The aim of our research was to study the effectiveness of step-by-step directed immunocorrecting with secondary chronic pyelonephritis against the backdrop of purine dysmetabolism.

Materials and methods. Eighty-five children aged 3 to 14 years were examined, diagnosed with secondary chronic pyelonephritis against the background of hyperuricemia and hyperuricosuria, with signs of renal microbial inflammatory process activity. All patients, along with general clinical studies accepted in nephrological practice, were studied indicators of cell and humoral level of immunity, functional activity of neutrophil granulocytes.

Determination of indicators of T-lymphocytes and their subpopulations, B-lymphocytes was carried out on the panel with the help of monoclonal antibodies of the company «Sorbent» by immunofluorescence by Filatov A.B with co-authors, 1990. The level of serum immunoglobulins of class A, M, G was determined by Manchini with the use of monospecific antiserums.

The phagocytic activity of neutrophil granulocytes was estimated using a method based on the registration of phagocytosis objects that served as formalized erythrocytes of ram. The results were expressed as a percentage of phagocytosis, phagocyte number, and phagocyte index. The control was exercised by immunological parameters of 29 healthy children aged 3-14.

All patients were given basic pyelonephritis therapy, including dietary and medicinal correction of purine metabolic disorders and antibiotic therapy, taking into account the sensitivity

of microflora to antibiotics. The treatment was carried out prior to urinary draught rehabilitation and bacteriuria elimination.

Eighteen patients (21% of 1-group) whose T cell lymphocyte indicators showed a decreasing trend, but the differences were not valid (p>0.05) had only basic therapy without including tactivine.

Based on the initial immunological changes in the T - immune link, 70 patients (82.3%, 2-group) were identified, whose rates were lower, (T - lymphocytes 49.9 1.52%) compared to healthy ones (67.26 2.2%). Simultaneously with basic therapy for stimulation of the T-link these patients were assigned a biologically active drug of the thymus - tactivin. The drug was prescribed at a dose of 3 mg/kg a day, subcutaneously, with a single untranslated course for 10 days, followed by a change to an intermittent course of 7 days. The length of the stage was 2 months.

The second stage of immunocorrecting was carried out by patients, who after the first stage recovered cellular immune indicators, but in the B-link and in the spectrum of immunoglobulin there was no positive progress. There were 51 such patients. At the second stage, myelopid - a drug primarily active against the B - the link of immunity was used. Myelopid was administered at a dose of 3 mg/1.5 m2 per day of the body surface, intramuscularly, once with a course of 7 injections. The repetition rate was overstated by the dynamics of immunological indicators. The follow-up course was given to 16 patients.

To restore the functioning of the immune system as a whole and to restore the functional activity of neutrophilic granulocytes to those patients whose rates of phagocytic activity remained low after the course of tactic and myelopid, sodium nucleinate was nasnazened. There were 38 such patients. Sodium nucleinate has been prescribed in two weeks: a daily dose of 100 mg in 4-5 years, 6-7 years of 200 mg, over 7 years of 600 mg per day.

Results and Discussion. The initial immunological indicators of patients in group 2 were characterized by the fact that the relative content of T-lymphocytes was reliably reduced compared with control (49.92 1.52 per cent: p <0.01).

There was a slight downward trend in T-helpers (32.82 1.45 per cent). The percentage of T-suppressors was reliably hanged (25.40 2%, p <0.05).

The ratio of regulatory cells SD4/SD8 was 2 times snowy compared to the control (1.26 and 2.60 respectively), the ratio of the supresin (SD3/SD8) was significantly reduced (1.97). Thus, there were significant shifts in T-lymphocytes and their subpopulations, as well as in their ratios. The quantitative content of B-lymphocytes tended to decrease (20.19 1.80) but the difference is not reliable (p > 0.05).

The analysis of the immunoglobulin spectrum revealed a reliable decrease in immunoglobulin G (6.12 0.15g/l, p < 0.001) compared with control (1.06 0.04 g/l and 1.22 0.06 g/l, p < 0.05).

All phagocytic activity of neutrophil granulocytes in patients was reduced. There are no reliable differences in the T-cell content and subpopulations of patients in Group 1, the ratio of SD4/SD8 and SRS/SD8 was slightly reduced (1.93 and 3.43 respectively). There was a downward trend in IgG and IgA, but the difference with controls was not reliable (p>0.05).

The decrease in phagocytic activity of neutrophilic granulocytes in these patients was less pronounced than in the 2-group. Taking into account the above data, this group was only given basic treatment of pyelonephritis without immunocorrection.

2-group patients after 1-stage treatment (basic therapy + tachin) showed some positive changes in the immunity T-stage, which were expressed in a reliable increase in T-lymphocytes (64.70 1.80%, p<0.05), a decrease in the number of T-suppressors (18.70 0.85%, p<0.05%) as well as in improving the regulatory indices SD4/SD8 and SRS/SD8 (1.99 and 3.46 respectively).

Of the 66 patients suffering from monotherapy, 15 (21.7 per cent) had full immunological rehabilitation. Since 51 of them (77.3%) had an imbalance in the humoral system of immunity, we believed that this group of patients still needed directed immunocorrecting therapy in the next stage. After stage II of the course, immunoglobulin and phagocytic activity of neutrophil granulocytes reached normal levels in 13 (19.7) patients. These patients did not undergo stage III immunocorrection.

In the remaining 38 (57.6%) patients, cell and humoral levels recovered, but changes in the phagocytic activity of neutrophil granulocytes remained low. In this regard, the third stage was conducted with the use of sodium nucleinate, which allowed normalization of functional activity of neutrophil granulocytes.

To achieve positive results, 10 patients were re-treated with sodium nucleinate. After the third stage of the therapy, all immune parameters were restored. With this approach to immunological rehabilitation, we have not seen respiratory diseases or renal process relapse for 1 year.

Findings. The results of the conducted studies show that the secondary chronic pyelonephritis against the background of hyperuricemia and uraturia proceed with pronounced shifts in the immune system of the body and they are combined. Step-by-step directed immunocorrecting ensures the most complete immunorehabilitation, the persistence of the therapeutic effect and ensures the prevention of relapse. Hence, this approach is effective in preventing the formation of chronic renal pathology of microbial inflammatory origin.

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