venules, they are being formed the complete contour (e.g. the biconjugated circular anastomoses). The small terminal arterioles, the primary collective, and the post – capillary venules are being moved away inside the annular module. The annular module «is fixed» to the main arteriole and the (e.g. muscular) venule fascicle, by means of the preterminal arteriole and the premain venule fascicle.

The Conclusion

The HMCC is consisted from the polymorphous microareas – the vascular and tissular complexes, which are limited by the large arterioles and venules fascicles. The various microvessels complexes are formed in their composition in the different combinations. The classical microvessels sequence with the branching and linear angioarchitecture is defined in the most frequently way (e.g. the HMCC typical module). The annular module is met seldom.

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IMMUNOGENETIC MARKERS OF PREDISPOSITION AND RESISTANCE TO THE OBSTRUCTIVE PYELONEPHRITIS AT CHILDREN

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During the last two decades, the number of the urinary system pathologies at children [1,2, 10], and obstructive anomalities [2,3] in particular, has increased considerably, calling for more research on their etiopathogenesis, diagnostics and treatment. Despite a great number of studies concerning etiological aspects of inborn obstructive uropathy (IOU) [4,5,6,7], some diagnostic questions of differentiation between IOU and some similarly appearing diseases and conditions, are still poorly studied. Intensity of IOU's clinical symptoms obviously depends on how strong the primary pathology is complicated with a secondary infection [6,8]. That is why we tried to find out, if there are any immunogenetic markers of obstructive pyelonephritis (OP), and whether it is possible to prognosticate a secondary infection?

We examined 117 Russian children aged between 8 till 15, with a secondary chronic obstructive pyelonephritis and intact kidney function. We studied the distribution of the HLA-complex antigens, their phenotypic and haplotypic combinations. Locuses HLA-A, HLA-B, HLA-C were identified with the help of the two-step micro lymphocytotoxity test (Terasaki P. at al, 1970), locuses HLA-DR and HLA-DQ – via long protocol of polymerase chain reaction using a standard serum set of the Russian Research Institute of Hematology and Transfusiology, St. Petersburg. CD22-lymphocytes for DR-typing and DQ-typing were obtained by filtration of lymphocyte suspension through nylon fiber. In locus HLA-A were determined 15 specificities, in locus HLA-B – 28, in locus HLA-C – 4, in locus HLA-DR – 14 and in locus HLA-DQ – 12 specificities. Antigen frequency rate was determined as a number of persons bearing the antigen compared to the total number of patients in the group [9]. Frequency of phenotypic antigen combinations was determined separately in locuses HLA-A and HLA-B, frequency of haplotypic antigen combinations was determined by formula of Mattiuz P. et al (1970). In order to measure essentiality of discrepancy in antigen distribution in the compared groups, we used a fitting criterion (X^2) adjusted for variation continuity; using special mathematical tables, fitting criterion X^2 was changed into coefficient of difference reliability (P). To determine degree of association for different forms of inborn obstructive uropathies with immunogenetic parameters, we used a criterion of relative risk (RR), according to Sweigaard A., Rider L.P. (1994) [11]. Relative risk criterion shows, how often this disease or condition develops in people with a specific HLA-antigen, in comparison with those who do not have it. It is accepted, that when the RR equals or is higher than 2,0, there is a positive association between the marker and the disease (predisposition to disease); and when the RR is smaller than 1,0 – it is a sign of an individual resistance to this pathology. In order to describe this «+» or «-» association quantitatively, we determined the values of etiological fraction (EF) and preventive fraction (PF) correspondingly [9]. Control group in this study included 253 virtually healthy children of the same population sample.

It was revealed, that patients with OP demonstrated a reliable positive association between the disease and inter-locus combination of antigens HLA-A11-B27 in tissues (0,85% compared to 0,01% in control, RR=2,7). We also found the major histocompatibility antigens that prove an individual resistance to this pathology: HLA-DRB1*07 (16% compared to 30,1% in control, X^2 =6,5, P<0,05, RR= 0,45, PF=0,163); HLA-DRB1*09 (0% compared to 2% in control, X^2 =4,4, P<0,05, RR=0,21, PF=0); HLA-DRB1*15(2) (22% compared to 36,9% in control, X^2 =6,15, P<0,05, RR= 0,49, PF=0,186); intra-locus antigen combination HLA-A9-11 (0,85% compared to 7% in control, X^2 =4,6, P<0,05, RR=0,25); and also haplotypic combinations HLA-A2-B12 (8,6% compared to 62% in control, RR=0,06); HLA-A3-B7 (7,7% compared to 84,1% in control, RR=0,02); HLA-A11-B35 (2,6% compared to 29,9% in control, RR=0,07).

To sum up, the patients with OP demonstrated a reliable positive associative connection of the disease with inter-locus antigen combination HLA-A11-B17. Carrier state of this immunogenetic marker increases the a risk for the development of the disease

by factor of 2,7 (RR=2,7). Resistance to this pathology have individuals with antigens HLA-DRB1*07, HLA-DRB1*09, HLA-DRB1*15(2), phenotype HLA-A9-11 и haplotypic combinations HLA-A2-B12, HLA-A3-B7, HLA-A11-B35.

Specific immunogenetic determinants let use immunogenetic methods, to determine the risk for complications such as secondary infections, after an obstructive pathology, or resistance to it, and thus, to optimize medical tactics for diagnostics and treatment of this pathology at children.

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THE LIPIDS PEROXIDATION ACTIVATION INFLUENCE ON THE DNA SYNTHESIS IN THE RATS' PARENCHYMATOUS LIVER CELLS

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The lipids peroxidation processes (LPP) are the universal ones by their nature, and they have the great significance in the many pathological states development in the clinic, including in the hepatites different forms development. Therefore, the DNA quantity measuring in the rats' hepatocytes nuclei in 12, 24, 48, 120, 168 and 264 hours just after the paraquat injection – the LPP activator has been our investigation aim.

The paraffin sections have been stained by the Schiff's reagent by the Tomazzi's method for the DNA quantity content investigation in the nuclei's parenchymatous liver cells.

The quantitative cytophotometry has been conducted at the "Protva" automatic analyzer in the Institute of the Physiology of CO of the Russian Academy of the Medical Sciences (RAMS) of the city Novosibirsk. The Analyzer has calculated the cells nuclei's area, besides the DNA content.

The average area of the hepatocytes nuclei is for certain being lowered in 12 hours after the paraquat injection. The octaploidic nuclei quantity is being increased from 2% up to 8%.

The main modal class is being situated in the region of 4sec. – 86%, and the DNA average quantity is for certain being increased in 24 hours after the paraquat injection. The diploidic hepatocytes quantity is sharply being decreased from 31% down to 7%.

The cytophotometric investigation results of the hepatocytes nuclei have been shown in 48 hours that the main modal class shift is clearly marked out to the right from 2sec. up to 4sec. and 8sec. on the histogram. The diploidic hepatocytes quantity is sharply being decreased from 31,0% down to 9,3%, namely, the maximum hyperploidic cells increase from 2,0% during the control up to 14,7% during the test has been registered in this group.

The diploidic nuclei quantity lowering (e.g. from 31,0% during the control down to 9,3% during the test) has been registered in 5 days (e.g. 120 hours) just after the paraquat injection. The main modal class is being situated in the region of 4sec. (e.g. 83%).

The cytophotometric indices will being come to the control values in 5 days (e.g. 120 hours) just after the paraquat influence, but to the 11 days (e.g. 264 hours) the cytophotometric indices are being corresponded to the 24 hours of the experiment.

Thus, the phase changes in the DNA quantitative content are being observed in the LPP activation process by the activator in the experimental rats' liver.

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