

extravasal compression. The syndrome of cervical artery (CAS) is developing for correction of which many specialists follow the conservative medicine tactics.

We observed 52 patients with the CAS with the signs of VBI. Discirculation in the vertebral basilar system (VBS) mostly (77%) showed itself as transient ischemic attacks, other patients had chronic disease. All patients had radiography confirmation of cervical spine damage, with triplex scanning of VA one-sided and two-sided spasm came into light, with contrast angiography the extravasal compression of VA is not revealed.

All patients were made Procaine and spirit-Procaine blockades of the periarteric plexus of VA in the third segment with clinic – ultrasonic positive effect at 43 (82,7%). The duration of therapeutic effect of blockades was varied from 72 hours to 14 days. If Procaine is intolerated, we used 2% Lidocaine solution.

Taking into account pathogenetically founded high effectiveness of sympathectomy of VA, in order to liquidate their pathologic spasm 10 patients were made surgical denervation of the vertebral artery in the third segment under the endotracheal anesthesia. The conditions for making this operation were absents of the hemodynamic significant changes in the first segment of VA and positive effect with making spirit-Procaine blockades.

Under general anesthesia by poster lateral approach on the neck with the usage of magnifying optics nervous fibers of the periarterial plexus of the vertebral are excised and cut, without interference on the vessel itself.

Thanks to liquidation of efferent sympathetic influence on the vertebral artery, irritative or reflector vasoconstriction are fully disappeared, thereby blood flow in the third segment of the vertebral artery and other parts of VBS is improved. Destruction of sensitive fibers of vertebral nerve reduces the appearance of vegetalgetic symptom complex.

In long term observation from 2 to 8 months all operated patients had stable improvement with considerable reduction of manifestations of VBI and algetic component of the vertebral artery syndrome. The clinic improvement is correlated with data of ultrasonic research – on the side of operation the spasm of vertebral artery is fully disappeared, volumetric speed of blood flow is increased. More often we observed the reduction of vestibulocochlear dysfunction, pains in occiput and orbit. 5 patients had diminishing of arterial hypertonic with diminishing of system arterial tension on 20 mm/hg in average.

The usage of pharmacological and surgical sympathectomy of vertebral arteries with their spondylogenic spasm is the affective and little invasion method in the complex treatment of patients with vertebral basilar failure.

The work is submitted to Scientific Conference “The Problems of International Integration of Educational Standards”, England (London) – France (Paris), April, 20-28, 2009. Came to the Editor’s Office on 20.04.2009.

ON THE HEMOMICROCIRCULATORY CHANNEL STRUCTURAL ORGANIZATION

Petrenko V.M.

*Saint-Petersburg Medical Academy
named after I.I. Mechnikov
Saint-Petersburg, Russia*

It has been done quite a number of attempts to single out the structural unit of the hemomicro circulatory channel (HMCC) in the last century. The central canal (e.g. Zweifach B., 1939, 1961) and the module, including in a form of the arterioles and the venules with the capillaries network among them (e.g. Fung V.C. a. Zweifach B..W., 1971) have been mentioned in the most frequently way.

The HMCC 10 dogs’ mesenteries have been studied by me. Its total preparations, just after their fixation in the 10% formalin solution, have been stained by the aluminous hematoxylin, or they have been impregnated by the silver nitrate. The serial paraffin sections of the mesentery, having 7 mcm thickness, have been stained by the Van Gieson and Verhoeff method picrofuchsin, and 10 mcm thickness – by the hematoxylin. The microvessels sizes have been defined by means of the eyepiece – micrometer.

The mesenteries bands of the various sizes and forms (e.g. the HMCC interfascicular segments) are found among the great microvessels’ fascicles (e.g. the I–st order arteriole, the IV–th – V–th order venule). The big branches (e.g. the arterial flows) of the great microvessels are being passed by the fascicles, and they are being divided the mesenteric segments into the microareas. The terminal arterioles and the collective venules are more often being moved away from their contour. The metabolic blocks (e.g. the precapillary – the capillaries – the post – capillary venule) are being formed their ramifications, together with which the HMCC typical modules are made up, and also the central canals and the anastomoses – venular, arteriolar, and arteriolovenular. The combined anastomoses are met, when one arteriole’s branches take its part in the various anastomoses and modules formation. The central canal has its structure of the arteriolovenular semi – shunt, from which its branches are being moved away, where its main links: the metarteriole – is the terminal arteriole, having passed into the precapillary; the main artery – is the main capillary (not always), the postcapillary and the collective venules. The annular module is distinguished from the typical module by its configuration: the terminal arterioles are moving together, in one fascicle with the collective

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.

The work was submitted to V international scientific conference «Present-day problems of science and education», Russia, (Moscow), May, 13-15, 2009, came to the editorial office 04.04.2009

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

Razin M.P.¹, Zykova I.V.¹, Razin A.P.², Makhneva V.A.¹

¹ Kirov state medical academy, Kirov, Russia

² Salsk central hospital, Salsk, Russia

During the last two decades, the number of the urinary system pathologies at children [1,2, 10], and obstructive anomalies [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. Loci HLA-A, HLA-B, HLA-C were identified with the help of the two-step micro lymphocytotoxicity test (Terasaki P. et al, 1970), loci 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 loci 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