SYSTEMIC VASCULITIS IN CHILDREN

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Systemic vasculitis (SV) is a systemic autoimmune disease of unknown etiology, pathogenetically associated with immunoregulatory disorders that cause hyperproduction of a wide range of organ-nonspecific autoantibodies to various components of the nucleus and immune complexes, causing immuno-inflammatory damage to blood vessels and dysfunction of internal organs [1, 6,8,9,10].

Vasculitis is characterized by multivariable manifestations, course and prognosis, exacerbations and remissions. Potential targets for immune aggression can be a variety of antigens of the nervous tissue [1, 2, 7]. Studies conducted in recent years have proven the commonality and interconnection of the nervous and immune systems, and the results of experimental developments have confirmed the similarity between their structures and functions, which contributed to the development of a new direction - neuroimmunology [1, 4, 5].

The purpose of the study was to evaluate the frequency of damage to the nervous system in vasculitis in children.

Material and methods. The study included 14 children (9 girls and 5 boys) who were hospitalized at the clinic of the Tashkent Medical Academy with a diagnosis of systemic vasculitis. The age of children is from 11 to 18 years, the duration of the disease ranged from 6 months to 3 years. 8 children were diagnosed with aortoarteritis and 6 with polyarteritis nodosa according to the ChHSK (Chapel Hill) 2012 classification.

Conducted clinical and laboratory-instrumental studies research: general and biochemical blood tests (hemoglobin, erythrocytes, leukocytes, ESR, C-reactive protein - CRP), antineutrophil cytoplasmic antibodies (ANCA), MSCT and duplex scanning of vessels. Examinations were carried out for 10 days in a hospital and then on an outpatient basis.

Results. Clinical manifestations of aortoarteritis and polyarteritis nodosa were characterized by night sweats 75% and 60%, loss of appetite 75% and 90%, weight loss 25% and 75%, fatigue 75% and 80%, myalgia 50% and 25%, arterial hypertension 90% and 100 %. A history of erythema nodosum 20% and 50%, myopericarditis 10% and 50%, rheumatoid arthritis 0% and 25%, and polymyositis 0% and 25% were observed. Against the background of the disappearance of the

pulse on the hands, a characteristic noise was observed over the carotid and subclavian arteries in children with aortoarteritis. When interpreting laboratory tests, an increase in C-reactive protein, titer of ACCP, ANA, ANCA was observed in all patients. On ultrasound: changes in the liver parenchyma were minor. No changes were found in the kidneys. On echocardioscopy, sealing of the aortic and mitral valves. Hypertrophy of the myocardium of the left ventricle and an increase in the cavity of the left atrium and ventricle. Among the instrumental methods for diagnosing vascular lesions in Takayasu's arteritis, the leading position was occupied by multislice contrast tomography of the arteries. It made it possible to assess the degree of hemodynamic disturbances as well as the state of the arterial wall. As can be seen from the table, a more severe course and damage to the nervous system were observed in children with aortoarteritis (Tab.1).

Tab.1.Clinical picture of patients with SV

Signs	SYSTEMIC VASCULITIS	
	Aortoarteritis (n = 8)	Polyarteritis nodosa (n = 6) %
Headache	80%	50%
visual disturbances	50%	50%
convulsive syndrome	60%	25%
Noise in my head	95%	50%
Hyperkinesis	20%	15%
Dizziness	60%	36%
General weakness	80%	45%
Cognitive decline	80%	60%

Pathological signs of immune inflammation according to the results of the study were high in children with polyarteriitis nodosa (Tab.2). Detection of immune complexes, cellular immune responses is an indicator of endothelial damage.

Tab.2. Results of laboratory tests

Variables SV	Aortoarteritis (n = 8)	Polyarteritis nodosa (n = 6) %	p value
Serum laboratory			
ACCP	8.87 ± 0.54	9.07 ± 1.44	0.3
ANCA	15 ± 1.63	22.8 ± 4.89	0.6
SRP	14.52 ± 7,2	20.08 ± 7,4	0.001
ANA	3.20 ± 0.94	4.01 ± 0.32	0.4

According to the results of laboratory tests, signs of immune inflammation were present in all children, but they were more pronounced in patients with polyarthritis nodosa, Both hemodynamic disturbances resulting from Takayasu's arteritis and the degree (intensity) of edema of the vascular wall were assessed, which served as an indirect sign of vasculitis activity. It was the visualization and interpretation of the intensity of swelling of the aortic wall or the main arteries as an indicator of their inflammation that was the basis of our study. In all cases of MSCT interpretations, we visualized a pronounced edema of the vascular wall, the disappearance of visualization of large arteries, which significantly correlated with the clinical and laboratory picture of the disease.

Mental disorders, including affective (anxiety-depressive spectrum) and psychotic disorders occur in more than half of patients suffering from vasculitis. The variety of neurological and mental symptoms is due to differences in immune disorders.

Conclusions. Systemic vasculitis was more common in girls. Progressive damage to vital organs and systems in vasculitis significantly reduces life expectancy, and also significantly limits the social and professional activity of patients. Nervous system disorders were found in all children, but they were severe in children with aortoarteritis. Neuromuscular disorders make a significant contribution to the polysyndromic clinical picture of vasculitis, however, the isolation of the "neuropathic" component in the complex of sensory and motor dysfunctions characteristic of these diseases is often difficult due to the severity of the vascular syndrome. To diagnose early neurological signs and prevent severe complications, it is advisable for all patients with systemic vasculitis to consult a neurologist.

LITERATURE

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