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CLINICAL SYMPTOMS OF CARDIOVASCULAR DISORDERS IN NEWBORNS, DEPENDING ON THE SEVERITY OF PERINATAL ENCEPHALOPATHY

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Abstract.

Relevance. One of the leading tasks of Uzbekistan's healthcare is to improve the health status of children. Mortality from cardiovascular diseases in children has not decreased, but has increased over the past 10-15 years. Therefore, the high incidence of damage to the cardiovascular system of newborns with perinatal encephalopathy of varying severity makes it necessary to study the development of the disease in more detail. Materials and methods of research. This work shows the results of studying anamnestic, clinical, paraclinical, and generally accepted laboratory data from 120 newborns with moderate and severe perinatal CNS damage who were in the Department of Neonatal Pathology and in the Neonatal Intensive Care Unit of the Regional Children's Multidisciplinary Medical Center in Samarkand (Chief Medical Officer-Professor M.K. Azizov), which is the clinical base of the Department of 1-Pediatrics and Neonatology of Samarkand Medical University. The clinical characteristics of the observed patients were based on the study of the features of the medical history, data from electrocardiography (ECG), echocardiography (Echo KG), neurosonography (NSG), electroencephalography (EEG) and, if necessary, computed tomography of the brain (MRI). The results of the study. The study showed a high reliable incidence of disorders of the cardiovascular system in newborns in the studied groups with perinatal CNS damage. The clinical signs of CVD in newborns differ significantly in the groups of patients with moderate to severe perinatal CNS damage. A study of CVD in patients showed that the majority of patients with severe perinatal CNS damage had more pronounced CVD disorders compared with the group of newborns with moderate CNS damage. Conclusion. An analysis of studies on the clinical symptoms of damage to the newborn's cardiovascular system in perinatal encephalopathy has shown that changes in the cardiovascular system can further affect the child's health and quality of life, and with late diagnosis and severe cases, the disease can occur with a complicated long-term course of perinatal encephalopathy, which can lead to childhood disability.

Key words: cardiovascular disorders, acrocyanosis, tachycardia, bradycardia, perinatal encephalopathy.

Relevance: Improving children's health is one of the leading tasks of Uzbekistan's healthcare system. The high prevalence and constant growth of neurological and cardiovascular morbidity in children, namely, the incidence of cardiovascular disorders depending on the severity of perinatal encephalopathy in the neonatal period is 40-90%, is the source of serious diseases in children and adultsx and affects their quality of life. Mortality from cardiovascular diseases in children is not decreasing, but over the past 10-15 years it has increased. Therefore, thehigh incidence of damage to the cardiovascular system of newborns with perinatal encephalopathy of varying severity makes it necessary to study the development of the disease in more detail. In order to reduce morbidity and child mortality, as well as to prevent serious diseases of children and adults, to improve the health status of children and their quality of life, to develop optimally effective diagnostic methods and prescribe adequate corrective treatment in the early recovery period, it is obvious to study the clinical symptoms of cardiovascular disorders in newborns, dependingon the stage severity of perinatal encephalopathy

Objective: to study the clinical symptoms of cardiovascular disorders in newborns, depending on the severity of perinatal encephalopathy , in order to develop effective methods of diagnosis and adequate treatment of the disease.

Material and methods of research.

This paper presents the results of studying anamnestic, clinical, paraclinical, and

generally accepted laboratory data in 120 newbornswith moderate and severe perinatal encephalopathy damage, who were in the Department of Neonatal Pathology and Neonatal Intensive Care of the Regional Children's Multidisciplinary Medical Center of Samarkand (Chief physician, Professor M. K. Azizov), which is the clinical base of the department Pediatrics and Neonatology, Samarkand Medical University.

Group I consisted of 50 newborns with functional changes in the cardiovascular system in patients with moderate perinatal encephalopathy damage. Group I included 40 newborns with functional changes in the cardiovascular system in patients with severe perinatal encephalopathy damage.

To assess the effectiveness of the diagnostic coefficient, group III included 30 newborns with perinatal encephalopathy damage. The control group consisted of 30 healthy newborns.

The clinical characteristics of the observed patients were based on the study of the features of the medical history, electrocardiography (ECG), echocardiography (ECHOCG), neurosonography (NSG), electroencephalography (EEG) and, if necessary, computed tomography andbrain examination (MRI).

Survey results.

When analyzing the frequency of occurrence of clinical symptoms of cardiovascular disorders in newborns with perinatal encephalopathy damage, in a significant number of patients with newborns with perinatal encephalopathy damage with the presenceand changes of cardiovascular system, verification of their diagnosis according to physical examination caused certain difficulties, due to the similarity of a number of symptoms. The results of an objective examination of sick children are presented in Table 1.1 and Figures 1.1 and 1.2.

Table-1.1. Clinical symptoms of cardiovascular disorders in newborns with perinatal encephalopathy damage (frequency in %)

№	Indicators	Group I (n=50)		Group II (n=40)	
		Abs.	%	Abs.	%
1	Marbling of the skin	3	6.0,0	9	22.5
2	Generalized cyanosis	1	2.0	3	7.5
3	Acrocyanosis	2	4.0	7	17.5
4	Muffled heart tones	4	8.0,0	16	40.0
5	Deafness of heart tones	7	14.0,0	11	22.5
6	Systolic murmur at the apex of the heart	8	16.0	19	47.5
7	Systolic murmur at the base of the heart	12	24.0,0	14	35.0
8	Accent II tone over the pulmonary artery	9	18.0	17	42.5
9	Tachycardia	12	24.0	27	67.5
10	Bradycardia	9	18.0,0	12	30.0

It was found that in contrast to patients in group I, group II had a higher frequency of dyspnea, and dyspnea increased with anxiety.

As a result of an objective examination of sick children, it was revealed thatmarbling of the skin occurred in 6.0% of newborns in group I, while the occurrence of marbling of the skin was 22.5% in II group II; general cyanosis also occurred less frequently in I group than in group II (2.0% and 7.5%, respectively); acrocyanosis in group II, ALS occurred much more frequently than in group I: 4.0% and 17.5%; tachycardia and bradycardia in group II were detected twice as often as in group I: tachycardia-24.0% and 67.5%, bradycardia-18.0% and 30.0%, respectively.

This diagram clearly shows how much the clinical signs of cardiovascular system changed in newborns in groups I and II, divided according to the degree of encephalopathy damage (moderate and severe). Marbling of the skin in the first group of patients was observed 3 times less (6%) than in the second group (22.5%) of patients. Generalized cyanosis was observed in I group I (2%) 3.5 times less than in II group II (7.5 %). Acrocyanosis in I group I was observed 4 times less than in II group II (4% - 17.5 %, respectively). Tachycardia was observed in group I (24%) 3 times less than in II group II (67.5 %) . Bradycardia in I group I (18%) was observed almost 2 times less than in patients in II group II (30 %).

It can be concluded that the clinical signs of cardiovascular sistem in newborns differ significantly in the groups of patients with moderate and severe severity of perinatal

encephalopathy damage.

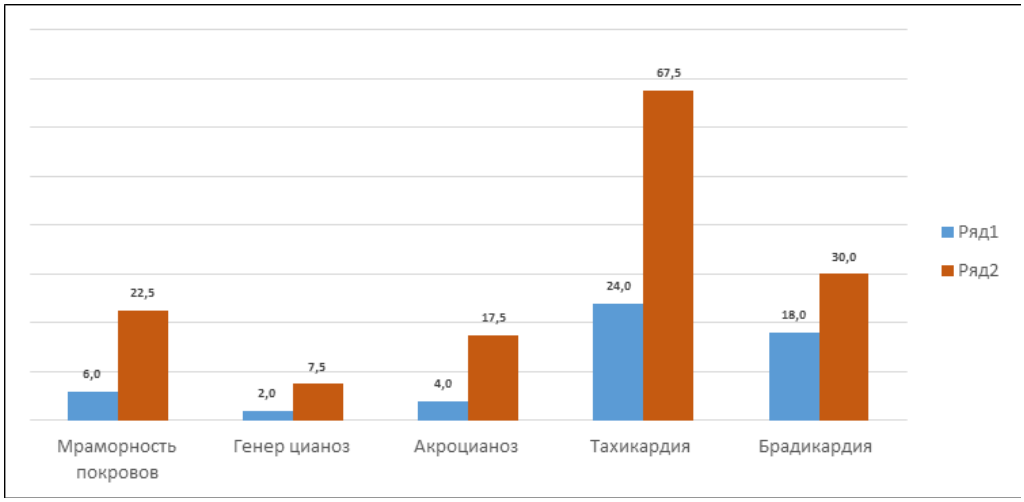

Figure-1.1. Frequency of symptoms of cardiovascular system changes in patients (%).

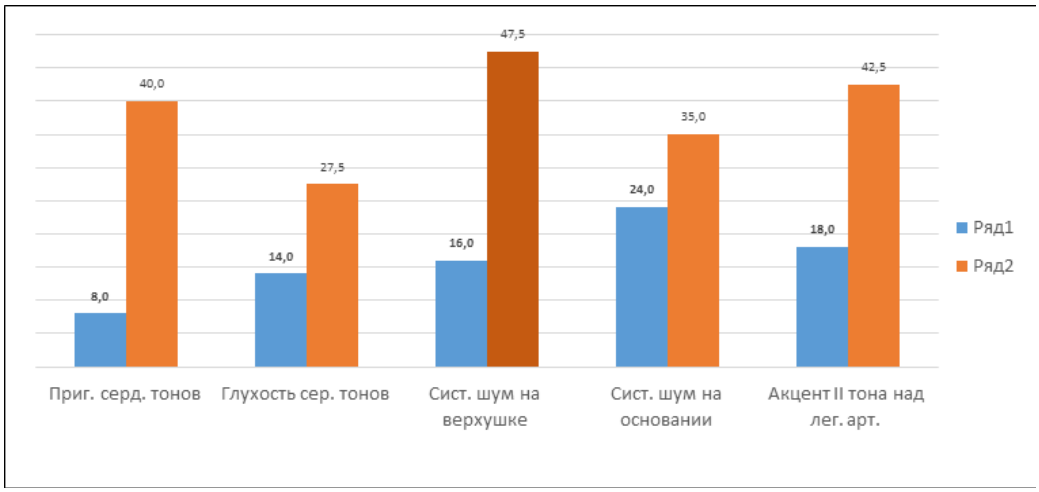

Figure-1.2. Frequency of auscultative changes in CVS in patients.

Auscultation data of the cardiac system revealed significant differences (Figure 2.5), for example, muffled heart tones were detected in 8.0% of patients Iin group I and 40.0% in children IIin group II, deafness of heart tones in 14.0% and 27.5%, systolic murmur at the apexof the heart in 16.0% and 47.5%, systolic murmur at the apex of the heart in heart disease in 24.0% and 35.05%, accent II tone over the pulmonary artery in 18.0% and 42.5%, respectively, in groups I and II of newborns. And so the difference in auscultation changes of the cardiovascular system in patients in II group II significantly exceeded the values in I group I, namely: muffled heart tones in II group II are 5 times greater than in I group I, deafness of heart tones in II group II is almost 2 times greater than I in group I, systolic murmur at the apexof the heart in II group II, almost 3 times more than I in group I, systolic murmur based on the heart in II group II is almost 1.5 times more than I in group I

Table-1.6. Dynamics of disappearance of pathological CVD symptoms in patients (in days)

Symptoms	Group I Group	II	P
Cyanosis	4.1±0.6,6	7.3±1.1	<0.0,01
Heart tone deafness	3.1±0.4	7.1±1.3	<0.01
Systolic murmur	5.1±0.6	7.2±1.0	>0.1
Tachycardia	3.8±0.4	5.5±0.5	<0.01
Bradycardia	2.7±0.2	3.9±0.4	<0.01

Note: P is the significance of differences between groups.

In the course of studying the dynamics of the disappearance of pathological symptoms from the cardiovascular system in newborns who underwent perinatal

encephalopathy damage, differences between the groups were significant for cyanosis, which disappeared in group I by 4.1±0.6 days, in group II by 7.3±1.1 days, tone deafness by 3.1±0.4 and 7.1±1.3, tachycardia by 3.8±0.4 and by 5.5±0.5, bradycardia by 2.7±0.2 and by 3.9±0.4 days, respectively, in the observation groups (P<0.01). The only unreliable difference between the groups was such a pathological symptom as systolic murmur - by 5.1±0.6 and 7.2±1.0 days (P >0.1).

Table-1.7. Analysis of heart rate and respiratory rate in patients with perinatal damage to the central nervous system.

Indicator	I group	II group	P
Heart rate (per minute)	111.4 ±5.3	122.6 ±7.8	<0.05,05
BH (per minute)	46.4 ±3.2	52.2 ±2.6	<0.05

Note: P is the significance of differences between groups.

Table 1.7 shows that the significance of heart rate differences between groups I and II was <0.05,05, and similarly, the significance of heart rate differences between groups I and II was<<0.05,05

The study of cardiovascular sistem in patients showed that the majority of patients with severe hypertension with perinatal encephalopathy damage had more pronounced cardiovascular sistem disorders in comparison with the group of newborns with an average degree of encephalopathy damage.

Conclusions.

Thus, the analysis of clinical syndromes and symptoms, as well as indicators of instrumental studies shows that in newborns, depending on the severity of perinatal encephalopathy, cardiovascular disorders can later affect the chealth status of children and adults, negatively affect the quality of life, and with late diagnosis, can lead to child disability.

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