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RISK FACTORS FOR THE DEVELOPMENT AND SEVERITY OF PERINATAL ENCEPHALOPATHY IN NEWBORNS

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ANNOTATION

90 children with perinatal encephalopathy of varying severity were examined. It was revealed that in the occurrence and development of perinatal encephalopathy, there is a dependence on the presence and frequency of pathology of obstetric and gynecological history, the course of pregnancy and childbirth. It was determined that the most significant risk factors for the development of perinatal encephalopathy are: abortions, the threat of termination of pregnancy, chronic adnexitis, rapid childbirth. Of particular importance was the presence of severe anemia in pregnant women, which was a factor in chronic fetal hypoxia, and then influenced the development of a more severe course of perinatal encephalopathy of newborns

Keywords: risk factors, perinatal encephalopathy, newborns

Introduction

One of the most important problems of neonatology and the leading place in the structure of perinatal morbidity is perinatal encephalopathy [3]. From the first days of pregnancy, complex metabolic relationships arise between the fetus and the mother's body, which determine the further course of pregnancy, the development of the intrauterine fetus and the health status of the newborn child [4,6,7]. Such a pattern indicates that in the etiopathogenesis of perinatal encephalopathy of newborns, the leading place is occupied by the presence and frequency of pathology of obstetric and gynecological anamnesis, the course of pregnancy and childbirth [8, 9, 10,11].

In newborns with perinatal hypoxia, growing hypoxic-ischemic changes in many organs and systems of the body are further manifested mainly by perinatal lesions of the central nervous system [1,2]. In this case, the complex of changes has an adverse effect on both the central nervous system, disrupting the regulatory effect of subcortical structures of the brain on the functional state of

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internal organs, and directly on the cardiovascular system [5,12,13], which in turn undoubtedly has an adverse effect on the neurological status.

However, the development and application of modern preventive and therapeutic measures, perinatal encephalopathy occurs in 5-30% of newborns and occupies one of the leading places in the structure of neonatal morbidity and disability of children [9, 14, 15].

Purpose of Research:

Determine the risk factors for the development and severity of perinatal encephalopathy in newborns.

Material and Methods of Research

In connection with the above, according to the goal of a accidental sampling, 90 newborn children were selected, of which 2 groups were formed: I group of 50 newborns with moderate perinatal encephalopathy and II group of 40 newborns with severe perinatal encephalopathy, who were on inpatient treatment in the department of pathology of newborns of the Samarkand regional Children's Multidisciplinary Medical Center of Samarkand.

The analysis of mothers of newborns was carried out by the number of pregnancies, analysis of the age of mothers, the frequency of the presence of obstetric and gynecological history, the degree of anemia, the analysis of extragenital pathology in the mothers of newborns of the groups we have studied.

The Results of the Research

In the analysis of newborn mothers of groups I and II with perinatal encephalopathy, it was revealed that all women, during pregnancy, were regularly observed by an obstetrician-gynecologist in family polyclinics at the place of residence.

In the analysis of pregnancy parity, it was found that there were 11 (22.0%) first-time pregnant women in group I, 16 (32.0%) women had 2nd time pregnancy and 23 (46.0) had 3rd time pregnancy or more, in group II, 9 (22.5%) women had 1st pregnancy, 13 (32.5%) and 18 (45.0%) women had 3rd time pregnancy or more, as shown in chart 1.

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Chart 1 Distribution of mothers of newborns by the number of pregnancies

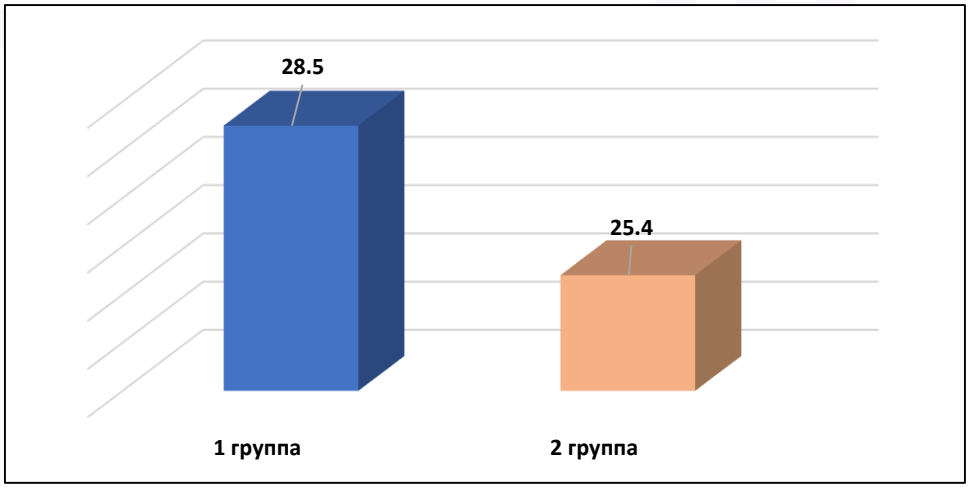
Pregnancy	I group n=50		II group n=40	
	Абс.	%	Абс.	%
1st time pregnancy	11	22,0	9	22,5
2nd time pregnancy	16	32,0	13	32,5
3rd time pregnancy or more	23	46,0	18	45,0
Total point	50	100,0	40	100

During the process of analyzing the age of mothers of newborns in viewed groups, it was discovered that the age of mothers has been almost same in all groups and ranged from 18 to 40 years (chart 2., pic 1).

Chart 2 Compared age composition groups of mothers of newborns

Age	1st group n=50		2nd group n=40	
	Абс.	%	Абс.	%
18-19 years	7	14,0	5	12,5
20-25 years	6	12,0	9	22,5
26-30 years	24	48,0	17	42,5
31-35 years	7	14,0	4	10
36 years and more	6	12,0	5	12,5
Total point	50	100,0	40	100

At the same time, the average age of mothers of children in both groups was approximately the same and averaged about 28,5±0,7 and 25,4±1,1 years in I and II groups.



Chart

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1. Indicators of the average age of mothers and children of the compared groups.

When identifying the frequency of the presence of an obstetric and gynecological history, it was revealed that basically all women of group I had a burdened gynecological history 28 (70.0%) consequently, in group II, a burdened obstetric history was found in only 24 (48.06%) mothers, which was lower.

In the obstetric and gynecological history of women in the comparison groups were identified the following points: irregular menstrual cycle, ARVI (acute respiratory viral infection), carried out in the second and third trimesters of pregnancy, urinary tract infections, etc. At the same time, medical abortions, spontaneous abortions, and termination of pregnancy for medical reasons were also more often observed in the group of mothers with severe encephalopathy (Chart 3), while threatening termination of pregnancy, gestosis of pregnancy occurred with the same frequency in both groups.

Chart 3 Obstetric anamnesis of mothers of newborns in the observed groups

Indicators	I group n=50		II group n=40	
	Абс.	%	Абс.	%
Medical abortion	5	10,0	9	22,5
Spontaneous abortion	7	15,0	13	32,5
A miscarriage risk	9	18,0	10	25,0
Abortion for medical reasons	9	18,0	17	42,5
Gestosis of pregnant women	24	48	23	57,5

It is known that hypoxic lesions in newborns are the result of many causes (maternal diseases, fetoplacental insufficiency, gestosis, etc.); a number of scientific researchs have shown that in conditions of lack of oxygen in a newborn, oxidative stress develops metabolism and cell functions to be disrupted. The reflection of these processes in normal and pathological conditions in pregnant mothers is the reaction of blood cells.

This was confirmed by our studies, when a high incidence of anemia of pregnant women was observed in the all compared groups (Chart 4).

Chart 4 The degree of anemia in mothers of newborns of the observed groups

Degree of anemia	I group n=50		II group n=40	
	%	Абс.	%	Абс.
1 degree	11	22,0	13	32,5
2 degree	4	8,0	9	22,5
3 degree	2	4,0	11	27,5
Total point	17	34,0	33	82,5

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Simultaneously, anemia in mothers was especially pronounced in frequency and severity in category of children in group II 33 (82.5%), while in group I 17 (34.0%) mothers had anemia.

In some women, extragenital pathology was of a combined nature, which is reflected in Chart 5. The presence of chronic extragenital diseases was registered in 16 mothers of newborns (32.0%) group I, including 4 women (8.0%) with 2 or more nosological forms observed simultaneously. Respectively, the most frequent variants of pathology were neurocirculatory dystonia and pyelonephritis in 4 (8.0%) and 3 (6.0%) cases in each nosology.

There were also chronic diseases of the digestive system (gastritis, cholecystitis) – 3 (6.0%), endocrine pathology (obesity, thyroid diseases – 3 (6.0%) in group I mothers. At the same time, the detection of extragenital pathology in mothers in group II, extragenital pathology was found in only 7 mothers (17.5%) and was expressed in the presence of pyelonephritis 2 (5.0%) and chronic diseases of the gastrointestinal tract 3 (7.5%), 2 (5.0%) mothers of this group had grade 1 obesity. The mothers of the compared groups had a relatively high frequency of detection of TORCH infection in group II, who had a high frequency of herpetic and cytomegalovirus infection (CMV): 3 (6.0%) of group I and 17 (42.5%) of group II.

Chart 5 Frequency of extragenital pathology manifestations in newborn mothers

Diseases	I group n=50		II group n=40	
	Абс.	%	Абс.	%
Pyelonephritis	3	6,0	2	5,0
Neurocirculatory dystonia	4	8,0	4	10,0
Gastritis, cholecystitis, biliary tract dysfunction	3	6,0	3	7,5
Endocrine pathology (obesity, thyroid diseases)	3	4,0	2	5,0
The presence of an increased titer IgG (herpes simplex, CMV)	3	6,0	17	42,5

Conclusion

In this way, the results of the investigates showed that the occurrence and development of the severity of perinatal encephalopathy, it depends on the presence and frequency of pathology of obstetric and gynecological anamnesis, the course of pregnancy and childbirth. Based on this, it can be assumed that the most significant risk factors for the development of perinatal encephalopathy

are: abortions, the threat of termination of pregnancy, chronic adnexitis, and rapid childbirth. The particular importance is the presence of severe anemia in pregnant women, which was a factor in chronic fetal hypoxia, and then influenced the development of a more severe course of perinatal newborns encephalopathy.

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