Volume 3, Issue 2, February 2025 ISSN (E): 2938-3765

INFORMATIVE VALUE OF NEWBORN BLOOD TESTS WITH AN INTRAUTERINE INFECTION

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Abstract
Intrauterine infections are caused mainly by bacterial and viral pathogens that have penetrated to the fetus from the mother before or during childbirth. Intrauterine infection (IUI) has numerous manifestations, such as conjunctivitis, rhinitis, pyoderma, pneumonia, hepatitis, otitis, meningoencephalitis, up to the development of sepsis. However, intrauterine infection does not always lead to generalized IUI, in some cases infected children do not have any clinical symptoms of the disease. The aim of the study was to study the most common variants of IUI in newborns and to determine their relationship with infectious urogenital and extragenital diseases of the mother. The analysis of the birth histories and the development histories of newborns, including the somatic and obstetric-gynecological anamnesis of the pregnant woman, the course of pregnancy and childbirth, the results of clinical and laboratory studies, as well as the assessment of the child's condition after childbirth, was carried out.

Keywords: Intrauterine infections, newborns, extragenital diseases.

Introduction

Intrauterine infections (IUI) are characterized by polyetiology, the absence of specific signs and a wide variety of clinical manifestations, which complicates their antenatal diagnosis and, as a consequence, preventive measures and treatment of the realized infection [1,11,14].

Intrauterine infection (IUI) is one of the most important medical and social problems in modern perinatology. VUI develops in 27,4 – 36,6% of children born alive, and infectious pathology occupies one of the leading places in the structure of newborn mortality, causing from 11 to 45% of child deaths. [2,12,15] Intrauterine infections are characterized by polyetiology, the absence of specific signs and a wide variety of clinical manifestations, which complicates their antenatal diagnosis and, as a consequence, preventive measures and treatment of the realized infection. At the moment, it is not known why, with intrauterine infection of the fetus, the pulmonary system is one of the most vulnerable places [3,10,13,16].

In the world, 1.79 cases of intrauterine pneumonia (IUP) are recorded per 1,000 newborns. This disease is still a serious threat to the life of a child [4,5,17]. At the same time, according to A. R. Zaripova, pneumonia associated with the provision of medical care amounts to 1.02 cases per 1000 newborns. According to E. G. Sulima (2006), the VUP of bacterial nature in newborns is a clinical manifestation of septicemia, and the bronchopulmonary system is the gateway to infection.

Currently, there is an increase in the incidence of intrauterine pneumonia in full-term newborns [6,7,18]. This severe disease of the newborn, which has a significant impact on the further physical

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development of the child, can contribute to the formation of chronic bronchopulmonary disease, allergic processes, and a decrease in immunological reactivity, therefore, the study of the clinical features of the VUP remains an urgent problem of modern pediatrics [8,9].

The purpose of the study. To identify the results of tests of newborns with intrauterine infection and to determine their relationship with urogenital and extragenital diseases of the mother.

Material and Methods of Research

In order to identify cases of intrauterine infection of newborns, an analysis of birth histories and newborn development histories was performed, including the somatic and obstetric-gynecological history of the pregnant woman, the course of pregnancy and childbirth, the results of clinical and laboratory studies, as well as an assessment of the child's condition after childbirth (Apgar scale, weight and height, neurological status, the course of the early neonatal period), laboratory and instrumental examination of a newborn (general blood test, biochemical blood test, umbilical cord blood culture, determination of CRP, procalcitonin test, chest X-ray). To achieve this goal, VI groups of patients were formed:

Group I included 102 women of high infectious risk, whose children had no signs of an infectious process at birth.The II included 34 women whose children had signs of the implementation of VUI at birth.

Group III included 43 patients with a low infectious risk, whose children had no signs of infection. The study included newborns diagnosed with VUI and their mothers.Group IV includes 100 newborns diagnosed with intrauterine infection. Group V consisted of newborns with intrauterine pneumonia, group VI - newborns without intrauterine pneumonia.

Results and their discussion. In the course of the work, the health status of 179 pregnant women was analyzed, extragenital pathology was revealed, the most common diseases are urinary tract pathology - 49 (36%) women, chronic pyelonephritis - 41 (30%). Most women have a burdened obstetric and gynecological history: medical abortions - 64 (47%), miscarriages - 37 (27%), chronic salpingoophoritis with repeated exacerbation - 57 (42%), colpitis - 83 (61%), bacterial vaginosis - 41 (30%), benign cervical changes- 34 (25%). The first half of pregnancy was complicated by toxicosis in 56 (41%) women, anemia – in 22 (16%), the threat of termination of pregnancy in 56 (41%), infectious diseases – in 30 (22%), ARVI – in 26 (19%), candidiasis – in 64 (47%), bacterial vaginosis - in 41 (30%), benign cervical changes-34 (25%). The most frequent complications of the second half of pregnancy: the threat of termination of pregnancy - 94 (69%), anemia - 71 (52%), CFPN (chronic fetoplacental insufficiency) - 71 (52%), exacerbation of pyelonephritis-53 (39%), colpitis - 60 (44%), polyhydramnios - 34 (25%). Prenatal outpouring of amniotic fluid was observed in 41 (30%) pregnant women, the duration of the anhydrous period was more than 12 hours in 30 (22%) women, pathology of amniotic fluid in 41 (30%). In 108 (80%) newborns, the Apgar score at the 1st minute of life is less than 7 points, 6 points in 38% (52 newborns), 5 points in 22% (30 newborns), 4 points in 8% (11 newborns), 3 points in 8 % (11 newborns), 52 (38%) children had signs of prematurity.

In 100 newborns of group IV, congenital pneumonia was the most common — 96 (96%) of newborns. In 11 (11%) — congenital rhinitis, in 5 (5%) — congenital vesiculosis. 71 (74%) newborns with congenital pneumonia had no respiratory failure, 15 (16%) had grade 1 DN, 7

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(7.2%) had grade 2 DN and 6 (6,2%) had grade 3 DN. The analysis of concomitant pathology showed that there are significant differences in the groups of newborns for perinatal hypoxic-ischemic damage of the central nervous system (CNS) (p = 0.001 according to Pearson's -2).

In group V of newborns with intrauterine pneumonia, hypoxic-ischemic CNS lesion of the II degree was diagnosed in 92,0%, and perinatal hypoxic-ischemic CNS lesion of the III degree was diagnosed in 6,0% of cases.

In group VI, perinatal hypoxic-ischemic CNS lesion of the II degree was diagnosed in 40,0%, and perinatal hypoxic-ischemic CNS lesion of the III degree was diagnosed in 2,0% of newborns.

Conclusions

Summing up, we conclude that the risk factors for the development of infection in newborns are the presence of infectious and inflammatory pathology in the mother's anamnesis (colpitis, vaginitis, chronic pyelonephritis, etc. pathologies), the threat of termination of pregnancy, as well as polyhydramnios is a prognostically unfavorable criterion for the implementation of IUI in infection. As for the prenatal outpouring of amniotic fluid and a long anhydrous period, they also contribute to an increase in the risk of ascending infection by microorganisms of the birth canal, which in turn leads to an increased risk of infection in the newborn. The most common pathology in children in the intensive care unit was congenital pneumonia — 96%, in every third case occurring with respiratory failure. A frequent combination of VUP with perinatal hypoxic-ischemic CNS lesion was revealed.

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