PERINATAL RISK FACTORS FOR THE DEVELOPMENT OF EARLY NEONATAL SEPSIS IN NEWBORNS

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Neonatal sepsis is a leading cause of morbidity and mortality in newborns due to the nonspecific nature of its symptoms, which complicates early diagnosis. Early-onset sepsis remains a serious problem for newborns, particularly preterm infants. Neonatal sepsis is a systemic infection that occurs in infants within the first 28 days of postnatal life and is a significant cause of morbidity and mortality.

Research Objective. Identify perinatal risk factors for the development of early neonatal sepsis in newborns.

Materials and Methods. The study was conducted from 2020 to 2023. A total of 195 mothers and their newborns were examined, divided into main and control groups. The main group included 129 newborns with early neonatal sepsis. Of these, subgroup 1a consisted of 82 preterm infants, and subgroup 1b included 47 full-term infants. The second control group consisted of 66 practically healthy newborns born to mothers with favorable pregnancies, normal Apgar scores at birth, no intrauterine hypoxia, and physiological early adaptation periods. To conduct clinical-anamnestic studies, childbirth histories (Form No. 98) were analyzed. Statistical analysis was performed using Microsoft Excel 2010, Statistica 6.1 software, with statistical functions and Student's t-test (t) to calculate error probability (P). The relative risk of pathology was assessed using the odds ratio (OR) with a 95% confidence interval (CI) and chi-square test.

Research Results. The data showed that the most burdensome obstetric history was observed among mothers whose preterm infants developed early sepsis. For example, the incidence of abortions in the history of mothers of preterm infants with sepsis was 1.7 times higher than in mothers of full-term newborns and nearly twice as high as in the control group.

The number of miscarriages in mothers of preterm infants was 3.5 times higher than in the control group. Mothers of preterm infants with sepsis had 1.4 times more cases of previous child death than the group of full-term infants and 4.3 times more than the control group.

Thus, the histories of mothers of preterm infants with early sepsis showed significantly more abortions, miscarriages, and previous child deaths than those of mothers of full-term infants with early neonatal sepsis. In the next phase of our work, we analyzed the course of pregnancy and childbirth in the study groups.

The data showed that risk factors such as threatened pregnancy termination, oligohydramnios, polyhydramnios, maternal fever in the last two weeks before delivery, and fever during childbirth, as well as cesarean sections, were significantly more common

(P<0.001) among mothers of preterm infants with early sepsis than in mothers of full-term newborns with early sepsis and more frequent than in the control group.

It is worth noting that maternal risk factors such as preeclampsia, severe preeclampsia, cloudy amniotic fluid, premature placental abruption, and abnormal fetal position also occurred significantly more often (P<0.001) in the group of preterm infants than in the group of full-term infants with early sepsis, and were absent in the control group. In our observations, cord entanglement was significantly more frequent in the group of full-term newborns with early sepsis (P<0.001) than in the group of preterm newborns.

The risk factor of a prolonged waterless interval did not show significant differences between the preterm and full-term groups, occurring with similar frequency in both. Physiological deliveries were significantly less frequent in the group of preterm infants with early sepsis than in the group of full-term newborns and the control group.

Conclusions. The data indicate that the predominance of miscarriages and previous child deaths in these mothers' obstetric histories may also indicate the presence of infections. In the antenatal period, significant risk factors, especially for preterm infants, included threatened pregnancy termination, preeclampsia, and severe preeclampsia.

In the intrapartum period, maternal fever in the last two weeks before delivery, fever during labor, premature placental abruption, prolonged waterless interval, and cloudy amniotic fluid were significant risk factors.