

NEONATAL SEPSIS IN NEWBORNS: EARLY SIGNS AND TREATMENT

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Annotation: This scientific work examines the early signs of neonatal sepsis in newborns and effective methods of treatment. The study analyzes the etiology, pathogenesis, and clinical manifestations of sepsis, with particular emphasis on the importance of early diagnosis. It is noted that the weak immune system of the newborn may contribute to the severe course of the disease. The role of laboratory tests and modern diagnostic methods in early detection, as well as the importance of antimicrobial therapy, is highlighted. Preventive measures are also emphasized, especially the importance of hygiene practices before and after childbirth. The work serves as a valuable source of information for neonatal care physicians and medical students.

Key words: Neonatal sepsis, yangi tug'ilgan chaqaloq, erta belgilar, diagnostika, davolash, antimikrob terapiya, immun tizimi, infektsiya, tug'ruqdan keyingi parvarish, profilaktika.

Introduction

The health of newborns is one of the important criteria reflecting the level of medical, social and economic development of each society. In particular, the neonatal period - that is, the first 28 days of life - is considered one of the most dangerous, complex and intensive care stages for the baby. One of the most severe and dangerous conditions that occurs during this period is neonatal sepsis. Neonatal sepsis is an inflammatory condition that occurs in the baby's body under the influence of infectious agents, covering the whole body, which, if not detected in time or not treated properly, can lead to life-threatening consequences.

In medical practice, neonatal sepsis is divided into two types: early-onset (developing within 0–72 hours) and late-onset (manifested after 3 days). Early-onset neonatal sepsis, in particular, is caused by microorganisms transmitted from mother to baby in the perinatal period (before or during birth). This condition is often associated with streptococci, Escherichia coli, listeria and other pathogenic bacteria. Diagnosis is difficult due to the lack of clear signs of sepsis in the early stages, and the general clinical symptoms are similar to other neonatal diseases. This, in turn, leads to delayed medical care, which puts the baby's life at risk.

Therefore, the main goal of studying this topic is to provide detailed information about the early signs of neonatal sepsis in newborns, how to detect them, modern diagnostic methods and treatment measures. By analyzing the early signs of neonatal sepsis and effective treatment methods based on a scientific and medical approach, it will be possible to reduce perinatal



mortality rates and increase the baby's chances of living a healthy life. At the same time, it is also important to widely promote preventive measures to prevent sepsis.

Methods

This study investigated the clinical signs, diagnostic methods, and treatment approaches of neonatal sepsis in newborns at the early stages. The study was based on clinical cases observed in neonatology departments of health care institutions, modern scientific literature, statistical data, and practical experience.

The study mainly used the observational method. During clinical observations, body temperature, respiratory rate, heart rate, feeding activity, reflexes, and general condition of newborns were assessed. In cases of suspected neonatal sepsis, laboratory tests were performed - complete blood count, C-reactive protein (CRP), procalcitonin level, and hemoculture (blood culture). In addition, interviews were conducted with the mothers of the infants and information was collected about perinatal factors, infectious risks, and the labor process.

When analyzing treatment methods, antibiotic therapy regimens, their selection criteria, treatment duration, and clinical response were studied. Medical records, patient histories, and physicians' treatment strategies were reviewed and compared.

The data obtained during the study were statistically processed and compared with current clinical protocols. Based on the results, the most effective methods for early detection and treatment of neonatal sepsis were recommended.

This methodological approach will serve to early detection of neonatal sepsis, increase the effectiveness of treatment, and save the lives of infants.

Results

As a result of the observations and analyses, it was found that early signs of neonatal sepsis in newborns are often vague and manifest in the form of general symptoms. In most of the infants participating in the study, the first signs of sepsis were a decrease or increase in body temperature, poor feeding, lethargy (sluggishness), respiratory distress, and pale skin. Especially in infants with these signs observed in the first 48 hours of life, the probability of sepsis was high.

According to the results of laboratory tests, leukocytosis or leukopenia, thrombocytopenia, increased levels of CRP and procalcitonin in blood tests were noted as the main indicators confirming sepsis. The results of blood culture played an important role in determining the presence of bacterial infection. In particular, in cases where pathogens such as *Streptococcus agalactiae*, *Escherichia coli*, and *Listeria monocytogenes* were detected, the condition of the infants was severe.

When analyzing the results of treatment, positive clinical changes were observed in most patients who started antibiotic therapy early. Early response to broad-spectrum antibiotics such as ampicillin and gentamicin was positive. Delayed antibiotic administration was associated with increased sepsis and complications.



The study showed that early detection and prompt treatment of neonatal sepsis significantly increased infant survival. In addition, perinatal hygiene, timely treatment of maternal infections, and sterile conditions during delivery can reduce neonatal sepsis.

Discussion

The study once again confirmed that neonatal sepsis is a serious life-threatening condition for newborns. Diagnosis is difficult, especially since the clinical signs of sepsis in the early stages are vague and similar to other diseases. The study found that changes in body temperature, respiratory failure, poor feeding, drowsiness, and pallor are the most important early signs of neonatal sepsis. These signs are the first forms of the baby's body's reaction to infection, and ignoring them can lead to serious consequences.

The use of laboratory detection methods, in particular, increased levels of CRP and procalcitonin, changes in the number of leukocytes in the blood, and hemoculture analysis serve as important diagnostic tools in the diagnosis of sepsis. These methods allow you to reliably determine whether there are inflammatory processes in the baby's body. However, in practice, the limited ability to conduct such analyzes in a timely manner or the lack of medical equipment complicates the diagnosis.

In terms of treatment, it was observed that the use of early antibiotic therapy gave significant positive results. The combination of broad-spectrum antibiotics - ampicillin and gentamicin - used in the study showed that in most cases the symptoms of sepsis were eliminated without worsening. At the same time, it was emphasized that in each clinical case, the individual selection of antibiotics, dosages and duration of treatment should be carefully determined by the doctor.

One of the most important conclusions identified during the discussion is that the vigilance of medical personnel, the use of modern diagnostic tools and compliance with perinatal hygiene are crucial for the early detection and treatment of neonatal sepsis. This will not only save the baby's life, but also ensure its long-term healthy development.

Conclusion

Neonatal sepsis is an infectious condition that poses a serious threat to the lives of newborns, and the issue of its early detection and effective treatment is one of the urgent problems in the field of modern neonatology. Observations and analyses conducted within the framework of this scientific work have shown that the early stages of sepsis are often manifested by vague clinical signs. In particular, signs such as poor sucking, a decrease or increase in body temperature, rapid breathing, drowsiness, and pale skin are early warning signs of this disease.

During the study, approaches that combined clinical and laboratory methods showed high efficiency in detecting neonatal sepsis. In particular, laboratory indicators such as increased levels of CRP and procalcitonin, abnormal leukocyte counts, as well as the detection of bacterial infections by hemoculture became the main elements of the diagnostic process. This allowed for early diagnosis and the initiation of appropriate treatment.

As for treatment methods, antibiotic therapy remains the main tool in the fight against neonatal sepsis. The combination of broad-spectrum antibiotics, including ampicillin and gentamicin, led to positive clinical changes in the majority of infants in the study. However,



when choosing antibiotics, it is important to take into account the individual condition of each patient, as well as determine the sensitivity of the pathogen. Otherwise, incorrectly selected antibiotics or delayed treatment can lead to aggravation of sepsis, even death of the baby.

Also, measures to prevent neonatal sepsis played an important role in this work. The results of the study showed that adherence to hygienic standards in the perinatal period, early detection and treatment of infectious diseases that may be present in the mother's body, as well as conducting the delivery process in sterile conditions are important factors in the prevention of neonatal sepsis. In particular, high-level disinfection in maternity hospitals and neonatology departments, hygienic culture of staff and a caring approach to infants play a decisive role in the prevention of sepsis.

In conclusion, neonatal sepsis can be prevented in newborns by early detection, proper and timely treatment, and strict adherence to perinatal and postnatal hygiene requirements. The life of every baby is priceless, and its preservation is an important task of modern medicine. Therefore, in the fight against neonatal sepsis, all medical personnel, especially pediatricians and neonatologists, must always be vigilant, knowledgeable, and responsible.

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