

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



## **МАТЕРІАЛИ**

**105-ї підсумкової науково-практичної конференції  
з міжнародною участю  
професорсько-викладацького персоналу  
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ  
присвяченої 80-річчю БДМУ  
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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## **FEATURES OF TREATING BABIES WITH NEONATAL SEPSIS**

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**Introduction.** The priority of the problem of sepsis in infants is because of the mortality from it in this age group, which ranges from 11 to 19%, as well as the long-term consequences for the development of the children's nervous system. Comprehensive treatment of sepsis-affected infants requires, on the one hand, an individualized approach and management considering biomarkers, and interdisciplinary complex treatment of multi-organ mismatch problems, including hyper-inflammatory syndromes, severe multisystem inflammatory syndrome with individual treatment of these complicated disorders.

**The aim of the study** was: to conduct a comparative analysis of the effectiveness of etiotropic treatment and supporting therapy of infants with neonatal sepsis with an alternative content of C-reactive protein in the blood serum to improve individualized therapy of generalized infectious and inflammatory diseases in the neonatal period.

**Material and methods.** A comprehensive examination of 56 newborns suffering from neonatal sepsis was conducted. The examination of patients was carried out in the neonatal departments of the Chernivtsi Regional Children's Clinical Hospital between 2021-2022. The group-forming characteristic was the average group indicator of the serum content of C-reactive protein. The first clinical group included 25 patients with neonatal sepsis with a blood serum level of C-reactive protein <20 mg/l (average group indicator was  $8.8 \pm 0.41$  mg/l). 31 newborns with sepsis formed the second group in blood serum of C-reactive protein >20 mg/l (average group level –  $29.7 \pm 1.89$  mg/l,  $p < 0.05$ ). The main clinical characteristics of the groups were comparable.

**Results.** The work shows that patients with higher indicators of the inflammatory response have a greater need for combined antibacterial therapy than patients in the first clinical group. Every fifth (20.0%) newborn of I group, and only 11.4% of patients of the II clinical group ( $R_p > 0.05$ ) underwent another change of etiotropic treatment because of insufficient effectiveness of the previous two courses. Thus, with a low level of C-reactive protein in blood serum in patients with neonatal sepsis, a higher risk was determined in the re-examination of compliance with etiotropic therapy: OR (odds ratio) = 1.9 (95% CI (confidence intervals) 0.8-4.3), RR (relative risk) = 1.3 (95% CI 0.7-2.6), AR (attributive risk) = 16.0%. A combination of drugs from the group of carbapenems and aminoglycoside was mostly prescribed ( $60.0 \pm 12.8\%$  and  $75.0 \pm 14.4\%$ ,  $R_p > 0.05$ ).

However, high serum concentrations of C-reactive protein in infants with neonatal sepsis were associated with a lower need for oxygen therapy and prescribed vasoactive drugs. Almost all patients with a lower content of C-reactive protein in the blood serum were on oxygen support, and in all children of the II clinical group, they had a statistically significantly higher risk of this event: OR = 2.7 (95% CI 1.2-6.6), RR = 1.8 (95% CI 1.6-2.0), AR = 24.0%.

We found that newborns with a level of C-reactive protein above 20 mg/l against the background of neonatal sepsis received less treatment in hospital conditions and were discharged faster. Thus, patients of the II group with a lower serum concentration of C-reactive protein probably have a higher chance of recovery and discharge from the hospital by the 20<sup>th</sup> day: OR = 5.7 (95% CI 1.85-17.32), RR = 1.8 (95% CI 0.63-5.12), AR = 0.36%.

**Conclusions.** Patients with neonatal sepsis with a correspondingly lower concentration of C-reactive protein in blood serum have a statistically higher chance of switching to monotherapy with cephalosporins, more often receive a third course of antibacterial therapy, have a higher risk of the need for mechanical ventilation (OR = 2.8) and myocardial dysfunction (OR = 2.0). Features of neonatal sepsis in infants with a high serum concentration of C-reactive protein are a greater need for combined antibacterial therapy with a somewhat short course, less dependence of patients on administered inotropic drugs, and practically longer respiratory support.