

Abstract

Analysis of infection therapy in paediatric department I

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Introduction and aims: Infections in newborns are one of the most frequent causes of death. The aim of this work was the retrospective analysis of bacterial infection in newborns with a birth weight ≤ 1500 g hospitalized in Paediatric Intensive Care Unit (ICU) and compare it with the latest findings published in the expert literature.

Methods: The retrospective cross-sectional study took place in Paediatric ICU. The data were gathered between 07/29 and 08/10 2020. The study included patients in neonatal age with a birth weight ≤ 1500 g hospitalized in the Paediatric ICU in 2018 and 2019 with bacterial infection. The infection was proved by a positive cultivation, increased C-reactive protein and increased or reduced number of white blood cells. Information on the patient, infectious agent, laboratory tests, occurrence of risk factors for sepsis, selection of antibiotics, its susceptibility, dose, dosing interval and duration of administration, as well as the result of therapy were collected to a prepared form. The data were processed with descriptive statistics.

Results: The antibiotic therapy was analyzed in 29 patients. The infection in nine of them unfolded into late sepsis. The average birth weight was 1176.2 g, the average gestation age was 29.3 weeks. The most frequent bacteria aside from hemoculture was *Escherichia coli* (17.24 %) and *Staphylococcus aureus* (13.79 %). The most frequent *Staphylococcus aureus* (28.58 %), *Staphylococcus epidermidis* (14.30 %) and *Escherichia coli* (14.30 %) were isolated in the hemoculture. The antibiotics were mostly administered empirically and in combination. The most frequent combination consisted of meropenem and vancomycin (65.0 %).

Conclusion: The analysis of antibiotics therapy, in comparison with expert literature, revealed inconsistencies especially in dosage and intervals of administration of the antibiotics. However, due to the diversity among the information from scientific resources, the discussion about dosage and intervals of antibiotics is necessary.

Keywords: infection, child, antibiotics, rational pharmacotherapy.