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## Pediatrics

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### **PROBLEMS OF ANTIBIOTIC THERAPY OF COMMUNITY-ACQUIRED PNEUMONIA IN CHILDREN OF EARLY AND PRESCHOOL AGE**

In pediatric, especially in hospital conditions, the rational antibiotic therapy of severe community-acquired pneumonia is a serious problem in children under 5 years. The effectiveness of causal treatment depends on the sensitivity of pathogens to antibiotics that has significant regional features and may change significantly. Viruses are important factors in the etiology of severe community-acquired pneumonia in children during the first 5 years of life, they can act as a direct causative agent (influenza virus, human pneumovirus, respiratory syncytial virus), or act as a co-pathogen in community-acquired pneumonia of bacterial etiology. There are significant age-related features of the etiology of community-acquired pneumonia. The frequency of diagnosis of viral pneumonia in infants is 77.9%, over 2 years old it is 59%. To date, verification of the etiology of community-acquired pneumonia is absent in most children, and clinical and radiological signs provide little information for the etiological diagnosis.[2]

According to the International and National Guidelines III generation cephalosporins are the drugs used as starting empirical treatment of uncomplicated severe community-acquired pneumonia in children regardless of age. Ceftriaxone is a drug that has a wide spectrum of antimicrobial activity, low toxicity, and it is easy to dose and economically available. [1,3]

The purpose of the study was to assess the efficiency of starting empirical treatment with Ceftriaxone in children under 5 years in-hospital with a verified diagnosis of severe community-acquired pneumonia. The study is retrospective. The

analysis of 200 case histories from 2013 to 2015 was made. Three age groups were identified: children aged 2 to 12 months (30), from 1 to 3 years (70) and from 3 to 5 years (100). Assessment of clinical effectiveness based on the dynamics of the main clinical symptoms was carried out in 48-72 hours, 5-7 and 10-14 days from the beginning of drug therapy. Ceftriaxone monotherapy was appointed 146 (70,3%) children, in combination with other antibiotics (azithromycin, ampicillin, amikacin) it was used in 54 (29.7%) children. The clinical efficacy of Ceftriaxone was 67.8% in severe community-acquired pneumonia in children under 5 years. The lowest rate (52,9%) was identified in children of first year of life. In children older than 1 year clinical efficacy of Ceftriaxone increased (respectively in children 1 to 3 years – 78,4%, from 3 to 5 years - 64,1%). Owing to the ineffectiveness of Ceftriaxone repeated courses of antibiotics were assigned. Children of first year of life were receiving Ceftriaxone/sulbactam, ampicillin, extra – amikacin.. Children over 1 year received Ceftriaxone/sulbactam or additionally, azithromycin, amikacin. The therapeutic effect was achieved within 24-72 hours in 98.9% of children. High clinical efficacy in children of first year of life was marked at combination therapy Ceftriaxone + azithromycin Ceftriaxone + ampicillin, in children older than one year – Ceftriaxone + azithromycin, as at the stage of starting empirical therapy, and the ineffectiveness of monotherapy with Ceftriaxone. Clinical efficacy of combination therapy Ceftriaxone + amikacin was achieved in children from 1 to 3 years, to 71.4%, from 3 to 5 years to 60.0%. From 2014 in all children regardless of age decline in clinical efficacy of Ceftriaxone was marked.

The results of these studies substantiate the feasibility of revising the starting empirical therapy of serious community-acquired pneumonia in children under 5 years.

Features of the etiological structure of severe community-acquired pneumonia in young children, the futility of the clinical and radiographic evidence for the alleged diagnosis require the expansion of the range of start empiric therapy by supplementation to antiviral drugs.

Combined assignment of the drugs ceftriaxone,+azithromycin gives sufficiently high clinical effect at the stage of starting empiric therapy and the ineffectiveness of monotherapy with ceftriaxone, which confirms the usefulness of azitromitsina- having not only antibacterial, but also antiviral and anti-inflammatory action.

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