

CEFTAROLINE IN TREATMENT OF SEVERE COMMUNITY-ACQUIRED PNEUMONIA

Zaytsev A.¹, Kondratyeva T.²

¹ The Main Military Clinical Burdenko Hospital, ² The 1586 Military Clinical Hospital (Moscow)

Background: Community-acquired pneumonia (CAP) is a common and serious infection due to the high incidence and mortality in all age groups. Every 10 case of the CAP is characterized like severe, requiring hospitalization in the emergency department and intensive care (ICU). Since severe CAP can be caused by *methicillin-resistant Staphylococcus aureus (MRSA)* and *multidrug-resistant Streptococcus pneumonia* it requires a definition of the role ceftaroline - the new broad-spectrum cephalosporin in the empirical treatment of this disease.

Objective: To evaluate clinical efficacy and safety of treatment using ceftaroline (Zinforo®) 1.2 g/day during 5-14 days compared to the "real" clinical practice (ceftriaxone / cefotaxime ± macrolide) within 7-14 days in patients with severe CAP.

Materials and methods: 103 patients with severe CAP were randomized to 2 treatment arms. Treatment arm 1 included 52 patient (mean age was 20,5 ± 1,8 years) administered ceftaroline (Zinforo®) 1.2 g/d, whereas in the treatment arm 2 (n=51, mean age was 21,3 ± 4,5 years) patients were treated with 3rd generation cephalosporin + macrolide. Different antibiotics in the preceding step receive 48% of patients of 1 arm and 52.9% - in the 2 arm. Clinical efficacy and safety were evaluated based on clinical, laboratory and radiological data analysis.

Results: In group 1 (Zinforo®) clinical efficacy of treatment was 90.4%. In 9.6% in connection with the clinical, laboratory and radiological negative dynamics, modification of antibiotic therapy was performed (3 patients on combined therapy meropenem + linezolid, two patients treatment was added moxifloxacin). In group 2 (actual practice), clinical efficacy of initial therapy severe CAP using a combination of 3rd generation cephalosporin + macrolide was 52.9%. In other cases it requires modification of antibiotic treatment. Comparative analysis of the effectiveness of the test antibiotic regimens for severe CAP is presented in Table 1.

Table 1. Comparative analysis of the efficacy and safety of treatment regimens CAP

	Ceftaroline n- 52	Actual practice n-51
Clinical efficacy, %	90,4	52,9
Adverse event incidence, %	28,8	37,3
Treatment duration, days	9,8 ± 3,1	10,9 ± 1,9
Duration of stay in ICU, days	2,7 ± 1,3	3,1 ± 2,9
Time to radiological resolution, days	14,5 ± 4,3	15,7 ± 4,6
Duration of hospitalization, days	20,3 ± 8,2	21,1 ± 7,9

Conclusion: Administration of ceftaroline (Zinforo®) in the initial therapy of severe CAP is characterized by high clinical efficacy, which allows to recommend this antibiotic regimen for widespread use in clinical practice.