IN VITRO SENSITIVITY OF ACINETOBACTER BAUMANNII AND PSEUDOMONAS AERUGINOSA TO CARBAPENEMS IN ICU PATIENTS

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Background. Acinetobacter baumannii and Pseudomonas aeruginosa pathogens are the most common causes of fatal pneumonia among patients treated in Intensive Care Units (ICU). Carbapenems remain a group of antibiotics characterized by the highest effectiveness in treatment of heavy infections of the lower respiratory tract. This study compared in vitro sensitivity of A. baumannii and P. aeruginosa to three carbapenems: imipenem, meropenem and doripenem. **Material and methods.** Material from 71 patients treated in the ICU was collected from April 2009 to January 2010. Bronchial tree was the predominant source of samples. 54 strains of A. baumannii and 17 strains of P. aeruginosa were analyzed. Sensitivity to carbapenems was interpreted in line with Clinical and Laboratory Standard Institute (CLSI) and European Committee for Antimicrobial Susceptibility Testing (EUCAST) criteria (imipenem and meropenem) or in compliance with Food and Drug Administration (FDA) and CLSI guidelines (doripenem). **Results:** A. baumannii was statistically significantly ($p < 0,05$) more often sensitive for imipenem than doripenem and meropenem, but only according to CLSI and FDA, not EUCAST criteria. The sensitivity of P. aeruginosa was higher for imipenem than doripenem and meropenem and similar according to CLSI and EUCAST criteria (64,7%). **Conclusions**: The EUCAST criteria, as opposed to CLSI and FDA guidelines, demonstrate higher rigor with regard to the category of sensitivity for carbapenems, which remain an effective group of antibiotics in treatment of A. baumannii and P. aeruginosa infections. Imipenem was confirmed to be the most effective in vitro antibiotic in comparison with doripenem and meropenem.