

Cefoperazone-sulbactam in combination with meropenem versus colistin in combination with meropenem in treatment of ventilator-associated pneumonia caused by carbapenem-resistant *Acinetobacter baumannii*

L.V. Zgrzheblovska^{1, 2}, I.R. Malysh^{1, 2}, I.M. Berezenko¹

1. Kyiv Municipal Clinical Emergency Hospital, Kyiv, Ukraine

2. Shupyk National Healthcare University of Ukraine, Kyiv, Ukraine

Conflict of interest: none

BACKGROUND. One of the main pathogens causing ventilator-associated pneumonia is carbapenem-resistant *Acinetobacter baumannii*. Our study aims to compare the results of treatment of patients with ventilator-associated pneumonia caused by carbapenem-resistant *A. baumannii* by providing two schemas of antibacterial therapy: colistin + meropenem and cefoperazone-sulbactam + meropenem. The infections caused by carbapenem-resistant *A. baumannii* represent a huge problem in the treatment of nosocomial infections, because of a high rate of morbidity and mortality among critically ill patients.

OBJECTIVE. To compare the efficiency of two arms of final antibacterial therapy, which were based on colistin, cefoperazone-sulbactam and meropenem.

MATERIALS AND METHODS. The study included 83 patients with ventilator-associated pneumonia caused by carbapenem-resistant *A. baumannii*. The patients were divided into two groups: the observation group received the traditional combination of colistin + meropenem; the study group received combination of cefoperazone-sulbactam + meropenem.

RESULTS AND DISCUSSION. Among the patients with ventilator-associated pneumonia caused by carbapenem-resistant *A. baumannii* the 28-day mortality level in the study group was 34.67 % lower, than in the observation group. Clinical recovery in the study group on days 14 and 28 was documented more frequently than in the observation group.

Microbiologic failure in the cefoperazone-sulbactam group was registered 20.3 % less often than in the group using the tradition combination of colistin + meropenem. The 28-day RIFLE score-based kidney injury in the study group was significantly lower, than in the observation group.

It was estimated, that colistin-based combination antibacterial therapy was a risk factor for all-cause mortality within 28 days. In contrast, cefoperazone-sulbactam-based combination antimicrobial therapy was associated with higher survival level on day 28.

CONCLUSION. Cefoperazone-sulbactam + meropenem combination has more advantages in comparison with colistin + meropenem combination among patients with ventilator-associated pneumonia caused by carbapenem-resistant *A. baumannii*.

KEY WORDS: carbapenem-resistant *Acinetobacter baumannii*, colistin, cefoperazone-sulbactam, ventilator-associated pneumonia.