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Efficacy of Colistin in combination with Carbapenem and Tigecycline in patients with pneumonia caused by multidrug-resistant *Acinetobacter baumannii*

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Background: *Acinetobacter baumannii* is a Gram-negative, aerobic and commonly found in hospital environment. It becomes one of the causes of nosocomial infection, including nosocomial pneumonia. Nosocomial infection due to *Acinetobacter baumannii* has become a global issue due to its multidrug-resistance. Treatment against multidrug-resistant *Acinetobacter baumannii* (MDRAB) has now become a chal-lenge. At present the following antibiotics: Carbapenem, Colistin, Tigecycline, Sulbactam, Rifampicin, Minocycline, Fosfomycin in the form of combination are taken into account in eradication of MDRAB.

Objective: To assess the efficacy of Colistin in combination with Carbapenem and Colistin with Tigecycline in patients with pneumonia with *Acinetobacter baumannii* isolated from low respiratory tract.

Methods: This is a retrospective and observational study. The study was conducted in a private hospital in Jakarta, Indonesia, using 4 year period (2011-2015) data Ex-tracted from medical records. MDRAB isolated from specimen of low respiratory tract from patients with pneumonia in intensive care unit (ICU) were sorted for this study. Clinical parameters used were as follows: blood leukocyte, differential count, sputum leukocyte, body temperature, procalcitonin, C-reactive protein, lactate, and patient' survival. The analysis was performed before and after drug administration.

Result: Fifty nine patients with MDRAB were studied. Colistin-Tigecycline combi-nation therapy was used in 11 patients, and Colistin-Carbapenem combination was in 9 patients. Both combination therapies showed efficacy in lowering body temperature after drug administration ($p<0.05$). Blood leukocyte count also significantly decreased in patients' with Colistin-Carbapenem regimen ($p<0.05$). Of other clinical parameters assessed revealed no significant changes.

Conclusion: Colistin-Carbapenem and Colistin-Tigecyline combination therapy can be an option for treating patients with pneumonia caused by multidrug-resistant *Acinetobacter baumannii*. More studies of antibiotic combination with a bigger sample number are needed to get a high representative data.

Biography

Enty Tjoa is a Clinical Microbiologist, Lecturer and Researcher at Faculty of Medicine, Atma Jaya Catholic University of Indonesia. Her research interest are investigating the antibiotics susceptibility pattern of pathogen bacteria such as, *Acinetobacter baumannii, Pseudomonas aeruginosa* and other multidrug-resistant Gram negative including their genotypes, hospital associated infections and role of active surveillance of hospital/ health care's environment. She has been responsible for teaching medical microbiology for under graduate medical student and several research projects. She is currently a head at Department of Microbiology, Faculty of Medicine, Atma Jaya Catholic University of Indonesia. She also practiced as Clinical Microbiologist at a private hospital in Jakarta. She has written some published articles in international and local medical journals.

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