

Determinant of Bacterial Resistance to Antibiotics in Acute Exacerbation of Chronic Obstructive Pulmonary Disease (AECOPD)

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Abstract

Backgrounds: Chronic obstructive pulmonary disease (COPD) is a major health problem in the community. Bacterial and viral infections increasing frequency of new bacterial strain exacerbations. The presence of bacterial colonization in the airways increased the risk of bacterial resistance to antibiotics. The aimed of this study is to determine the risk factors of bacterial resistance to antibiotics in patients with acute exacerbation of chronic obstructive pulmonary disease (AECOPD) in Dr. Moewardi hospital.

Methods: This cross-sectional study was conducted in subjects with AECOPD, subjects data and bacterial resistance obtained from medical records in Dr. Moewardi hospital between 2011-2012. The statistic analysis study were chi-square and logistic regression.

Results: Among 67 patients AECOPD in Moewardi hospital, the most frequent type of isolated bacteria were *Staphylococcus aureus* (19.4%), *Klebsiella spp* (26.8 %), and multi-drug resistance/MDR bacterial (50%). The univariate analysis evaluated the risk factors for bacterial resistance variables: age (>60), BMI (normoweight), degree of exacerbations (moderate/severe), degree of obstruction (severe/very severe), history of smoking (smoker), antibiotics treatment (cephalosporin third gen, aminoglycoside, quinolon). The multivariate analysis showed the degree of exacerbations (severe) (relative risk (RR) 0.224), and aminoglycoside treatment (RR 0.356) as independent factors MDR resistance.

Conclusions: Severe exacerbation and aminoglycoside treatment were the risk factors for bacterial resistance to antibiotics in patients with AECOPD. Rational antibiotics treatment in AECOPD is needed to prevent emerging of bacterial resistance. (J Respir Indo. 2014; 34: 198-203)

Keywords: COPD acute exacerbation, bacterial resistance, antibiotics.