

ABSTRAK

Pasien pneumonia yang dirawat di ICU berkisar 5-10% dengan 30,1% - nya membutuhkan alat bantu pernafasan. Beberapa diantaranya adalah *Ventilator Associated Pneumonia* (VAP) yang memiliki angka kejadian 9% sampai dengan 27% dengan angka kematian mencapai 50%. Penyebab terbanyak VAP adalah bakteri Gram negatif. Bakteri dapat menyebabkan reaksi inflamasi yang dapat memperparah kondisi pasien dan berakibat gagal fungsi organ. Kondisi ini diperparah dengan meningkatnya bakteri yang resisten karena akan memperpanjang dan mempersulit perawatan.

Studi ini bertujuan untuk mencari hubungan antara profil klinik dan infeksi bakteri pada pasien pneumonia pengguna ventilator. Penelitian dilakukan di ICU RSUP Sardjito. Metode yang digunakan adalah deskriptif observasional retrospektif dengan analisis menggunakan Uji *Chi square* dengan alat statistik SPSS 22 IBM. Hasil penelitian dianalisis secara deskriptif dan data yang diperoleh disajikan dalam tabel dan grafik serta pola kepekaan kuman terhadap antibiotika.

Pada penelitian ini ditemukan *Klebsiella pneumoniae* (n=35) yang merupakan bakteri dominan sebagai penyebab pneumonia pengguna ventilator. Sebagian besar bakteri tersebut adalah MDR dan 22,86% (8 isolat) adalah ESBL namun masih sensitif terhadap Fosfomicin (100%), Trimetoprim (100%), dan Imipenem (85,7%). Penyebab VAP antara lain bakteri Gram negatif 53,91% (69 isolat) dan non VAP 62,96% (17 isolat) dari seluruh isolat spesimen sputum. Penyebab VAP berupa bakteri Gram positif 39,06% (50 isolat) dan 22,22% (6 isolat) pada kelompok non VAP dari seluruh isolat spesimen sputum. Hubungan antara profil klinik dengan infeksi bakteri berupa neutrofilia ($p=0,032$), demam 58,33% ($p=0,022$) dan penurunan fungsi ginjal ($p=0,003$) memiliki perbedaan bermakna. Sedangkan trombositopenia 36,84% dan anemia 83,58% serta ARDS 94,80% tidak berbeda bermakna ($p>0,05$). Sebanyak 71,34% pada pasien pneumonia pengguna ventilator mekanik menderita sepsis. Kultur dibanding kriteria klinis berbeda bermakna dengan p value $<0,05$ ($p=0,000$).

Terdapat hubungan antara profil klinik dan infeksi bakteri. Pola kepekaan kuman terhadap antibiotika menggambarkan *Klebsiella pneumoniae* sebagai penyebab dominan pneumonia pengguna ventilator yang sensitif terhadap Fosfomicin, Trimetoprim dan Imipenem.

Kata kunci : pneumonia, ventilator, infeksi bakteri, sepsis

ABSTRACT

Patient with pneumonia that have been cure in ICU were 5-10% with 30,1% used mechanical ventilation. Some of them become *Ventilator Associated Pneumonia* (VAP) with prevalence 9% until 27% and the mortality were 50%. The caused of VAP was Gram negative bacteria. Bacteria causing inflammation reaction that make worse condition and become organ dysfunction. This condition more complicated when the bacteria become resistant. The hospitalization become long and the disease difficult to be treated. The aim of this study was to explored the relationship between the clinical profile and bacterial infection in patients with ventilator pneumonia. The study was conducted at ICU Sardjito General Hospital. The method were a retrospective observational descriptive analysis using Chi Square Test with IBM SPSS 22 as statistical tools. The result of the study were analyzed descriptively and the data obtained were presented in tables and graphs as well as patterns of sensitivity of germs to antibiotics.

In this study, *Klebsiella pneumoniae* (n = 35) was found which is the dominant bacterium as a cause of pneumonia using ventilators. Most of these bacteria were MDR and 22.86% (8 isolates) were ESBL but were still sensitive to Fosfomycin (100%), Trimethoprim (100%), and Imipenem (85.7%). The causes of VAP include Gram negative bacteria 53.91% (69 isolates) and non VAP 62.96% (17 isolates) from all isolates of sputum specimens. The cause of VAP in the form of Gram-positive bacteria was 39.06% (50 isolates) and 22.22% (6 isolates) in the non-VAP group of all sputum specimens. The relationship between clinical profiles with bacterial infections in the form of neutrophilia (p = 0.032), fever 58.33% (p = 0.022) and decreased kidney function (p = 0.003) had significant differences. While thrombocytopenia 36.84% and anemia 83.58% and ARDS 94.80% were not significantly different (p > 0.05). As many as 71.34% of pneumonia patients using mechanical ventilators suffer from sepsis. Culture compared to clinical criteria was significantly different with p value <0.05 (p = 0.000).

There is a relationship between clinical profiles and bacterial infections. The Antimicrobial susceptibility pattern of *Klebsiella pneumoniae* as the dominant cause of pneumonia in ventilator users were sensitive to Phosphomicin, Trimethoprim and Imipenem.

Keywords: pneumonia, ventilator, bacterial infection, sepsis