INTISARI

Latar Belakang: *Coronavirus disease* 2019 (COVID-19) adalah penyakit pneumonia yang disebabkan oleh *severe acute respiratory syndrome coronavirus 2* (SARS CoV 2). Insiden terjadinya infeksi sekunder bakteri paru sekitar 3% sampai 30%. Karena fenotipe klinis yang serupa dan kesulitan dalam mengidentifikasi penyakit COVID-19 dengan infeksi sekunder bakteri atipikal atau infeksi sekunder nosokomial beberapa pedoman menyarankan penggunaan antibiotik empiris. *Procalcitonin* umumnya dianggap sebagai biomarker infeksi bakteri sistemik dan telah ditafsirkan sebagai indikator infeksi bakteri sekunder pada COVID-19.

Tujuan: Mengetahui hubungan antara kesesuaian terapi antibiotik empiris dengan hasil kadar *procalcitonin* pada pasien covid-19 yang disertai dengan infeksi sekunder bakteri paru di ICU RSUP Dr Sardjito.

Metode Penelitian: Penelitian ini menggunakan rancangan penelitian observasional kohort retrospektif yang menilai hubungan antara kesesuaian terapi antibiotik empirik dan kadar *procalcitonin* pada pasien COVID-19 dengan infeksi sekunder bakteri paru di RSUP Dr. Sardjito. Besar sampel adalah 40 pasien yang menjalani perawatan ICU dengan diagnosis COVID-19 dengan infeksi sekunder bakteri paru.

Hasil penelitian: Penelitian dilakukan selama 3 bulan dengan hasil Pasien yang sensitif terhadap antibiotik empiris mengalami kadar *procalcitonin* <0,5 sebanyak 10 (71,4%) lebih banyak dibandingkan yang tidak sensitif yaitu 9 (34.6%) dengan perbedaan yang bermakna p=0,026. Nilai OR=2,06 artinya pasien yang sensitif terhadap antibiotik empiris memiliki prevalensi kadar *procalcitonin* <0,5 sebesar 2,06 kali lebih tinggi dibandingkan tidak sensitif.

Kesimpulan: Pasien dengan terapi antibiotik empiris yang sesuai mempunyai kemungkinan kadar *procalcitonin* yang lebih rendah dibanding pasien dengan terapi antibiotik empiris yang tidak sesuai.

Kata Kunci: ICU, COVID-19, Infeksi sekunder, Antibiotik, Prokalsitonin, Uji sensitivitas

ABSTRACT

Background: *Coronavirus disease* 2019 (COVID-19) is pneumonia caused by *severe acute respiratory* syndrome *coronavirus 2* (SARS CoV 2). Incident happening infection secondary bacteria lungs about 3% to 30%. Because of the phenotype similar clinical trials and difficulties in identify COVID-19 disease with infection secondary bacteria atypical or infection secondary nosocomial a number of guidelines recommend use antibiotics empirical. *Procalcitonin* generally considered as a biomarker of infection bacteria systemic and has interpreted as indicator infection bacteria secondary to COVID-19.

Purpose: The aim of this study was to determine the relationship between the suitability of empiric antibiotic therapy and the results of *procalcitonin levels in* accompanied Covid-19 patients with secondary bacterial lung infection in ICU Dr Sardjito Hospital.

Research methods: This study used a retrospective observational cohort study design that assessed the relationship between the suitability of empiric antibiotic therapy and procalcitonin levels in COVID-19 patients with secondary bacterial lung infections at Dr. Sardjito. The sample size was 40 patients undergoing ICU care with a diagnosis of COVID-19 with secondary bacterial lung infection.

Results: The study was conducted for 3 months and the results showed that patients who were sensitive to empiric antibiotics experienced procalcitonin levels <0.5 by 10 (71.4%) more than those who were not sensitive, namely 9 (34.6%) with a significant difference p = 0.026. The value of OR=2.06 means that patients who are sensitive to empiric antibiotics have a prevalence of procalcitonin levels <0.5 which is 2.06 times higher than those who are not sensitive.

Conclusion: Patients on appropriate empiric antibiotic therapy may have lower procalcitonin levels than patients on inappropriate empiric antibiotic therapy.

Keywords: ICU, COVID-19, Secondary infection, Antibiotics, Procalcitonin, Sensitivity test