

Tesis

**KORELASI KADAR PRESEPSIN DENGAN
BILIRUBIN TOTAL PADA PASIEN SEPSIS**



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ABSTRAK

Latar Belakang: Sepsis dapat menimbulkan disfungsi organ multipel yang menjadi penyebab utama kematian pada kondisi tersebut. Disfungsi hati salah satu konsekuensi dari shok dan hipoperfusi jaringan yang terjadi sejak awal sepsis. Peningkatan bilirubin disebabkan oleh kerusakan saluran empedu yang terjadi akibat proses inflamasi selama sepsis, dan akibat gangguan perfusi pada aliran darah portal, dengan kadar yang meningkat seiring derajat perjalanan sepsis. Salah satu biomarker baru, presepsin, telah diusulkan dalam penatalaksanaan sepsis karena memiliki sensitivitas dan spesifisitas yang baik dan memiliki kemampuan prognostik terhadap perjalanan penyakit sepsis. Peneliti tertarik untuk meneliti korelasi presepsin dengan kadar bilirubin pasien sepsis yang dirawat di ICU. Hal ini berdasarkan latar belakang bahwa presepsin sebagai biomarker baru yang memiliki nilai diagnostik dan prognostik yang baik terhadap sepsis, serta mekanisme patofisiologis peningkatan bilirubin selama sepsis yang tidak dipengaruhi oleh faktor lain diluar disfungsi hati sehingga juga dapat digunakan untuk menggambarkan perjalanan penyakit pada pasien sepsis.

Metode: Penelitian ini merupakan penelitian analitik dengan rancangan potong lintang terhadap 25 pasien sepsis yang dirawat dalam waktu 24-48 jam di *intensive care unit* (ICU) RSUP Dr. M. Djamil Padang. Penelitian dilakukan mulai bulan Juli 2016 - Januari 2017. Presepsin serum diukur dengan metode *enzyme-linked immunosorbent assay* (ELISA). Bilirubin serum diukur dengan metode spektrofotometer. Analisis korelasi kadar presepsin terhadap bilirubin menggunakan metode Pearson.

Hasil: Penelitian ini terdiri dari laki-laki 64% dan perempuan 36%. Rerata umur $44,0 \pm 18,7$ tahun dengan rentang 7-85 tahun. Rerata kadar presepsin serum pasien sepsis adalah $30.238 (\pm 24.248)$ pg/mL, dan rerata kadar bilirubin total adalah $0,98 (\pm 0,59)$ mg/dL. Uji korelasi Pearson menunjukkan korelasi yang sedang antara kadar presepsin serum dengan bilirubin total ($r=0,415$ dan $p<0,05$).

Simpulan: Terdapat korelasi yang sedang antara kadar presepsin dengan bilirubin total pada pasien sepsis.

Kata Kunci: presepsin, sepsis, bilirubin total.

CORRELATION BETWEEN PRESEPSIN AND TOTAL BILIRUBIN IN SEPSIS PATIENTS

ABSTRACT

Background: Sepsis can lead to multiple organ dysfunction and its a major cause of death in these conditions. Liver dysfunction is one of the consequences of shock and tissue hypoperfusion that have occurred since the beginning of sepsis. Increasing in bilirubin caused by bile duct damage by the inflammatory process during sepsis, and as a result of disruption of blood flow perfusion of the portal, with levels increase as the degree of sepsis. One of the new biomarkers, presepsin, have been proposed in the management of sepsis because it has good sensitivity and specificity and has prognostic ability of the disease course of sepsis. Researchers interested in studying the correlation between presepsin and bilirubin levels in sepsis patients who were treated in the ICU. It is based on the background that presepsin as new biomarkers that have diagnostic and prognostic value both to sepsis, as well as pathophysiological mechanisms during sepsis increased bilirubin which is not influenced by other factors outside the liver dysfunction that can also be used to describe the course of the disease in patients with sepsis.

Method: This study was an analytical study with cross-sectional design of the 25 sepsis patients who were treated during 24-48 hours in the intensive care unit (ICU) Hospital Dr. M. Djamil Padang. The study was conducted from July 2016 - January 2017. Presepsin serum were measured by enzyme-linked immunosorbent assay (ELISA) method. Bilirubin were measured by spectrophotometric assay. Correlation between presepsin and bilirubin levels were analyze using Pearson.

Results: The study consists of 64% male and 36% female. The mean age is 44.0 ± 18.7 years. The mean serum levels of presepsin in sepsis patients is $30.238 (\pm 24.248)$ pg/mL, and the mean serum level of total bilirubin is $0.98 (\pm 0.59)$ mg/dL. Pearson's correlation test showed a medium correlation between levels of serum presepsin and total bilirubin ($r = 0.415$ and $p < 0.05$).

Conclusion: There is a medium correlation between serum presepsin and SOFA score in sepsis patients.

Keywords: presepsin, sepsis, total bilirubin.