INTISARI

SYSTEMIC INFLAMATORY IMMUNE INDEX (SII) SEBAGAI PREDIKTOR KEMATIAN PADA SEPSIS

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Latar Belakang

Sepsis merupakan suatu kondisi klinis serius yang menggambarkan respon pasien terhadap infeksi berat dan mempunyai mortalitas yang sangat tinggi. Indeks inflamasi imun sistemik (SII), yang didasarkan pada jumlah neutrofil (N), platelet (P) dan limfosit (L), telah dikembangkan dan mencerminkan secara komprehensif keseimbangan inflamasi dan status imun penjamu. Penelitian ini dilakukan bertujuan untuk mengetahui nilai prognostik SII terhadap kematian selama 14 hari pada pasien sepsis di RSUP Dr Sardjito.

Metode Penelitian

Penelitian kohort retrospektif dengan menggunakan data dari rekam medis pasien sepsis tahun 2016-2019 di RSUP dr. Sardjito. Kriteria inklusi adalah pasien berumur ≥18 tahun, penderita sepsis yang memenuhi definisi operasional (Sepsis-3), dan tersedia data pemeriksaan neutrofil, trombosit, dan limfosit pada awal diagnosis sepsis. Kriteria eksklusi adalah pasien yang mengkonsumsi steroid > 2 minggu dalam 1 bulan terakhir, terdiagnosis HIV positif, keganasan hematologi, dan/atau mendapatkan preparat granulocyte stimulating factor (G-CSF) dalam 1 bulan terakhir, penyakit penyerta autoimun, dan/atau mengkonsumsi imunosupresan > 2 minggu dalam 1 bulan terakhir, dan terbukti sedang mengidap tuberkulosis. Analisis statistik dilakukan dengan *statistical package for social sciences* (SPSS) versi 25, meliputi kurva ROC untuk penentuan *cut off*, analisis univariat, analisis multivariat regresi logistik.

Hasil Penelitian

Hasil analisis menunjukkan cut-off optimal SII sebesar 7563,01 (sensitivitas 0,806 dan spesifisitas 0,512). Pasien dengan SII tinggi ≥7563,01 mengalami kematian sebanyak 58 (59,8%) lebih banyak dibandingkan SII <7563,01 yaitu 14 (25,5%) dengan perbedaan yang bermakna $p < 0,001$. Analisis multivariat menunjukkan variabel independen yang bermakna secara statistik terhadap kematian selama 14 hari pada sepsis yaitu skor SII tinggi (≥ 7563,01) ($p = 0,011$, OR 2,807), jenis kelamin perempuan ($p = 0,015$, OR 2,572), dan hipoalbuminemia ($p = 0,005$, OR 7,772).

Kesimpulan

Nilai SII yang tinggi memiliki nilai prognosis terhadap kematian selama 14 hari pada pasien sepsis dewasa di RSUP Dr. Sardjito.

Kata Kunci: SII, sepsis, mortalitas

ABSTRACT

SYSTEMIC INFLAMMATORY IMMUNE INDEX (SII) AS A PREDICTOR FOR MORTALITY IN SEPSIS

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Background
Sepsis is a serious clinical condition that describes the patient's response to severe infection and has a very high mortality. The systemic immune inflammatory index (SII), which is based on neutrophil (N), platelet (P) and lymphocyte (L) counts, has been developed and reflects comprehensively the inflammatory balance and immune status of the host. This study was conducted to determine the prognostic value of SII on death for 14 days in sepsis patients at Dr Sardjito Hospital.

Methods
A retrospective cohort research using data from sepsis patients' medical records at dr. Sardjito Hospital was conducted from 2016 to 2019. The minimum age of 18 years old, sepsis that meets the operational definition (Sepsis-3), and the availability of neutrophil, platelet, and lymphocyte counts data were the inclusion criteria. Patients taking steroids for more than 2 weeks in the previous month, diagnosed with HIV, hematological malignancy, and/or receiving granulocyte stimulating factor (G-CSF) preparations in the previous month, autoimmune comorbidities, and/or taking immunosuppressants for more than 2 weeks in the previous month, and proven to have tuberculosis were all excluded. The statistical program for social sciences (SPSS) version 25 was used to conduct the analysis, which included a ROC curve for calculating the cut off, univariate analysis, and multivariate logistic regression analysis.

Results
The results of the investigation revealed that 7563.01 was the best SII cut-off (sensitivity 0.806 and specificity 0.512). Patients with a high SII 7563.01 had 58 (59.8%) more deaths than those with a low SII 7563.01, which had 14 (25.5%) deaths, p = 0.001. High SII score (7563.01) (p = 0.011, OR 2.807), female sex (p = 0.015, OR 2.572), and hypoalbuminemia (p = 0.005, OR 7.772) were all statistically significant independent predictors on 14-day mortality in sepsis.

Conclusion
A high SII value has a prognostic value for 14-day mortality in adult septic patients at RSUP Dr. Sardjito.

Keywords*: SII, Sepsis, Mortality*