

## ABSTRAK

**Latar belakang:** Sepsis hal yang sering ditemukan di ICU yang berkaitan dengan morbiditas dan mortalitas yang tinggi. Penggunaan Skor SOFA dan pro kontra mengenai hubungan kadar albumin dan kadar laktat sebagai prediktor tunggal dalam menilai mortalitas pasien sepsis, sehingga pada penelitian ini perlu mencari gabungan biomarker baru yang meningkatkan nilai prognostik pada pasien sepsis.

**Metode:** Penelitian observasional kohort dengan desain retrospektif periode Juni 2019 - Juni 2020. Izin dari Komite Etik Penelitian Kesehatan RSUD Dr. Soetomo Surabaya. Total sampel di ICU yang memenuhi kriteria inklusi dan eksklusi. Penilaian skor SOFA, serum albumin dan laktat hari pertama didapatkan melalui rekam medik pasien. Data dianalisis menggunakan uji korelasi Pearson untuk distribusi data normal, Spearman untuk distribusi data tidak normal serta uji regresi logistik.

**Hasil:** Didapatkan 101 dari 116 sampel pasien sepsis di ICU yang memenuhi kriteria. Analisis skor SOFA menunjukkan hubungan dengan mortalitas secara signifikan dengan nilai  $p < 0.001$ , *cut-off point* skor SOFA 8.5, AUC 0.84, sensitifitas 77%, spesifitas 83%, RR 15.82 dan 95% CI: 5.76 – 43.47. Analisis Rasio laktat albumin menunjukkan hubungan yang signifikan terhadap mortalitas dengan nilai  $p < 0.001$ , *cut-off point* 0.88, AUC 0.91, sensitifitas 85%, spesifitas 85%, RR 27.23 dan CI 95%: 9.25 – 80.18. Gabungan skor SOFA-rasio laktat albumin dianalisis, hasilnya pada kelompok resiko tinggi tingkat mortalitas sebesar 95%, RR 45.11, CI 95% 11.75 – 172.82,  $p < 0.001$ .

**Kesimpulan:** Skor SOFA, rasio laktat albumin dan gabungan skor SOFA-rasio laktat albumin terbukti memiliki hubungan terhadap mortalitas pasien sepsis dan syok septik, serta sebagai prediktor independen mortalitas.

**Kata kunci:** Sepsis, Syok Septik, skor *SOFA*, rasio laktat albumin, mortalitas

**ABSTRACT**

**Background:** Sepsis is a common feature in the ICU and is associated with high morbidity and mortality. The use of SOFA scores and the pros and cons regarding the relationship between albumin levels and lactate levels as a single predictor in assessing mortality in sepsis patients, this study needing to find a new combination of biomarkers that increase the prognostic value in septic patients.

**Method:** A cohort observational study with a retrospective design for the period June 2019 - June 2020. Permission from the Health Research Ethics Committee Dr. Soetomo Hospital Surabaya. Total samples in the ICU that met the inclusion and exclusion criteria. Assessment of SOFA scores, serum albumin and lactate on the first day was obtained through the patient's medical records. Data were analyzed using Pearson correlation test for normal data distribution, Spearman for abnormal data distribution and logistic regression test.

**Results:** There were 101 out of 116 samples of sepsis patients in the ICU who met the criteria. SOFA score analysis showed a significant relationship with mortality with  $p < 0.001$ , cut-off point SOFA score 8.5, AUC 0.84, sensitivity 77%, specificity 83%, RR 15.82 and 95% CI: 5.76 - 43.47. Analysis of the lactate albumin ratio showed a significant relationship with mortality with  $p < 0.001$ , cut-off point 0.88, AUC 0.91, sensitivity 85%, specificity 85%, RR 27.23 and 95% CI: 9.25 - 80.18. The combined SOFA-albumin lactate ratio score was analyzed, the results in the high-risk group, the mortality rate was 95%, RR 45.11, 95% CI 11.75 - 172.82,  $p < 0.001$ .

**Conclusion:** The SOFA score, lactate albumin ratio and the combined SOFA-albumin lactate ratio score were shown to have an association with mortality in patients with sepsis and septic shock, as well as an independent predictor of mortality.

**Keywords:** Sepsis, Septic shock, SOFA score, lactate albumin ratio, mortality.