

INTISARI

Latar Belakang: Respon imun dari leukosit terhadap stress fisiologis seperti kerusakan jaringan, trauma berat, operasi mayor dan sepsis ditandai dengan peningkatan kadar neutrofil dan penurunan kadar limfosit. Pada kondisi patologis karena infeksi berat atau inflamasi sistemik, nilai NLR akan meningkat, sehingga NLR dapat digunakan untuk evaluasi klinis pada pasien dengan inflamasi sistemik. Tujuan penelitian ini adalah untuk mengetahui apakah terdapat hubungan antara *Neutrophyl-lymphocyte ratio* dan prokalsitonin pada pasien sepsis yang dirawat di ruang intensif RSUP Dr Sardjito.

Metode: Studi korelasi observasional prospektif. Penelitian dilakukan di ICU RSUP Dr. Sardjito Yogyakarta selama 5 bulan (Juni-Oktober 2019). Subyek: 29 pasien sepsis yang menjalani rawat inap di ruang ICU RSUP dr. Sardjito periode Juni-Oktober 2019.

Hasil: Didapatkan hubungan positif antara nilai *Neutrophil-lymphocyte ratio* dan kadar prokalsitonin plasma pada pengamatan hari 0, hari 1 dan hari 3 dengan keeratan hubungan masing-masing 0,220 (sangat lemah), 0,389 (cukup) dan 0,065 (sangat lemah). Hubungan positif yang signifikan ($p < 0.05$) didapatkan pada pengamatan hari 1. Sementara pada analisis antara perubahan *Neutrophil-lymphocyte ratio* dan perubahan kadar prokalsitonin plasma didapatkan hubungan positif antara hari 0-1, hari 1-3 dan hari 0-3 dengan keeratan hubungan masing-masing $r = 0,159$ (sangat lemah), 0,450 (cukup) dan 0,235 (sangat lemah). Hubungan positif yang signifikan ($p < 0.05$) didapatkan pada periode pengamatan antara hari 1 dengan hari 3.

Kesimpulan: Tidak didapatkan hubungan yang kuat antara *Neutrophyl-lymphocyte ratio* dengan kadar prokalsitonin plasma pada pasien sepsis yang dirawat di ICU RSUP Dr Sardjito.

Kata kunci: *Neutrophyl-lymphocyte ratio*, prokalsitonin, sepsis

ABSTRACT

Background: The immune response of leukocytes to physiological stresses such as tissue damage, severe trauma, major surgery and sepsis is characterized by increased neutrophil levels and decreased lymphocyte levels. In pathological conditions due to severe infection or systemic inflammation, the NLR will increase, so that NLR can be used for clinical evaluation in patients with systemic inflammation. This study aims to determine whether there is a correlation between alteration of *Neutrophyl-lymphocyte ratio* and plasma in sepsis patients treated in intensive care RSUP Dr Sardjito

Methods: Prospective observational correlation study. The study was conducted in Intensive care RSUP Dr. Sardjito Yogyakarta for 5 months (starting June 2019). Subject: 29 patients of sepsis admitted to intensive care RSUP dr. Sardjito on June-October 2019

Results: Positive correlations between *Neutrophil-lymphocyte ratio* and plasma procalcitonin on day 0, day 1 and day 3 of observations, $r=0,220$ (very weak), $r=0,389$ (moderate), and $0,065$ (very weak). Positive significant correlation was found on day 1 of observation. Meanwhile, on analysis between alterations of *Neutrophil-lymphocyte ratio* and plasma procalcitonin, positive correlations were obtained on day 0-1, day 1-3 and day 0-3 of observations, $r = 0.159$ (very weak), $r = 0,450$ (moderate) and $0,235$ (very weak). The significant positive correlation ($p<0.05$) was found in alterations between day 1-3.

Conclusion: There were no strong correlations between *Neutrophyl-lymphocyte ratio* and plasma procalcitonin in sepsis patients treated at ICU RSUP Dr Sardjito on day 1 of observation.

Keywords: *Neutrophyl-lymphocyte ratio*, procalcitonin, sepsis