ABSTRAK

Latar belakang: Cedera Otak Traumatik (COT) adalah penyebab utama kematian akibat cedera. Saat cedera terjadi, tubuh akan memberikan respon berupa respon inflamasi. Rasio Neutrofil-Limfosit (RNL) adalah indikator inflamasi yang objektif dan merupakan penanda kerusakan sekunder. Sudah terdapat studi tentang hubungan RNL dengan tingkat keparahan COT, tetapi dalam penentuan tingkat keparahan COT ditentukan melalui skor GCS dan bukan menggunakan hasil CT scan.

Tujuan: Mengetahui hubungan rasio neutrofil-limfosit dengan tingkat keparahan COT berdasarkan hasil CT scan menggunakan kriteria Rotterdan Scoring System.

Metode: Penelitian observasional analitik yang menggunakan desain penelitian *cross sectional* pada 50 data rekam medis pasien cedera otak traumatik sedang-berat RSUP Dr. Kariadi Semarang dan RSUD Kota Salatiga tahun 2020 – 2023 yang memenuhi kriteria inklusi dan eksklusi. Analisis data dilakukan menggunakan uji korelasi *Spearman* ($p < 0,05$).

Hasil: Terdapat hubungan bermakna antara Rasio Neutrofil-Limfosit dengan tingkat keparahan cedera otak traumatik berdasarkan hasil CT scan menggunakan kriteria *Rotterdam Scoring System* ($r = 0,330$; $p = 0,019$).

Kesimpulan: Terdapat hubungan bermakna antara Rasio Neutrofil-Limfosit dengan tingkat keparahan cedera otak traumatik berdasarkan hasil CT scan menggunakan kriteria *Rotterdam Scoring System*.

Kata kunci: Neutrofil, limfosit, Rasio Neutrofil-Limfosit, Cedera Otak Traumatik

ABSTRACT

Background: *Traumatic Brain Injury (TBI) is the main cause of death due to injury. When an injury occurs, the body will respond in the form of an inflammatory response. The Neutrophil-Lymphocyte Ratio (NLR) is an objective indicator of inflammation and a marker of secondary injury. There have been studies on the relationship between NLR and the severity of TBI, but the severity of TBI is determined using the GCS score and not using CT scan.*

Objective: *To determine the correlation of neutrophil-lymphocyte ratio and the severity of TBI based on CT scan using the Rotterdan Scoring System criteria.*

Method: *Analytical observational study using a cross-sectional research design on 50 medical record data from patients with moderate-severe traumatic brain injuries at Dr. Kariadi General Hospital Semarang and Regional General Hospital Salatiga in 2020-2023 that meet the inclusion and exclusion criteria. Data analysis was done using the Spearman Test (p <0.05).*

Results: *There was a significant correlation of Neutrophil-Lymphocyte Ratio and the severity of traumatic brain injury based on CT scan using the Rotterdam Scoring System criteria (r = 0.330; p = 0.019).*

Conclusion: *There was a significant correlation of Neutrophil-Lymphocyte Ratio and the severity of traumatic brain injury based on CT scan using the Rotterdam Scoring System criteria.*

Keywords: *Neutrophil, lymphocyte, Neutrophil-Lymphocyte Ratio, Traumatic Brain Injury*