

Relationship of Neutrophil Limfosite Ratio with Ischemic Stroke Prognosis

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ABSTRACT

Background: A stroke is a sudden attack of a focal neurological deficit that lasts more than 24 hours. According to the 2013 Riskesdas data, the national stroke prevalence was 12.1 per mile, while in the 2018 Riskesdas the prevalence of stroke was 10.9 per mile. The inflammatory process plays an important role in the pathophysiology of acute ischemic stroke. This inflammatory process develops within a few hours and plays an important role in ischemic damage.⁷ An increase in the number of neutrophils and a decrease in the number of lymphocytes, seen as an increase in the ratio of neutrophils to lymphocytes, are suspected of worsening the outcome in acute ischemic stroke patients. This study aims to determine the relationship between the neutrophil-lymphocyte ratio with the prognosis of ischemic stroke.

Methods: This analytical observational study used a retrospective cross-sectional design, and sample selection was carried out by consecutive sampling technique on medical record data for the period January - October 2020 which was conducted at Roemani Hospital Semarang in March 2021. Statistical tests were carried out using the chi-square test on bivariate analysis. This research was conducted after receiving an ethical fittest.

Results: The results showed that a sample size of 40 respondents was by the inclusion criteria. The results of the univariate analysis showed that the most distribution of NLR was normal with a frequency of 28 respondents (70%), while the most distribution of prognosis for ischemic stroke was worse with a frequency of 21 respondents (52.2%). Bivariate analysis showed a correlation between the neutrophil-lymphocyte ratio with the prognosis of ischemic stroke ($p = 0.027$). **Conclusion:** Neutrophil lymphocyte ratio can be a prognostic factor in acute ischemic stroke.

Keywords: Neutrophil lymphocyte ratio, ischemic stroke, prognosis.