

ABSTRACT

Correlation Between White Blood Cell Count and Clinical Severity Based on NIHSS in Acute Ischemic Stroke Patients

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Background: Stroke is the major cause of mortality with the Indonesian Stroke Registry reporting stroke prevalence nationwide was 8.2/1000 people and of 1087 stroke patients, 67.1% were diagnosed with ischemic stroke. Preventing acute ischemic stroke by determining pathophysiology and prognostic indicators is important. Previous studies revealed WBC contributed in post-stroke inflammation and worsening clinical severity, with a positive independent correlation between WBC count and stroke severity existing. Therefore, the objective of this study was to analyze the correlation between WBC count and clinical severity based on NIHSS in acute ischemic stroke patients.

Methods: This retrospective cross-sectional study using consecutive sampling involved 54 patients diagnosed with acute ischemic stroke at the Neurology Department of RSUD Dr. Soetomo Surabaya during September—November 2015. Data was collected using medical records and analyzed using Fisher's Exact test with p-value <0.05.

Results: There were no correlations between WBC count and clinical severity based on admission NIHSS ($p=1.000$) and discharge NIHSS ($p=0.568$).

Conclusion: There was no correlation between WBC count and clinical severity based on NIHSS. Further research is needed to define the importance of amount and type of WBC as a prognostic indicator in acute ischemic stroke cases.

Keywords: white blood cell, nihss, acute ischemic stroke