

Stroke

LEUKOCYTE COUNT AND NEUTROPHIL-TO-LYMPHOCYTE RATIO AS SIMPLE HEMATOLOGIC PREDICTORS OF STROKE SEVERITY AND FUNCTIONAL OUTCOME IN ACUTE ISCHEMIC STROKE PATIENTS

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Background. It has long been recognized that inflammation plays a critical role in the pathogenesis of ischemic stroke. However, whether leukocyte count and neutrophil-to-lymphocyte ratio are related to stroke severity and functional outcome is uncertain.

Objective. This clinical study aimed to evaluate the association of leukocyte count and neutrophil-to-lymphocyte ratio with stroke severity and functional outcome in acute ischemic stroke patients.

Methods. This hospital-based, retrospective observational study included 112 subjects with acute ischemic stroke. All subjects had their demographic, clinical, and laboratory data obtained. The leukocyte count and neutrophil-to-lymphocyte ratio were evaluated to stroke severity on admission and 3-month functional outcome. The severity of stroke at admission was measured using the National Institutes of Health Stroke Scale (NIHSS), whereas the Barthel Index was used to measure 3-month functional outcome (BI). We conducted a regression analysis, adjusting for any confounding variables.

Results. Higher leukocyte count was significantly associated with increased risk of stroke severity (odds ratio [OR] 1.391, 95% confidence intervals [CI], 1.121-1.725, p: 0.003) and unfavorable functional outcome (OR 1.434, 95% CI, 1.068-1.925, p: 0.017). Higher neutrophil-to-lymphocyte ratio was not significantly associated with increased risk of stroke severity (OR 1.181, 95% CI, 0.947-1.474, p: 0.140) and unfavorable functional outcome (OR 1.246, 95% CI, 0.905-1.716, p: 0.177).

Conclusion. Our study indicates that leukocyte count is an independent predictor of stroke severity on admission and unfavorable functional outcome.

Keywords: Ischemic stroke; Inflammation; Leukocyte count; Neutrophil-to-lymphocyte ratio; Prognosis.

