

# **ANALISIS HUBUNGAN PARAMETER LEUKOSIT, ERITROSIT, TROMBOSIT PASIEN STROKE ISKEMIK AKUT PADA SAAT DIAGNOSIS AWAL TERHADAP DERAJAT KEPARAHAN STROKE**

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## **Abstrak**

**Latar belakang :** Stroke iskemik akut merupakan penyebab kematian kedua tertinggi secara global dan penyebab utama disabilitas jangka panjang. Stroke iskemik memicu respons inflamasi sistemik yang menyebabkan perubahan parameter hematologi seperti Rasio Neutrofil-Limfosit (NLR), Rasio Monosit-Limfosit (MLR), Rasio Trombosit-Limfosit (PLR), dan Red Cell Distribution Width (RDW), yang diketahui dapat menjadi prediktor untuk beberapa penyakit inflamasi. Tujuan penelitian ini untuk mengetahui hubungan NLR, MLR, PLR, dan RDW pada saat diagnosis awal terhadap derajat keparahan pasien stroke iskemik akut yang diukur menggunakan National Institutes of Health Stroke Scale (NIHSS). NLR, MLR, PLR, RDW, dan derajat keparahan stroke didapatkan dari data rekam medis. **Metode Penelitian :** Desain penelitian ini adalah potong lintang dengan jumlah sampel 103 pasien yang memenuhi kriteria inklusi. **Hasil :** Hasil uji chi-square dalam penelitian ini didapatkan NLR terhadap skor NIHSS stroke ( $p=0,007$ ), MLR terhadap skor NIHSS stroke ( $p=0,033$ ), PLR terhadap skor NIHSS stroke ( $p=0,343$ ), RDW terhadap skor NIHSS stroke ( $p=0,268$ ). **Kesimpulan :** Hasil menunjukkan terdapat hubungan yang signifikan atau bermakna antara NLR dan MLR terhadap derajat keparahan pasien stroke iskemik akut, sedangkan PLR dan RDW tidak menunjukkan hubungan yang signifikan atau bermakna.

**Kata Kunci:** Stroke iskemik akut, parameter hematologi, NLR, MLR, PLR, RDW, NIHSS, derajat keparahan stroke

# **ANALYSIS OF THE RELATIONSHIP BETWEEN LEUKOCYTE, ERYTHROCYTE, AND PLATELET PARAMETERS IN ACUTE ISCHEMIC STROKE PATIENTS AT INITIAL DIAGNOSIS WITH STROKE SEVERITY**

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## **Abstract**

**Background:** Acute ischemic stroke is the second leading cause of death globally and the primary cause of long-term disability. Acute ischemic stroke triggers a systemic inflammatory response that causes changes in hematological parameters such as Neutrophil-to-Lymphocyte Ratio (NLR), Monocyte-to-Lymphocyte Ratio (MLR), Platelet-to-Lymphocyte Ratio (PLR), and Red Cell Distribution Width (RDW), which are known to be predictors of several inflammatory diseases. The aim of this study was to determine the relationship between NLR, MLR, PLR, and RDW at initial diagnosis and the severity of acute ischemic stroke patients as measured using the National Institutes of Health Stroke Scale (NIHSS). NLR, MLR, PLR, RDW, and stroke severity were obtained from medical records. **Methods:** This study used a cross-sectional design with a sample size of 103 patients who met the inclusion criteria. **Results:** The results of chi-square test in this study showed NLR with NIHSS stroke score ( $p=0.007$ ), MLR with NIHSS stroke score ( $p=0.033$ ), PLR with NIHSS stroke score ( $p=0.343$ ), RDW with NIHSS stroke score ( $p=0.268$ ). **Conclusion:** The results showed significant relationships between NLR, MLR with severity of acute ischemic stroke patients, while PLR and RDW did not show significant relationships.

**Keywords:** Acute ischemic stroke, hematological parameters, NLR, MLR, PLR, RDW, NIHSS, stroke severity