

ABSTRAK

KORELASI KADAR VITAMIN D SERUM DENGAN PENANDA INFLAMASI (MONOCYTE LYMPHOCYTE RATIO, NEUTROPHIL LYMPHOCYTE RATIO, PLATELET LYMPHOCYTE RATIO DAN HIGH SENSITIVITY C-REACTIVE PROTEIN) PADA PASIEN GLOMERULONEFRITIS

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Pendahuluan : Vitamin D diketahui memiliki peran imunomodulator dan antiinflamasi, namun hubungan antara kadar vitamin D serum dan berbagai penanda inflamasi masih menunjukkan hasil yang bervariasi, khususnya pada pasien dengan glomerulonefritis.

Tujuan Penelitian : Penelitian ini bertujuan untuk mengevaluasi korelasi antara kadar vitamin D serum dengan penanda inflamasi *high-sensitivity C-reactive protein* (hsCRP), *neutrophil-to-lymphocyte ratio* (NLR), *platelet-to-lymphocyte ratio* (PLR), dan *monocyte-to-lymphocyte ratio* (MLR) pada penderita glomerulonefritis.

Metode Penelitian : Penelitian ini menggunakan desain potong lintang pada 60 pasien glomerulonefritis. Kadar vitamin D serum diukur dan dikorelasikan dengan hsCRP, NLR, PLR, dan MLR menggunakan uji korelasi Spearman. Analisis regresi logistik multivariat dilakukan dengan penyesuaian terhadap usia, jenis kelamin, hipertensi, merokok, diabetes melitus, dan obesitas.

Hasil Penelitian : Kadar vitamin D serum menunjukkan korelasi negatif yang bermakna dengan hsCRP ($r = -0,323$; $p = 0,012$). Sementara itu, korelasi positif ditemukan antara vitamin D dengan NLR ($r = 0,348$; $p = 0,006$) dan PLR ($r = 0,281$; $p = 0,030$), namun tidak terdapat korelasi yang bermakna dengan MLR ($r = 0,106$; $p = 0,422$). Analisis bivariat dan multivariat pada partisipan tidak menemukan hubungan yang signifikan pada berbagai penanda inflamasi yang dievaluasi pada penelitian ini ($p\text{-value} < 0,05$).

Kesimpulan : Kadar vitamin D serum berkorelasi secara signifikan dengan hsCRP, NLR, dan PLR pada pasien glomerulonefritis. Aktivitas imunologis pada penderita GN melibatkan tidak hanya komponen seluler namun juga humoral.

Kata kunci : inflamasi, glomerulonefritis, steroid.

ABSTRACT

CORRELATION BETWEEN SERUM VITAMIN D LEVELS AND INFLAMMATORY MARKERS (MONOCYTE TO LYMPHOCYTE RATIO, NEUTROPHIL TO LYMPHOCYTE RATIO, PLATELET TO LYMPHOCYTE RATIO, AND HIGH-SENSITIVITY C-REACTIVE PROTEIN) IN GLOMERULONEPHRITIS PATIENTS

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Introduction: Vitamin D is known to exert immunomodulatory and anti-inflammatory effects; however, the relationship between serum vitamin D levels and various inflammatory markers remains inconsistent, particularly among patients with glomerulonephritis.

Objective: This study aimed to evaluate the correlation between serum vitamin D levels and inflammatory markers, including high-sensitivity C-reactive protein (hsCRP), neutrophil-to-lymphocyte ratio (NLR), platelet-to-lymphocyte ratio (PLR), and monocyte-to-lymphocyte ratio (MLR), in patients with glomerulonephritis.

Methods: A cross-sectional study was conducted involving 60 patients with glomerulonephritis. Serum vitamin D levels were measured and correlated with hsCRP, NLR, PLR, and MLR using Spearman's correlation analysis. Multivariable logistic regression analysis was performed, adjusting for age, sex, hypertension, smoking status, diabetes mellitus, and obesity.

Results: Serum vitamin D levels demonstrated a significant negative correlation with hs-CRP ($r = -0.323$; $p = 0.012$). In contrast, positive correlations were observed between vitamin D levels and NLR ($r = 0.348$; $p = 0.006$) as well as PLR ($r = 0.281$; $p = 0.030$). No significant correlation was found between vitamin D levels and MLR ($r = 0.106$; $p = 0.422$). Bivariate and multivariable analyses did not identify significant associations between vitamin D levels and the evaluated inflammatory markers after adjustment ($p > 0.05$).

Conclusion: Serum vitamin D levels were significantly correlated with hs-CRP, NLR, and PLR in patients with glomerulonephritis. Immunological activity in patients with glomerulonephritis involves not only cellular but also humoral components.

Keywords: inflammation; glomerulonephritis; steroids.