

INTISARI

HUBUNGAN ANTARA KADAR KOMPLEMEN DENGAN DERAJAT KERUSAKAN GINJAL YANG DINILAI DENGAN RENAL SLEDAI PADA PASIEN NEFRITIS LUPUS

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Latar Belakang: Nefritis Lupus merupakan manifestasi ke 3 terbanyak pada pasien dengan Lupus Eritematosus Sistemik (LES) persentasenya pada negara negara asia adalah 84%. Tegaknya diagnosis nefritis lupus jika didapatkan hasil *protein creatinin ratio (PCR)* >500mg/gr. Penilaian keparahan nefritis lupus melalui skor *Renal SLEDAI* yang mana terdapat 4 poin yaitu proteinuria, eritrosituria, leukosituria dan sedimen. Perberatan dari nefritis lupus biasanya dibarengi dengan penurunan kadar C3 dan C4 komplemen.

Metode: Desain penelitian yang digunakan adalah *cross sectional* dengan analisis bivariat menggunakan *chi square* untuk data nominal dan *independent sample T test* untuk data numerik. Analisis multivariat menggunakan regresi logistik dengan metode *step wise*. Penelitian ini melibatkan pasien nefritis lupus yang kontrol rutin di poli rematologi RSUP Dr. Sardjito Yogyakarta sejak bulan Desember 2022 hingga Desember 2023. Data diambil melalui rekam medis pasien yang masuk kriteria inklusi dan eksklusi. Variabel yang dinilai adalah kadar kerusakan ginjal yang dinilai melalui skor *Renal SLEDAI*, C3 dan C4 komplemen.

Hasil: Dari 71 pasien yang diikuti penelitian, terdapat 12 pasien (16,9%) yang mempunyai nilai *renal SLEDAI* ≤8, dan 59 pasien (83,1%) yang mempunyai nilai *renal SLEDAI* >8. Terdapat 22 pasien (31%) yang nilai C3 komplemennya dibawah normal dan terdapat 48 pasien (67,6%) yang nilai kadar C4 komplemennya dibawah normal. Hasil penelitian menunjukkan terdapat hubungan antara kadar *renal SLEDAI* dengan kadar C4 komplemen dengan nilai $p = 0,043$ *ODS Ratio* sebesar 3,762, tetapi tidak didapatkan hubungan antara kadar C3 komplemen dengan kadar *renal SLEDAI* dengan nilai $P = 0,614$.

Kesimpulan: Terdapat hubungan antara kadar komplemen dengan *renal SLEDAI* terutama kadar C4 komplemen. Pasien yang mempunyai nilai kadar C4 dibawah normal kemungkinan mempunyai nilai *renal SLEDAI* >8 adalah 3,7 kali lipat lebih besar dibanding pasien yang kadar C4 nya normal.

Kata kunci: Nefritis Lupus, C3 dan C4 komplemen, *renal SLEDAI*, Lupus Eritematosus Sistemik (LES), *Protein Creatinin Ratio (PCR)*

ABSTRACT

THE RELATIONSHIP BETWEEN COMPLEMENT LEVELS AND THE DEGREE OF KIDNEY DAMAGE ASSESSED BY RENAL SLEDAI IN LUPUS NEPHRITIS PATIENTS

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Background: Lupus nephritis is the third most common manifestation in patients with Systemic Lupus Erythematosus (SLE), with a prevalence of 84% in Asian countries. The diagnosis of lupus nephritis is established when the protein-to-creatinine ratio (PCR) exceeds 500 mg/g. The severity of lupus nephritis is assessed using the Renal SLEDAI score, which consists of four components: proteinuria, hematuria, pyuria, and urinary casts. Worsening of lupus nephritis is typically accompanied by decreased levels of complement components C3 and C4.

Methods: This study employed a cross-sectional design with bivariate analysis using the Chi-square test for nominal data and the independent sample t-test for numerical data. Multivariate analysis was performed using logistic regression with a stepwise method. The study involved lupus nephritis patients who routinely attended the rheumatology outpatient clinic at Dr. Sardjito General Hospital, Yogyakarta, from December 2022 to December 2023. Data were collected from medical records of patients who met the inclusion and exclusion criteria. The variables assessed included the degree of kidney damage evaluated using the Renal SLEDAI score, as well as complement levels C3 and C4.

Results: Of the 71 patients included in the study, 12 patients (16.9%) had a Renal SLEDAI score of ≤ 8 , while 59 patients (83.1%) had a Renal SLEDAI score of > 8 . A total of 22 patients (31%) had below-normal C3 complement levels, and 48 patients (67.6%) had below-normal C4 complement levels. The study found a significant association between Renal SLEDAI scores and C4 complement levels, with a p-value of 0.043 and an odds ratio of 3.762. However, no significant association was found between C3 complement levels and Renal SLEDAI scores ($p = 0.614$).

Conclusion: This study concludes that there is a significant association between complement levels and renal disease activity in lupus nephritis, particularly with C4 complement. Patients with decreased C4 levels are 3.7 times more likely to have a Renal SLEDAI score > 8 compared to those with normal C4 levels.

Keywords: Nefritis Lupus, C3 dan C4 komplemen, renal SLEDAI, Lupus Eritematosus Sistemik (LES), Protein Creatinin Ratio (PCR)