

**HUBUNGAN KADAR KOMPLEMEN C3 DAN C4 SERUM DENGAN
AKTIVITAS PENYAKIT PASIEN LUPUS ERITEMATOSUS SISTEMIK
DI RSUD DR. SOETOMO SURABAYA**

ABSTRAK

Latar Belakang: Lupus eritematosus sistemik (LES) adalah penyakit autoimun yang menyebabkan peradangan, dan kerusakan jaringan. LES sering menimbulkan kesulitan dalam diagnosis dan penilaian aktivitas penyakit. Aktivitas penyakit penting sebagai dasar pemilihan terapi yang tepat. Selain LES klinis, diperlukan pemeriksaan penunjang untuk mengetahui aktivitas penyakit, salah satunya pemeriksaan komplemen. Komplemen memainkan peran penting dalam penyakit autoimun dan dianggap menengahi kerusakan jaringan. Penelitian ini bertujuan untuk menganalisis hubungan antara kadar serum komplemen C3 dan C4 dengan aktivitas penyakit pasien SLE di RSUD Dr. Soetomo Surabaya.

Metode: Penelitian ini menggunakan metode analitik observasional dengan desain *cross-sectional*. Teknik pengambilan sampel adalah *consecutive sampling*. Sampel dalam penelitian ini adalah pasien LES yang dirawat di ruang rawat inap dan poli reumatologi periode Januari-Desember 2018. Data dianalisis secara statistik menggunakan uji *Pearson*.

Hasil: Terdapat 150 pasien LES yang sebagian besar adalah perempuan (90,0%) dengan usia rata-rata $29,01 \pm 9,8$ tahun. Sebagian besar kadar komplemen adalah kadar rendah (C3 = 48,0% dan C4 = 50,7%). Sebagian besar aktivitas penyakit adalah flare parah (44,7%). Hasil uji pearson komplemen C3 dengan aktivitas penyakit didapatkan nilai $p = 0,001$ dan tingkat korelasi $r = -0,287$. Sedangkan hasil uji pearson melengkapi C4 dengan aktivitas penyakit didapatkan nilai $p = 0,026$ dan tingkat korelasi $r = -0,182$.

Kesimpulan: Terdapat hubungan negatif antara kadar komplemen C3 dan C4 dengan aktivitas penyakit pasien LES di RSUD Dr. Soetomo Surabaya yang bermakna, lemah dan berlawanan arah.

Kata Kunci: kadar komplemen, aktivitas penyakit, Lupus eritematosus sistemik

**THE CORRELATION BETWEEN SERUM C3 AND C4 COMPLEMENT
LEVELS WITH DISEASE ACTIVITY SYSTEMIC LUPUS ERITEMATOSUS
PATIENTS In Dr. SOETOMO HOSPITAL, SURABAYA**

ABSTRACT

Introduction: *The Systemic lupus erythematosus (SLE) is autoimmune disease that results in inflammation, and tissue damage. SLE often creates difficulties in the diagnosis and assessment of disease activity. Disease activity is important as basis for selecting the appropriate therapy. In addition to clinical SLE, supporting investigations are needed to determine disease activity, one of which is complement examination. Complement plays an important role in autoimmune disease and thought to mediate tissue damage. This study aimed to analyze correlation between serum complement C3 and C4 levels with disease activity of SLE patients in Dr. Soetomo Hospital Surabaya.*

Methods: *This study used an observational analytic method with a cross-sectional design. The sampling technique was consecutive sampling. The samples of this study were SLE patients who were treated in the inpatient room and poly rheumatology in January-December 2018 periods. The data were analyzed statistically using the Pearson test.*

Result: *There were 150 SLE patients, most of whom were women (90.0%) with mean age of 29.01 ± 9.8 years. Most levels of complement were low levels (C3 = 48.0% and C4 = 50.7%). Most disease activities were severe flares (44.7%). Results of the Pearson test complement C3 with disease activity were $p = 0.001$, and level of correlation was $r = -0.287$. However, results of the Pearson test complement C4 with disease activity were $p = 0.026$, and level of correlation was $r = -0.182$.*

Conclusion: *There is a negative correlation between C3 and C4 complement levels with disease activity of SLE patients in Dr. Soetomo Hospital, Surabaya which is significant, weak and opposite.*

Keywords: *complement levels, disease activity, Systemic lupus erythematosus*