Perbedaan Kadar Interleukin-16 Urine pada Nefritis Lupus Berdasarkan Status Aktivitas Penyakit = Differences in Urinary Interleukin-16 Levels in Lupus Nephritis Based on Disease Activity Status

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Abstrak

Latar Belakang: Nefritis lupus, merupakan manifestasi penyakit yang sering dan berat dari Lupus Eritematosus Sistemik (LES). Pemeriksaan laboratorium untuk menilai aktivitas penyakit nefritis lupus menunjukkan sensitivitas dan spesifisitas yang terbatas untuk membedakan antara penyakit aktif yang sedang berlangsung dan kerusakan organ kronis. Belum adanya biomarka non invasif yang dapat membantu diagnosis awal, penilaian aktivitas penyakit dan penilaian respon terapi pada nefritis lupus.Tujuan: Mengetahui peran Interleukin-16 (IL-16) urine pada nefritis lupus dan mengetahui perbedaan kadar IL-16 urine pada nefritis lupus berdasarkan status aktivitas penyakit. Metode: Penelitian ini menggunakan desain potong lintang, dilakukan pengambilan sampel secara konsekutif pada 76 pasien LES dengan nefritis lupus yang berusia 18 tahun. Partisipan dianamnesis dan dilakukan pemeriksaan urine lengkap dan IL-16 urine. Pemeriksaan IL-16 urine menggunakan reagen Elabscience Human IL-16 ELISA yang menggunakan prinsip Sandwich-ELISA. Partisipan dibagi dalam dua kelompok berdasarkan status aktivitas penyakit nefritis lupus yang menggunakan skor renal SLEDAI menjadi 38 subjek nefritis lupus aktif dan 38 subjek nefritis lupus tidak aktif. Uji perbedaan dua kelompok menggunakan uji Mann Whitney. Hasil: Penelitian ini menemukan bahwa median kadar IL-16 urine pada kelompok nefritis lupus aktif lebih tinggi (2,992 [1,938-10,817] pg/ml) dibandingkan pada kelompok nefritis lupus tidak aktif (2,619 [2,050-5,508] pg/ml). Terdapat perbedaan kadar IL-16 urine yang bermakna pada kelompok nefritis lupus aktif dan tidak aktif (p=0,014). Simpulan: Terdapat perbedaan kadar IL-16 urine pada nefritis lupus berdasarkan status aktivitas penyakit. .....Background: Lupus nephritis is a common and severe manifestation of Systemic Lupus Erythematosus (SLE). Laboratory tests used to assess disease activity in lupus nephritis have shown limited sensitivity and specificity in differentiating between active ongoing disease and chronic organ damage. Currently, there is no non-invasive biomarker that can assist in early diagnosis, assess disease activity, and evaluate therapeutic response in lupus nephritis. Objective: To determine the role of urinary Interleukin-16 (IL-16) in lupus nephritis and to identify differences in urinary IL-16 levels in lupus nephritis based on disease activity status. Methods: This cross-sectional study consecutively enrolled 76 LES patients with lupus nephritis aged 18 years. Participants underwent medical interview and complete urine examination and urinary IL-16 examination. Urinary IL-16 was measured using the Elabscience Human IL-16 ELISA kit, which operates on the Sandwich-ELISA principle. Participants were divided into two groups based on the activity status of lupus nephritis disease, determined using the renal SLEDAI score, resulting in 38 subjects with active lupus nephritis and 38 subjects with inactive lupus nephritis. The differences between the two groups was tested using the Mann-Whitney test. Results: This study found that the median urinary IL-16 levels were higher in the active lupus nephritis group (2.992 [1.938-10.817] pg/ml) compared to the inactive lupus nephritis group (2.619 [2.050-5.508] pg/ml). There was a significant difference in urinary IL-16 levels between the active and inactive lupus nephritis groups (p=0.014). Conclusion: There was a difference in urinary IL-16 levels in lupus nephritis based on disease activity status.