

Urinary Neutrophil Gelatinase Associated Lipocalin as Diagnostic Biomarkers for Lupus Nephritis

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Abstract : Lupus nephritis (LN) is a high-cost disease, occurring in about half of patients with Systemic Lupus Erythematosus (SLE). Renal biopsy constitutes the only protocol that, to date, allows a correct diagnosis of the level of renal involvement in these patients. However, this procedure can have various adverse effects such as kidney bleeding, muscle bleeding, infection, pain, among others. Therefore, the development of new diagnostic alternatives is required. The neutrophil gelatinase-associated lipocalin (NGAL) has been emerging as a novel biomarker of acute kidney injury. The aim of this study was to assess urinary NGAL levels as a marker for disease activity in patients with lupus nephritis. For this work included 50 systemic lupus erythematosus (SLE) patients, 50 with active lupus nephritis (LN), and 50 without autoimmune and renal disease as controls. TNGAL in urine samples was measured by enzyme-linked immunosorbent assay (ELISA). The results revealed that patients with kidney damage had an elevated urinary NGAL as compared to patients with lupus without kidney damage and controls ($p < 0.005$), and the mean of uNGAL was (28.72 ± 4.53) , (19.51 ± 4.72) , (8.91 ± 3.37) respectively. Measurement of urinary NGAL levels showed a very good diagnostic performance for discriminating patients with Lupus nephritis from SLE without renal damage and of control individuals.

Keywords : lupus nephritis, biomarker, NGAL, urine samples

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