

**ROLE OF MACROPHAGES IN DIABETIC  
NEPHROPATHY  
HISTOPATHOLOGICAL AND IMMUNOCHEMICAL  
Study**

**Thesis**

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In pathology

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**Abstract**

**Key words :** diabetic nephropathy, role, macrophage, proteinuria

**Background:** Diabetic nephropathy is one of major causes of end stage renal disease. Although it is associated with interstitial and glomerular

macrophage infiltrates, the actual role of macrophages in pathogenesis of diabetic nephropathy is still unclear.

**Methods:** This study analyzed the clinical, laboratory data and renal biopsies of diabetic patients. According to the biopsy findings, patients were categorized as, diabetic nephropathy group and other renal lesions in diabetic patients. Relations between macrophage numbers in renal tissue biopsies (detected by CD68 antibodies) and the predictors of disease progression (proteinuria, tubular atrophy and interstitial fibrosis) was estimated.

**Results:** Accumulation of macrophages was apparent in the glomeruli ( $3.3 \pm 1.5/\text{gcs}$ ) and in the interstitium ( $262.3 \pm 67.5/\text{mm}^2$ ) in 30 diabetic nephropathy patients. The number of macrophages was significantly related to both tubular atrophy and interstitial fibrosis with  $p=0.005$  and  $0.006$  respectively.

**Conclusion:** In diabetic nephropathy, macrophages recruit within glomeruli and interstitium and the intensity of macrophage infiltrate is proportional to the degree of nephropathy. These human data support the animal studies that suggest a pathogenic role for macrophages in diabetic nephropathy.