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**Clinicopathologic features differentiating diabetic nephropathy and nondiabetic renal disease in patients with type 2 diabetes and rapid and slow progressors in patients with diabetic nephropathy**

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**Objectives:**

This study investigated the implication of clinicopathologic features in differentiating diabetic nephropathy (DN) and nondiabetic renal disease (non-DN) in patients with type 2 diabetes, and slow progressors and rapid progressors in patients with pure DN.

**Methods:**

This is a retrospective study using a kidney biopsy registry data from eight university hospitals in South Korea. Clinical data differentiating DN and non-DN were analysed in 215 patients with type 2 diabetes. Patients with DN were further categorized into slow progressors and rapid progressors according to the clinical course, and histopathologic data were compared between slow and rapid progressors.

**Results:** Sixty-one patients (28.3 %) had pure DN and 154 patients (71.6 %) had non-DN. Compared with the non-DN group, patients with DN had higher prevalence of diabetic retinopathy and lower body mass index and estimated glomerular filtration rate, and were more frequently prescribed with antihypertensive medications. In multivariate analysis, the presence of diabetic retinopathy was the only significant clinical predictor of DN (odds ratio 13.0, 95% confidence interval 2.92-57.9,  $p < 0.001$ ). Among patients with DN, 58 patients had follow-up data, and were categorized into slow progressors ( $n = 28$ ) and rapid progressors ( $n = 30$ ). Glomerular pathologic findings showed that rapid progressors had more severe glomerulosclerosis, capsular adhesion, intraluminal hyalinosis, and epithelial cell proliferation compared to slow progressors. Tubulointerstitial findings revealed that rapid progressors had more severe mononuclear infiltration, interstitial fibrosis, and tubular atrophy. In terms of vascular lesions, more severe arterial intimal hyalinosis was found in rapid progressors. There was no significant difference in mesangial findings between rapid and slow progressors.

**Conclusions:**

Diabetic retinopathy was a powerful predictor in differentiating DN and non-DN in patients with type 2 diabetes. Among patients with DN, rapid progressors differed from slow progressors in glomerular, tubulointerstitial, and vascular lesions, but not in mesangial lesions.