

Abstract Type : Oral

Abstract Submission No. : OR-1096

Biopsy Proven Kidney Diseases in Type 2 Diabetic Patients with Impaired Renal Function

Jin Hyuk Paek, Ohyn Kwon, Yaerim Kim, Woo Yeong Park, Seungyeup Han, Kyubok Jin
Department of Internal Medicine-Nephrology, Keimyung University School of Medicine, Korea, Republic of

Objectives:

Diabetic nephropathy (DN) is a major microvascular complication of diabetes mellitus (DM) and the most common cause of end stage of renal disease worldwide. The nature of kidney disease in type 2 DM is more complex than type 1 DM. However, the usefulness of kidney biopsy in type 2 DM is still controversial and there are few reports about the biopsy proven kidney disease, especially in patients with impaired renal function.

Methods: We retrospectively reviewed 1454 patients who received native kidney biopsy between 2005 and 2018. Among 1454 patients, 92 patients were diagnosed with type 2 DM before kidney biopsy. Fifty-three patients with impaired renal function (estimated glomerular filtration rate < 60 mL/min/1.73 m² using Modification of Diet in Renal Disease formula) were finally enrolled in this study. We categorized the pathologic diagnoses as DN, non-diabetic kidney disease (NDKD), and NDKD superimposed on DN (Mixed).

Results: The mean eGFR was 28.6 ± 14.6 mL/min/1.73 m² and mean duration of DM before kidney biopsy was 102.1 ± 82.2 months. Of the 53 patients, there were 28 NDKD (52.8%), 18 DN (34.0%), and 7 Mixed (13.2%). Diabetic retinopathy was more common in DN, following Mixed and NDKD (72.2%, 42.9%, and 10.7%, respectively, $p < 0.001$). Multivariable logistic regression analysis revealed that diabetic retinopathy was significantly associated with DN (OR, 23.672; 95% CI, 4.290-130.609; $p < 0.001$). In multivariable cox proportional hazard models, creatinine level (HR, 1.779; 95% CI, 1.404-2.255; $p < 0.001$) and dipstick albuminuria $\geq 2+$ (HR, 22.721; 95% CI, 4.670-110.542; $p < 0.001$) were identified as independent prognostic factors for renal survival.

Conclusions: Kidney disease of type 2 diabetic patients were various and clinical parameters could not completely predict. Kidney biopsy is an important tool for the definite diagnosis and the proper treatment of kidney disease in diabetic patients with impaired renal function.