

## 제2형 당뇨병성 신증환자에서 좌심실 비대와 신기능 악화의 상관 관계

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### Left Ventricular Hypertrophy Pattern as a Prognostic Factor of the Progression of Renal Disease in Type 2 Diabetic Nephropathy Patients

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**Introduction:** Left ventricular hypertrophy (LVH) is an important risk factor for cardiovascular disease in diabetic nephropathy patients. The risk factors of LVH are related to that of renal disease progression (RDP). So, we evaluated whether the presence and the pattern of LVH were predictors of RDP in type 2 diabetic nephropathy patients.

**Methods:** Total of 78 clinically stable type 2 diabetic patients with overt proteinuria were included in the study. Left ventricular mass (LVM), LVMI and relative wall thickness were assessed by echocardiography. Clinical parameters such as age, gender, systolic blood pressure (SBP), diastolic blood pressure (DBP), DM duration and biochemical parameters such as hemoglobin (Hb), BUN, creatinine (sCr), eGFR by MDRD equation, uric acid (sUA), and lipid profiles were collected. Follow-up data about the progression of renal disease for three years were surveyed, retrospectively. RDP was defined as doubling of sCr or starting of dialysis.

**Results:** The prevalence of LVH was 56 out of 78 (71.8%) patients and distributions of LVH pattern were as follows; 21.8% normal (Group 1), 6.4% concentric remodeling (Group 2), 29.5% concentric hypertrophy (Group 3), and 42.3% eccentric hypertrophy (Group 4). In the four groups according to LVH pattern, the percentage of the RDP were as follows; 23.5%, 0%, 39.1%, 57.6%, respectively ( $p=0.024$ ). In univariate analysis, clinical predictors of the RDP were SBP, Hb, sCr, eGFR, sUA, LVMI, and the presence of LVH. Multivariate Cox regression showed that SBP and eGFR were significant independent predictors of the RDP. And Kaplan-Meier analysis showed that RDP was more developed in the concentric and eccentric LVH groups.

**Conclusion:** The presence of LVH was associated with the progression of renal disease in type 2 diabetic nephropathy patients.

**Key Words:** 당뇨병성 신증, 좌심실 비대, 신기능악화

Diabetic nephropathy, LVH, Progression of renal disease