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IgA 신병증 환자에서 신기능 보존을 위한 단백뇨 감량의 적정 수준

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Optimal Level of Proteinuria Reduction for Renoprotection in Patients with IgA Nephropathy

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Background: Proteinuria is a target for renoprotection in various glomerular diseases. However, optimal level of proteinuria reduction is unknown in patients with IgA nephropathy (IgAN). Therefore, we conducted a retrospective observational cohort study to investigate whether reducing proteinuria below the level that the current guideline suggests may confer a more renoprotective advantage.

Methods: Among 644 participants who were pathologically diagnosed with IgAN in Yonsei University Severance Hospital and National Health Insurance Corporation Ilsan Hospital between 2000 and 2010, 500 subjects were eligible for the study. Time-averaged proteinuria (TA-P) was calculated as an average of the mean of every 6 month period of measurements of spot urine protein-to-creatinine ratio. The study endpoints were a doubling of the baseline serum creatinine concentration (D-sCr) and the onset of end-stage renal disease (ESRD). ESRD was defined as initiation of dialysis or receiving transplantation.

Results: There were 221 (44.2%), 135 (27.0%), 96 (19.2%), and 48 (9.6%) patients with TA-P of <0.5, 0.5 to 0.99, 1.0 to 1.99, and ≥2.0 g/g, respectively. During a median follow-up duration of 65 (12-154) months, D-sCr was reached in 1 (0.5%), 3 (2.2%), 18 (18.8%), and 30 (62.5%) patients of each group (p<0.001). There was no difference in the development of D-sCr between patients with TA-P<0.5 g/g and those with TA-P of 0.5 to 0.99 g/g. ESRD did not occur in these two groups compared to 11 (11.5%) and 23 (47.9%) patients with TA-P of 1.0 to 1.99 and ≥2.0 g/g, respectively. In the multivariable Cox model after adjustment for age, estimated glomerular filtration rate, blood pressure, pathologic findings, and treatment, risk of reaching D-sCr did not differ between patients with TA-P of <0.5 g/g and those with 0.5 to 0.99 g/g [hazard ratio (HR), 1.95; 95% confidence interval (CI), 0.15 to 25.6; p=0.611], whereas it was markedly increased in patients with TA-P of 1.0 to 1.99 g/g (HR, 32.1; 95% CI, 3.07 to 336.5; p=0.004) and those with TA-P >2.0 g/g (HR, 153.0; 95% CI 13.8 to 1699.7; p<0.001).

Conclusions: Our finding suggests that the optimal anti-proteinuric goal is <1.0 g/g in patients with IgAN. Further studies are required to clarify whether reduction of proteinuria of <0.5 g/g may confer a more renoprotective advantage.

Key Words: IgA 신병증, 단백뇨, 예후
IgA nephropathy, Proteinuria, Outcome