IgA 신증과 관련된 생체표지자의 임상적 의의; TWEAK & PTX3

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Roles of Biomarkers in IgA Nephropathy: TWEAK and PTX3

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Background: TNF-like weak inducer of apoptosis (TWEAK) has been implicated as a mediator of chronic inflammatory processes via upregulating a number of chemokines, cytokines and adhesion molecules in various tissues, including the kidney. Long pentraxin 3 (PTX3) is a recently discovered multimeric inflammatory mediator. We studied whether urinary TWEAK (uTWEAK) and urinary PTX3 levels might be predictive and/or diagnostic in IgA nephropathy (IgAN).

Methods: We investigated urinary TWEAK (uTWEAK), PTX3 and serum TWEAK (sTWEAK), PTX3 levels in 40 patients (15 male; mean age 36.6±12.9 years) with IgAN and 10 healthy people (5 males; mean age 37.3±9.6 years) as controls. Soluble TWEAK and PTX3 were measured using human ELISA kits and we analyzed the correlation between their levels and patients' clinical parameters and histological changes using Modified H.S. Lee grading system and tubulointerstitial change scoring.

Results: uTWEAK levels were significantly higher in IgAN patients than control groups. The levels of uTWEAK correlated with the urinary protein creatinine ratio (p=0.017), but not with serum creatinine, estimated GFR, systolic and diastolic blood pressure and the degree of hematuria in IgAN patients. Patients with modified H.S Lee grade above 1 showed higher uTWEAK levels than patients with grade 1 (84.60±107.4 pg/mg creatinine vs 31.35±107.4 pg/mg creatinine, p=0.047). sTWEAK levels, however, were not found to correlate with the proteinuria or the degree of histological change. Urinary and serum PTX3 levels showed no association with any clinical and pathologic parameters.

Coclusion: High uTWEAK levels are associated with proteinuria and reflect histological changes in IgAN. Our study indicates that uTWEAK levels may be useful as a novel biomarker in IgAN.

Key Words: IgA 신증, 생체표지자, TWEAK, PTX3
IgA nephropathy, biomarker, TWEAK, PTX3