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Urine βig-h3 could be a Marker for Renal Tissue Injury in Patients with Asymptomatic Persistent Hematuria

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Introduction: TGF-β has been implicated in the pathogenesis of number of kidney diseases characterized by glomerulosclerosis and tubulointerstitial fibrosis. βig-h3 (TGF-β inducible gene-h3) is a recently identified TGF-β induced gene product. The expression level of βig-h3 in kidney has been reported directly represents the biological activity of TGF-β. In the present study we determined the level of βig-h3 in urine to correlated with the degree of renal tissue damage.

Methods: Thirty patients aged from 3 years to 17 years with asymptomatic persistent hematuria were enrolled. All patients were taken renal biopsy. Urine βig-h3 were checked by random morning urine samples by ELISA kit. (REGEN Biotech Inc. Korea)

Results: We divided patients into two groups, 15 patients showed significant increase of mesangial matrix and mesangial cell proliferation (Group A) and 15 patients showed minor glomerular change (Group B) by findings of renal biopsy. In Group A and Group B mean urine Big-h3 levels were 48.9±14.16 and 7.0±6.8 (ng/mg creatinine), respectively ($p<0.01$)

Conclusion: Although further studies are needed, our studies showed urine βig-h3 level was closely related to the degree of renal tissue damage. Therefore urine βig-h3 level could be useful marker for indication of renal biopsy in patients with persistent asymptomatic hematuria.