Abstract Type : Oral  
Presentation No. : OR 03 DO-05

Soluble cMet levels in urine are a significant prognostic biomarker for diabetic nephropathy

Yong Chul Kim¹, Jung Nam An², Jin Hyuk Kim², Young-Wook Choi², Chun Soo Lim², Yon Su Kim³, Seung Hee Yang³, J Jung Pyo Lee²
¹Department of Internal Medicine-Nephrology, Seoul National University Hospital, Korea, Republic of  
²Department of Internal Medicine-Nephrology, SMG-SNU Boramae Medical Center, Korea, Republic of  
³Department of Kidney Research Institute, Seoul National University College of Medicine, Korea, Republic of

Objectives: Hepatocyte growth factor and its receptor cMet activate biological pathways necessary for repair and regeneration following kidney injury. Here, we evaluated the clinical role of urinary cMet as a prognostic biomarker in diabetic nephropathy (DN).

Methods: A total of 218 patients with DN were enrolled in this study. We examined the association of urine cMet levels and long-term outcomes in patients with DN.

Results: The levels of urinary cMet were higher in patients with decreased renal function than in patients with relatively preserved renal function (5.17 ± 9.56 ng/ml versus 1.86 ± 4.85 ng/ml, P = 0.001). A fully adjusted model revealed that a urinary cMet cutoff of 2.9 ng/mL was associated with a hazard ratio for end-stage renal disease of 2.50 (95% confidence interval 1.18-4.53, P = 0.007). The addition of urinary cMet to serum creatinine and proteinuria provided the highest net reclassification improvement. We found that in primary cultured human glomerular endothelial cells, TGFβ treatment induced fibrosis, and the protein expression levels of collagen IV, fibronectin, and αSMA were decreased after administration of an agonistic cMet antibody.

Conclusions: In conclusion, elevated levels of urinary cMet at the time of initial diagnosis could predict renal outcomes in patients with DN.