KSN 2017 Abstract

KSN-17-O058

Expression of CD71 Mesangial IgA1 Receptor predicts progression of IgA nephropathy

Jong hyun JHEE[1], Bo young NAM[2], Seohyun PARK[1], Hyoungnae KIM[1], Hae-ryong YUN[1], Youn kyung KEE[1], Tae ik CHANG [3], Ea wha KANG [3], Beom jin LIM [4], Jung tak PARK [1], Tae-hyun YOO[1], Shin-wook KANG[1,2], Hyeon joo JEONG [4], *Seung hyeok HAN[1]

[1]Internal Medicine, College of Medicine, Institute of Kidney Disease Research, Yonsei University, Seoul, Korea, Korea,South, [2]Internal Medicine, College of Medicine, Severance Biomedical Science Institute, Brain Korea 21 PLUS, Yonsei University, Seoul, Korea, Korea,South, [3]Internal Medicine, National Health Insurance Service Medical Center, Ilsan Hospital, Goyang, Gyeonggi-do, Korea, Korea,South, [4]Pathology, Yonsei University College of Medicine, Seoul, Korea, Korea,South

Objectives : The transferrin receptor (CD71) is known as a receptor for IgA1 on mesangial cells and plays a key role in the pathogenesis of IgA nephropathy. However, little is known about the association between clinical outcomes and the level of CD71 expression.

Methods : We studied the clinical implication of mesangial CD71 in 282 patients with biopsy-proven IgAN between 2005 and 2014. Glomeruli were obtained from biopsy tissues by manual microdissection. The expression of glomerular CD71 was determined by real-time polymerase chain reaction. Disease progression was defined as a ≥ 30% decline in estimated glomerular filtration rate (eGFR).

Results : During a mean follow up of 51.6 months, 40 (14.2%) patients developed disease progression. The mRNA expression of CD71 was significantly higher in progressors than in non-progressors (P = 0.01). Immunnohistochemial study also confirmed the higher expression of CD71 in the former. In a multivariable Cox model adjusted for confounders, enhanced transcript level of CD71 was significantly associated with an increased risk of disease progression (P = 0.018). Furthermore, CD71 expression level independently predicted the development of persistent proteinuria of ≥ 1 g/g creatinine (P = 0.003). Among 4 components of the Oxford classification, only M1 score was significantly associated with a higher transcript level of CD71.

Conclusions : We showed that glomerular CD 71 expression is significantly associated with various clinically important parameters in IgA nephropathy. This

finding suggest that incorporation of CD71 into risk stratification is helpful in determination of adverse outcomes.

Keywords : CD71, IgA nephropathy, eGFR