한국 성인의 막성사구체염 환자에서의 phospholipase A2 receptor에 대한 자가항체 발현

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Autoantibody Against Phospholipase A2 Receptor in Korean Patients with Membranous Nephropathy

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Background: Membranous nephropathy (MN) is an autoimmune disease and a common cause of nephrotic syndrome in adults. Since the M-type phospholipase A2 receptor (PLA2R) was identified as a target autoantigen in adult idiopathic MN, the prevalence of autoantibodies against PLA2R has been reported in Caucasian, African American, and Chinese patients recently. However, the prevalence is unknown among Korean patients with MN.

Methods: We explored the prevalence of autoantibodies against PLA2R in Korean patients with idiopathic MN using Western blot immunoassay. Western blotting was performed in 63 patients with idiopathic MN who were in various stage of clinical disease. We isolated glomeruli from normal kidney tissue obtained after radical nephrectomy for renal cell cancer with graded sieving. Human glomerular protein extraction was electrophoresed under nonreducing condition, and human serum was used as the primary antibody at a dilution of 1:100. We assessed the reactivity of serum samples to PLA2R blindly without knowledge of the clinical status.

Results: 57 (90.5%) patients had detectable autoantibodies against human PLA2R among 63 patients with idiopathic MN. The prevalence of reactivity was not different between two groups divided by proteinuria level of less or greater than 3.5 g/day, showing high reactivity rate of 85.7% and 94.3% in subnephrotic and nephrotin proteinuria group, respectively. We compared mean proteinuria level and time to remission between two groups that were consisted of patients with available follow-up clinical data, and divided by reactivity to PLA2R. Proteinuria level was higher (N=41, 3.61 g/day vs 7.83 g/day; p=0.038) and time to remission was longer (N=22, 1.0 month vs 9.2 month; p=0.029) significantly in PLA2R(+) group than PLA2R(-) group .

Conclusion: A majority of Korean patients with idiopathic MN had autoantibodies against PLA2R. These results confirmed the role of PLA2R as a target antigen in idiopathic MN in Korean patient cohort.

Key Words: 자가항체, 막성사구체염, PLA2R
PLA2R, Membranous nephropathy, Autoantibody