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사구체 신염에서 사구체 표면적과 임상 및 병리 결과와의 관계

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The Relation between Glomerular Surface area and Clinicopathological Findings in Glomerular Diseases

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Background: Although there have been several reports on correlation of histological features with clinical outcomes in glomerular diseases, information is limited regarding the glomerular surface area (GSA). This study is about the relation between GSA and clinicopathological findings which can provide an explanation about the role of GSA in glomerular diseases.

Methods: We analyzed the renal biopsy specimens and clinical information from 50 patients with the glomerular disease in whom the renal biopsy was performed. They were divided into IgA nephropathy (IgAN) group (N=34) and non-IgAN group (N=16). The GSA was determined using a computed imaging analyzer. The statistical significance of GSA and clinic-pathological findings between two groups was analyzed through logistic regression analysis.

Results: The mean glomerular filtration rate (GFR) was 103 ml/min/1.73m^2 and mean GSA 17,926 μm^2. GSA was 16,811 μm^2 in the IgAN group and 23,107 μm^2 in the non-IgAN group, which was significantly different. While urine protein creatinine ratio (UPCR) was also significantly different (IgA:non-IgA=1.87:5.16), there was no significantly difference in serum creatinine levels between two groups. When we sub-analyzed parameters in the IgAN group, there were significant correlations between GSA and age, BMI, estimated GFR and the pathologic stages (HS Lee' s glomerular grading). Also when we divided IgAN group according to the median levels of GSA, the patients with high levels of GSA above median value had higher BMI and more severe pathologic findings.

Conclusion: These results suggest that glomerular enlargement is a reminiscent of progression of IgAN. Therefore, we can understand the patho-physiologic characteristics in the progression of IgAN through measuring the GSA.

Key Words: 사구체 표면적, IgA 신장염, 신장염
Glomerular surface area, IgA nephropathy, Glomerular disease