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Clinical characteristics of adult focal segmental glomerulonephritis according to the classification of 2020 KDIGO guideline

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Objectives: An attentive effort to correctly classify patients with focal segmental glomerulonephritis (FSGS) is essential for sound treatment decisions in individual patients.

Methods: We retrospectively analyzed 164 adult patients, excluding 163 patients who could not confirm foot process effacement in the electron microscopy among 180 patients diagnosed with FSGS in kidney biopsy at Seoul National University Hospital from 2010 to 2020. A total of 6 patients underwent the genetic testing. The classification based on category for FSGS in KDIGO guideline: primary, genetic, secondary and FSGS of undetermined cause (FSGS-UC).

Results: The mean age was 47.6±16.5 years old and 60.1% were male. The number of patients categorized into primary, genetic, secondary, and FSGS-UC was 29(17.8%), 15 (9.2%), 69(42.3%) and 50(30.7%). As for the age, patients with genetic FSGS were youngest (38.5±15.9years), and those with secondary FSGS were highest(52.5±14.9years). Only genetic FSGS had a higher proportion of females than males(53.3%). The proportion of patients diagnosed with hypertension was the highest in the secondary group (84.3%), followed by genetic (46.7%) and primary FSGS(41.9%). Patients with body mass index ≥25kg/m² were 20 (28.6%) in the secondary group. The number of patients with nephrotic syndrome was highest in primary group (29, 100%) followed by genetic(0, 0%), secondary(3, 4.3%), and FSGS-UC(6, 12.0%), respectively. Primary FSGS showed low serum albumin level(2.3±0.4g/dL), high spot urine protein/creatinine ratio(9.5±6.3g/g), and diffuse foot process effacement on the pathologic findings(31, 100%). The proportion of those treated with steroids was the highest in primary(64.5%), followed by genetic(20.0%), FSGS-UC(18.0%), and secondary FSGS(10.0%). Among the 164 patients, 24(14.6%) had progressed to end-stage kidney disease during 3.1±2.8 years of follow-up. There was no significant difference in ESKD between primary, genetic, secondary FSGS and FSGS-UC.

Conclusions: Adult FSGS patients showed heterogeneous clinical presentations and causes. Physicians should differentiate a variety of FSGS categories and properly manage this complex disease entity.