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Epidemiologic changes of glomerular disease over time in South Korea

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Objectives: Epidemiology of glomerular disease (GD) has been revealed temporal changes according to the population sanitation standard, socioeconomic status, and improvement of medical care. We aimed to explore changes of epidemiology over time in GDs in Korea, which is one of countries experienced rapid socioeconomic changes during short time.

Methods: After excluding 361 with more than the second times biopsy, 8,709 biopsy-proven primary and secondary GD patients (aged ≥ 18 years) from 1979 to 2018 were included from 4 tertiary hospitals. The data were divided into four periods of 10-year intervals. The age of biopsy was divided into four generations.

Results: During median 10.5 (4.2–19.1) years of follow-up period, patients who were taken kidney biopsy tended to be significantly older and more women over time. In overall, the most common primary GD was IgA nephropathy (IgAN), followed by membranous nephropathy (MN), minimal change disease (MCD) and focal segmental glomerulosclerosis (FSGS) with similar proportions. The most common secondary GD was lupus nephritis (LN), following with diabetic nephropathy (DN) and crescentic GD. In primary GDs, proportion of IgAN had continuously increased over time, however it showed plateau since 2008, then it decreased to a certain degree, whereas proportion of MCD had decreased. Diagnosis of MN, FSGS or membranoproliferative glomerulonephritis (MPGN) was not affected by the time change. Among secondary GDs, LN remained most common, however, it has decreased recently. DN, crescentic GD and hypertensive nephropathy have increased, whereas viral associated GD has decreased continuously. Patients presenting nephrotic syndrome have been decreased recently. The higher the age was, the lower the proportion of IgAN and LN was, whereas the higher the proportion of crescentic GD and DN was.

Conclusions: During long term follow-up, we identified significant changes in epidemiologic characteristics of overall GDs. Improvement of socioeconomic and medical care are closely related to these changes.