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Pattern of glomerular disease diagnosed by renal biopsy

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Objectives : Glomerular disease ranks the third as a cause of chronic kidney disease (CKD) following diabetic nephropathy and hypertensive nephrosclerosis. The incidence and prevalence of glomerular disease continuously decreased in Korea similar to other countries. The prevalence and proportions of glomerulonephritis (GN) varied according to age, race, sex, period and geographic area etc. This study aims to investigate the distribution and pattern of glomerular disease in Korea from a single center experience.

Methods : We retrospectively analyzed the data from the total 1924 patients biopsied for 13 years from 2001 to 2013. We collected the data including pathologic results, demographic data of the patients, laboratory data and clinical pattern of presentation. The pathologic type was classified by the WHO classification.

Results : Of the total 1924 patients, 1078 (56.0 %) were males and average aged of 37.76 years. Primary GN accounts for 65.0% of the total renal biopsy. Above all, IgA nephropathy (37.3%) was the most common, followed by minimal change disease (MCD) (8.8%) and membranous nephropathy (MN) (7.6%). Secondary glomerular disease was 9.0% of total cases. Systemic lupus nephritis was the most common secondary GN (4.57%), followed by Henoch-Schonlein purpura (HSP) (1.97%) and diabetic nephropathy (1.29%). Hereditary nephritis was 24.6% of total cases. Thin basement membrane disease (TBMD) was the most common (19.95%), whereas Alport syndrome was only 0.31%. Male to female ratio was the highest in membranoproliferative glomerulonephritis (MPGN) with a ratio 2.3:1. The prevalence of primary GN differed by age at presentation. IgAN was the most common primary GN in patients under the age of 60 years, whereas MN is the most common among patients over 60 years old. Elderly patients aged over 65 years comprised 155 (8.0%) of the total cases. MN was the most common primary GN, whereas HSP nephritis was the most common secondary GN in patients over 65 years. Among patients who presented as microscopic hematuria, TBMD was the most common causes (44.9%), followed by IgAN (40.8%). Excluding 585 unsatisfactory data, nephrotic ranges of proteinuria comprised 12.8%. The most

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common cause of nephrotic syndrome was MCD, followed by MN and IgAN. When glomerular diseases were analyzed at 5-year intervals, IgAN was still the most common causes across the all periods. However, the prevalence of FSGS has increased, whereas TBMD has decreased.

Conclusions : Renal biopsy data from a tertiary university based-hospital may provide representative information of epidemiologic feature of glomerular disease in Korea, but long-term national registry data of glomerular disease would be needed to characterize the pattern of the glomerular disease in Korea.

Keywords : glomerulonephritis, renal biopsy, nephrotic syndrome