



Abstract Type : Poster exhibition

Abstract Submission No.: A-0289

Abstract Topic : Glomerular and Tubulointerstitial Disorders

Clinicopathological Profile of Native Kidney Biopsies at a Tertiary Referral Center in Indonesia: A Five-Year Retrospective Study

Muh. Dina Tursina Chekmat¹, Lestariningsih Lestariningsih², Dwi Lestari Partiningrum², Shofa Chasani², Arwedi Arwanto², Ayudyah Nurani², Ika Pawitra Miranti³

¹Department of Internal Medicine-Nephrology, Subspecialty Program in Nephrology and Hypertension, Faculty of Medicine, Universitas Diponegoro / Dr. Kariadi General Hospital, Indonesia

²Department of Internal Medicine-Nephrology, Division of Nephrology and Hypertension, Department of Internal Medicine, Faculty of Medicine, Universitas Diponegoro / Dr. Kariadi General Hospital, Indonesia

³Department of Pathology, Department of Anatomical Pathology, Faculty of Medicine, Universitas Diponegoro / Dr. Kariadi General Hospital, Indonesia

Objectives : Native kidney biopsy remains the diagnostic gold standard for glomerular diseases and is essential for therapeutic decision-making. Despite recognized geographic variation in histopathological patterns, contemporary data from Indonesia are limited. This study aimed to describe the clinicopathological spectrum of native kidney biopsies performed at a tertiary referral center over a five-year period.

Methods : This retrospective descriptive study included all consecutive native kidney biopsies performed between 2020 and 2025 at Dr. Kariadi General Hospital, Semarang, Indonesia. Demographic characteristics, clinical features, laboratory parameters at the time of biopsy, and histopathological diagnoses were reviewed and summarized descriptively. Transplant biopsies, repeat procedures, and inadequate specimens were excluded.

Results : A total of 136 biopsies were analyzed. Patients were predominantly young (mean age 27.1 ± 11.84 years) and female (61.8%), with hypertension present in 55.9%. At biopsy, mean serum albumin was 2.43 ± 0.74 g/dL, serum creatinine 1.6 ± 1.35 mg/dL, blood urea 61.18 ± 51.54 mg/dL, and estimated glomerular filtration rate 78.78 ± 40.61 mL/min/1.73 m². Secondary glomerulonephritis accounted for 67.6% of cases, largely attributable to lupus nephritis, whereas primary glomerulonephritis comprised 32.4%. Proliferative patterns predominated (69.9%), most commonly mesangial proliferative glomerulonephritis (47.1%), followed by diffuse proliferative glomerulonephritis (18.4%). Endocapillary glomerulonephritis (3.7%) and crescentic glomerulonephritis (0.7%). Non-proliferative lesions comprised 16.9%, including minimal change disease (11.8%) and membranous nephropathy (5.1%). Sclerosing lesions accounted for 13.2%, predominantly focal segmental glomerulosclerosis (11.8%), with advanced glomerulosclerosis observed in 1.5%.

Conclusions : Secondary glomerulonephritis, driven primarily by lupus nephritis, was the leading biopsy-proven renal disease in this tertiary-care setting and occurred predominantly in young women. The marked predominance of proliferative lesions reflects a substantial burden of immune-mediated kidney injury and emphasizes the central role of kidney biopsy in defining disease distribution and guiding clinical management in Indonesia.

Table 1 Baseline Demographic and Clinical Characteristics.jpeg



Table 1. Baseline Demographic and Clinical Characteristics

Variable	Value
Total patients	136
Age (mean $\pm$ SD), years	27.1 $\pm$ 11.84
Female, n (%)	84 (61.8%)
Male, n (%)	52 (38.2%)
Hypertension, n (%)	76 (55.9%)
Serum albumin (mean $\pm$ SD), g/dL	2.43 $\pm$ 0.74
Serum creatinine (mean $\pm$ SD), mg/dL	1.6 $\pm$ 1.35
Blood urea (mean $\pm$ SD), mg/dL	61.18 $\pm$ 51.54
eGFR (mean $\pm$ SD), mL/min/1.73 m ²	78.78 $\pm$ 40.61
Primary GN	44 (32.4%)
Secondary GN	92 (67.6%)

Table 1 Baseline Demographic and Clinical Characteristics.jpeg

Table 2. Distribution of Histopathological Patterns

	Histopathological Pattern	n	%
Proliferative	Mesangial proliferative glomerulonephritis	64	47,06
	Diffuse proliferative glomerulonephritis	25	18,38
	Endocapillary proliferative glomerulonephritis	5	3,68
	Crescentic glomerulonephritis	1	0,74
	Subtotal	95	69.85
Non-proliferative	Minimal change disease	16	11,76
	Membranous nephropathy	7	5,15
	Subtotal	23	16.91
Sclerosing	FSGS	16	11,76
	Advanced glomerulosclerosis	2	1,47
	Subtotal	18	13.24