DOI: https://www.doi.org/10.69950/jhc.2024.v8.i2.1

Reporting Renal Biopsies with Limited Resources

*Banu SG

Reporting renal biopsies needs multiple specialized techniques to aid histopathology. Though histopathology correlating clinical features can provisionally diagnose a number of renal parenchymal disorders, some of those diagnoses lack confirmation, while some others remain incomplete. In many developing countries like ours, renal biopsies are usually reported with history, clinical features, histopathology and direct immunofluorescence (DIF) study. Although this practice can diagnose diseases like minimal change disease, infection associated glomerulonephritis, diabetic nephropathy, membranous nephropathy and IgA nephropathy with variable confidence, many diagnoses need electron microscopy, immunohistochemistry and molecular study for their confirmation. Concerns arise as some important medical approaches namely 'treatment of disease', 'prediction of prognosis' and 'research' are based on these diagnoses. Incomplete diagnosis can badly affect patient management and research authenticity.

Focal segmental glomerulosclerosis (FSGS) denotes a common renal disorder. But more importantly, it implies a histomorphological pattern seen in many renal biopsies having other disorders that are progressing to chronicity. While the latter disorders can be diagnosed with the help of DIF study (when they are immune-mediated), the true FSGS, which is basically a podocytopathy, needs electron microscopy to see the podocyte foot process effacement, podocyte loss and hypertrophy. Diseases with organoid deposits like amyloidosis, fibrillary glomerulonephritis, immunoglobulin/light chain deposition disease and others need special stains, immunohistochemistry and electron microscopy for confirmation of their diagnosis. Molecular study is needed in many cases to detect genetic alterations. Newer ancillary techniques including image analysis and AI-based computational approach have already moved into the diagnostic panel of renal biopsies in the developed countries. In this modern era, with a huge load of kidney patients in our country, we are remaining satisfied with diagnosis of some common diseases using the oldest tools, as if less common diseases do not occur in our people. This attitude of ours should be changed. More pathologists should be trained in reporting renal biopsies, and they must have modern laboratory facilities to make proper diagnoses of the renal diseases. Bigger institutions should come forward with offers of logistic support.

**Dr. Sultana Gulshana Banu, Professor, Department of Pathology, BSMMU, Shahbag, Dhaka. sgb.bsmmu@gmail.com*

References

1. Leh S, Dendooven A. Systematic reporting of medical kidney biopsies. Clin Kidney J. 2021 Jul 23; 15(1):21-30. doi: https://www.doi.org/10.1093/ckj/sfab140. PMID: 35035933; PMCID: PMC8757430.
2. Najafian B, Lusco MA, Alpers CE, Fogo AB. Approach to kidney biopsy: Core curriculum. Am J Kidney Dis. 2022; 80(1):119-131. Published online February 4, 2022. doi: https://www.doi.org/10.1053/j.ajkd.2021.08.024
3. Reeve J, Böhmig GA, Eskandary F, Einecke G, Gupta G, Madill-Thomsen K, Mackova M, Halloran PF; INTERCOMEX MMDx-Kidney Study Group. Generating automated kidney transplant biopsy reports combining molecular measurements with ensembles of machine learning classifiers. Am J Transplant. 2019 Oct;19(10):2719-2731. doi: https://www.doi.org/10.1111/ajt.15351. Epub 2019 Apr 10. Erratum in: Am J Transplant. 2020 Feb; 20(2):620-621. doi: https://www.doi.org/10.1111/ajt.15770. PMID: 30868758.