Section: Renal pathology teaching series

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Introductory Remarks

Renal biopsy currently represents the gold standard for the diagnosis, therapeutic decision making, and prognostication of individual patients with medical disorders of the kidney. However, it is far from a perfect gold standard, as the procedure is fraught with several limitations and caveats. These must be kept in mind when interpreting the results of renal biopsy in the clinical context. Indeed, renal pathology diagnosis is a correlative diagnosis, wherein one has to integrate information from clinical, laboratory, serology and various pathological tests to arrive at the best possible or correct diagnosis. In a resource-constrained setting, this may represent a formidable challenge. However, if a systematic and diligent approach is adopted in the study and interpretation of renal biopsies, a lot of potentially useful information can be gained from a limited study of renal biopsies in resource-poor countries.

Many excellent series on renal biopsy teaching are available on internet and in some nephrology journals. However, these represent an ideal situation, where a pathologist has access to all the armamentarium required for full investigation of the renal biopsy material. We are introducing in this journal a series of renal biopsy teaching cases, focused to the teaching of renal pathologists and nephrologists working in developing countries, with limited or no access to advanced techniques for the investigation of renal biopsy samples. This will be in the format of a brief clinical description of a case followed by images of the renal biopsy (light microscopy, immunofluorescence, and where necessary electron micrographs). A discussion will follow focused on the approach to be adopted in such cases.

First, a brief description of the limitations of the renal biopsy procedure follows. As is inherent in all needle biopsy sampling procedures, renal biopsy also suffers from an intrinsic sampling error. Hence, the adequacy of renal biopsy must be stated in the beginning of the report. An appreciation of the limitations imposed by the sample size is necessary for a correct interpretation of the pathological lesions. Secondly, for maximum information to be gleaned from a renal biopsy, it must be prepared very diligently and to the highest standard required for any biopsy processing and preparation. Thirdly, the limited number of stereotypic renal responses to various injurious agents requires integration of information from multiple tests to establish the relationship between the pathologic findings on the biopsy and a specific disease. In other words, diverse injurious agents and pathogenetic mechanisms may produce a similar morphologic response and lesions. In addition, multiple diseases or lesions may produce similar clinical presentation/syndromes. Another potential caveat is that it is not always easy to identify the primary lesion because more than one compartment may be involved, secondary processes may intervene, and major findings may be subtle. Finally, progression of many forms of renal injury toward end-stage disease results in nonspecific chronic changes that obscure the nature of the original pathologic process. Thus, determining the primary or dominant pathology requires experience. A close liaison between the pathologist and nephrologist is essential for an accurate

interpretation of renal biopsies. In spite of these problems, the pathologic diagnosis remains an important guide for the clinician in the diagnosis, prognosis, and therapy of renal disease.
This section is open to all nephropathologists and general pathologists from all around the world who want to contribute to teaching of quality renal pathology to the neophytes in nephrology and renal pathology fields. The only prerequisite is good quality of microscopic images, so that these can be interpreted with ease by new entrants in the above fields.

Further reading:

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