Preface

“Urine” the “Medulla” of the Kidney: Concentrate!

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Editor

The introduction of the modern technique for percutaneous kidney biopsy 60 years ago in Chicago was a landmark event for nephropathology. Shortly thereafter, the incorporation of immunofluorescence and electron microscopy in the evaluation of these small tissue samples accelerated the characterization and our understanding of a wide variety of kidney diseases, which was critical for establishing the framework of knowledge that exists today. More recent investigative tools to study genomic and proteomic data will continue to reveal additional insights.

The inception of dialysis over a half century ago represents a remarkable achievement in modern medicine, which has extended the lives of countless individuals. However, as a consequence of this amazing invention, the importance of preservation of renal function has gradually faded from the minds of the general public and even physicians. There is a false presumption that dialysis provides a safety net and represents a perfect replacement for failed kidneys, but this could not be further from the truth, as end-stage renal disease due to any cause is more deadly than the vast majority of cancers. In the United States, more than 90,000 Americans die from kidney diseases annually, which exceed the number of combined deaths from breast and prostate cancer. Similar to cancer, early detection of renal diseases provides better opportunities for medical interventions that can alter disease progression and improve clinical outcomes. In particular, this scenario is becoming more commonplace for patients

with kidney cancer for whom the status of the non-neoplastic kidney is emerging as the most important predictor of clinical outcome.

The current practice of renal pathology is challenging and routinely requires the complex integration of clinical and laboratory data with light, immunofluorescence, and electron microscopic findings. Fellowship-trained nephropathologists are already in short supply and this problem is likely to worsen, so general surgical pathologists increasingly will be called on to evaluate kidney specimens. These scenarios already occur routinely for autopsies, tumor nephrectomies, and donor kidney evaluation.

The practice of general surgical pathology has become increasingly difficult, as the amount of knowledge that must be absorbed to maintain competency within any given subspecialty increases at an exponential rate. Most pathology residency training programs have either ignored or placed minimal emphasis on teaching nephropathology, so this issue of “Pathology of the Medical Kidney” has been created to provide guidance for the common diagnostic dilemmas that the general surgical pathologist may occasionally encounter in the nonneoplastic kidney specimen.

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