The Transplant Kidney Biopsy: In Whose Hands? 

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Is the transplant kidney biopsy the exclusive domain of the transplant nephrologist? A new study in Kidney360 by Mattiazzi and colleagues from the University of Miami suggests that although historically true, it may no longer be the case. There is a lot more nuance related to this aspect of caring for kidney transplant recipients that should be considered in answering this question.

Percutaneous kidney biopsy remains the gold standard for diagnosing various causes of allograft dysfunction in kidney transplant recipients. From identifying rejection to recurrent disease, from diagnosing infectious complications to simple prognostication of allograft health, kidney biopsies are relied upon for treatment decisions and are an integral part of post-transplant care. Over the last few decades, there has been a steady and significant transition in the performance of native kidney biopsies by a nephrologist to an interventional radiologist. Although 95% of board-certified nephrologists performed native kidney biopsies in 1980, recent studies have found that these numbers have dropped to 20%–35% (1–3). This is likely driven by various reasons, including clinical time commitment, limited training, issues related to reimbursement and liability coverage, logistical challenges of ultrasound technician and nursing availability, and more widespread access to interventional radiology (IR) services (4–7). Not only have IR teams gained more experience in performing this procedure, but they also have the appropriate infrastructure available to monitor patients post biopsy with relative ease (8). Studies looking at biopsy adequacy and complication rates between native kidney biopsy performed by nephrologists versus IR teams have conflicting results (9,10). These trends are now being identified in the transplant nephrology domain as well.

Mattiazzi and colleagues found that in their cohort of 678 transplant kidney biopsies, the complication rates were similar if the biopsies were performed by IR teams compared with those performed by transplant nephrologists. What we do not know from their study is if biopsy adequacy varied between the two groups.

Performing kidney biopsies (native and transplant) has been an integral part of the training and clinical practice of nephrology; however, the changing trend is certainly a reality, especially in private community practices where providers are increasingly burdened with more workload. We ought to pause and think if retaining this core competency is justifiable today. Adequate training and continued practice are essential to maintain the skill to perform a kidney biopsy safely. It is a very useful skill to have in rural settings where access to IR teams may be limited. Few have argued that the procedural aspect of nephrology has the potential of attracting future trainees and increasing the interest in nephrology as a subspecialty. The American Society of Transplantation’s Transplant Nephrology Fellowship Training Accreditation Program currently requires each graduating fellow to have completed at least 10 supervised kidney transplant biopsies, highlighting the importance of learning this skill set.

We should not overlook patient choice. There is certainly a sense of comfort for the transplant recipient in knowing that the physician who has been taking care of them and whom they trust is the person performing the procedure. For a transplanted allograft under immunologic attack, time is of the essence as well. Transplant nephrologists at larger practices may have access to a procedure room and ultrasound technicians, enabling them to schedule same-day ultrasound-guided biopsies and saving them days of scheduling delays. Arguably, real-time decisions about the adequacy of the sample can be made by transplant nephrologists while preforming the procedure, with potentially better tissue yield as well.

The flip side of this argument is that with time, most hospitals now have access to IR services that have all the resources and expertise in performing kidney biopsy safely and with similar adequacy. One can also not deny that all nephrology services have become increasingly busy, and the time commitment to perform a biopsy does take away significant time from other routine clinical responsibilities. As the Mattiazi study indicates, there were no real differences in outcomes whether the biopsy was performed by the IR team or the transplant nephrology team. Some transplant nephrology fellowships take advantage of this and include an IR rotation into the curriculum for their trainees to learn the skill and meet the Training Accreditation Program requirements.

The safety and timeliness of the allograft biopsy should be of utmost importance. If resources available to the transplant nephrologist are limited, the patient should be referred to the IR team promptly for the procedure. Another consideration is to develop a strong interventional nephrology subspecialty. Several academic centers have experienced nephropathologists on...
their staff and partnering with interventional nephrology can take over the role as regional hubs and provide timely access to kidney biopsy for the community they serve. At our center, we believe that performing a kidney biopsy (transplant or native) is a core competency in the training and clinical care, and we consider this as our obligation to our patients.

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