By Crystal Farrington, MD

B
t my second year of internal medicine residency, I knew I wanted to be a nephrologist. Like many others who choose nephrology as a specialty, I enjoyed the challenge of solving complex acid-base problems or working up suspected glomerulonephritis. At the same time, I had grown to love procedures. My residency program was relatively small, and internal medicine residents performed nearly all of the bedside procedures in the ICU. I was satisfying to have a direct impact on the care of my patients through my ability to place a central line or endotracheal tube and deliver the treatment they needed. In researching general nephrology fellowship programs, I first learned about a specialty called interventional nephrology that connected my seemingly two disparate interests. I was intrigued.

Interventional nephrology first emerged in the 1980s when a nephrologist named Gerald Beathard grew tired of long wait times for his dialysis patients to get vascular access procedures. In response to his frustration with treatment delays, he decided to learn how to do angioplasties and other access-related procedures himself (1). Other pioneering nephrologists soon followed his lead, and it was quickly established that nephrologists were capable of performing a variety of endovascular procedures safely and effectively. What's more, dialysis patients benefited from timely treatment of their access dysfunction and continuity of care across the disciplines (2, 3).

The importance of prioritizing vascular access care really hit home during my general nephrology fellowship, when I learned how to take care of patients with ESKD. I became aware that vascular access issues were a major source of morbidity (and sometimes mortality) for dialysis patients, and that there were real consequences to delayed care, such as inadequate or missed dialysis, or unnecessary temporary catheter placement. Interestingly, I noticed that not all patients were affected equally by access-related disease. While some had used their fistulas for years with little to no problem, a significant number of others struggled almost constantly with maintaining any type of functional vascular access. I wondered about the difference, and whether I could do something about it.

This passion for vascular access led me to pursue further training, at an academic interventional nephrology program, where I learn how to perform dialysis access procedures, take care of hemodialysis patients, and engage in vascular access research (4). The patients I take care of on the dialysis machine or see in the interventional suite are the very ones whose access-related problems I am trying to solve, thus my research is particularly exciting and relevant.

Academic interventional nephrology offers the chance simultaneously to do and to think: I have an immediate, direct impact on an individual patient if I angioplasty his fistula or declot her graft, but I also can have a wider, lasting impact on hemodialysis patients in general through my research. For me, it’s the best of both worlds.

There are a number of challenges going forward in vascular access. In the early days of hemodialysis, those with diabetes or over age 45 were excluded from treatment, whereas elderly patients with diabetes and multiple co-morbidities constitute a significant proportion of hemodialysis patients today (5, 6).

Although the clinical characteristics of a typical hemodialysis patient in the United States have changed vastly over the last 50 years, the gold standard for vascular access (the radiocephalic fistula) has remained the same (7). In recent years, however, assumptions about the primacy of fistulas for all hemodialysis patients have been called into question, and there is a new impetus to take a patient-oriented approach to minimize access-related morbidity and increase the likelihood of vascular access success (8, 9). Nevertheless, many unanswered questions remain about how to optimize the chance that, to paraphrase, the right patient will get the right access at the right time (10). I’m eager to keep trying to find the answers, and I hope some of you reading this will join me.

Crystal Farrington, MD, is a third-year interventional nephrology fellow at the University of Alabama at Birmingham.

References

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