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50 Years Ago in *The Journal of Pediatrics*

Arteriovenous Fistulas after Renal Biopsies: Have We Silenced the Bruit?

De Beukelaer MM, Schreiber MH, Dodge WF, et al. Intrarenal arteriovenous fistulas following needle biopsy of the kidney. J Pediatr 1971;78:266-72.

Percutaneous renal biopsies changed the landscape of how nephrologists identify, classify, and treat kidney disease. It is difficult to fathom diagnosing and treating various clinical entities, including steroid-resistant nephrotic syndrome, prolonged acute kidney injury, and systemic disease with suspected renal involvement, without examining renal tissue. At the time "Intrarenal arteriovenous fistulas following needle biopsy of the kidney" was published 50 years ago, renal biopsy as a diagnostic tool was still in its infancy. Of note, a common indication for renal biopsy was to diagnose secondary hypertension, now a footnote in history in the face of modern imaging modalities. Arteriovenous fistulas, a well-known complication of renal biopsy, was then entering the consciousness of the nephrology community. Early estimates of arteriovenous fistula formation were as high as 16%.[1]

Evolution of practice (placing the patient in prone, restricting number of passes) and technology (automated biopsy gun, use of imaging modalities) have significantly decreased complications. And yet with all the technological advances and emphasis on evidence driven practice, current estimates of arteriovenous fistula formation range from 1% to 7%.[2,3] The use of different needle gauges, operator experience, and the inherent risk of the procedure are all components of renal biopsy complications. Although technological innovation, multinational collaboration, and research have exponentially increased our ability to diagnose and treat disease, confronting our fallibility will inspire continued advances in patient care.

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