COMMENTARY

Voiding cystourethrogram in multicystic dysplastic kidney: the pendulum has swung

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The association of multicystic dysplastic kidney (MCDK) with contralateral renal abnormalities has been known for decades. Early retrospective data demonstrated contralateral vesicoureteral reflux (VUR), detected in 18%, to be the most common abnormality[1] (contemporary meta-analysis finds a similar rate of 19.7%).[2] Of concern, imaging in the first year of life revealed smaller kidneys than those of patients with no contralateral VUR.[3] Out of concern for impaired renal growth and the development of pyelonephritic scarring in a solitary kidney, screening voiding cystourethrogram (VCUG) was recommended in patients with MCDK[4,5] and soon became common practice, so that protective antibiotic prophylaxis could be initiated promptly.

However, further investigation into the fate of these kidneys demonstrated that VUR, which was frequently low grade, often resolved spontaneously, with no long term evidence of impaired renal function or growth[6] (in fact, 77% later demonstrate compensatory hypertrophy).[7] Coupled with societal recommendations for limiting VCUGs in other settings and the general emphasis on reducing healthcare expenditures, the time has come to reexamine the need for performing a screening VCUG in these patients.

In this timely study, Calaway and collegues challenge the concept that screening VCUGs are required in all MCDK patients.[8] Of 133 that underwent VCUG, VUR was identified in 27 contralateral renal units (20%) of which 4 (15%) ultimately required surgical intervention. Thus, on one hand, a significant number of patients demonstrated reflux of which a significant number required surgery; on the other hand, among 3 of the 4 patients who underwent surgery, VCUG would have been performed for other indications leaving only 1 of 133 patients who benefited from routinely performed VCUG.

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While it is unclear to what extent urinary tract infection and renal damage were prevented by initiating prophylactic antibiotics in this asymptomatic population, the data argue against performing screening VCUG in MCDK patients. Other institutions are beginning to generate similar findings.[9] Sparing unnecessary screening VCUGs may serve to limit the radiation, costs, morbidity and discomfort associated with the study. However, these children have only one functioning kidney to serve them and damage to this solitary kidney has devastating consequences. Thus, in the absence of performing a screening VCUG, the threshold for further evaluation should be low to identify the solitary kidney at risk and its management adjusted accordingly.[10] □

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