Renal Mass in Solitary, Crossed, Ectopic Pelvic Kidney

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A 46-year-old healthy man presented with abdominal pain and a solitary ectopic, crossed pelvic kidney with an enhancing mass, imaged with 3-dimensional computed tomography. He underwent open partial nephrectomy, which revealed Stage T1, grade 2 conventional renal cell carcinoma with negative surgical margins. The incidence of renal cell carcinoma in the computed tomography era in a solitary crossed ectopic kidney is approximately 1 in 22 million. UROLOGY 73: 1223–1224, 2009. © 2009 Elsevier Inc.

The embryonic kidney ascends between the sixth and ninth weeks as the caudal end of the embryo elongates and straightens. Malascent can occur because of vascular, ureteral, or metanephric factors and can result in a pelvic ectopic kidney. The causes of a crossed ectopic kidney are unclear, with an autopsy incidence of just 1 in 22 000.1 A solitary, crossed ectopic kidney is rarer still. It usually occurs from left to right, is found twice as often in males as in females, and is associated with the absence of the vas deferens, cryptorchidism, and skeletal abnormalities. The ectopic kidney usually functions well unless malrotation affects its excretory capacity.

We evaluated a 46-year-old healthy man with abdominal pain. Cross-sectional body imaging (Fig. 1) revealed a left pelvic ectopic kidney with an enhancing mass. He had no palpable left vas deferens. On cystoscopy, he had a normal right and absent left ureteral orifice. The findings were consistent with crossed ectopia of a solitary kidney (Fig. 2). He underwent open partial nephrectomy. Pathologic exam-

Figure 1. Solitary, right-to-left crossed ectopic kidney (K) with renal mass (M) abutting rectum (R). b, bladder.

Figure 2. Aberrant renal vasculature. Three-dimensional computed tomography angiogram, anterior view, showing single renal artery (r.a.) and renal vein (r.v.), arising from right common iliac vessels near aortic bifurcation. rcia, right common iliac artery. k, kidney.
ination revealed Stage T1, grade 2 conventional renal cell carcinoma with negative surgical margins. The incidence of renal cell carcinoma approaches 1 per 1000 in the computed tomography era. We calculated that the incidence of a renal mass occurring in a solitary crossed ectopic kidney is approximately $1:1000 \times 1:22\,000$ or 1 in 22 million, and as such this is the first report of such a case.

References