A 12-year-old Hispanic girl was referred to our clinic for chronic renal insufficiency and bilateral vesicoureteric reflux. Serum creatinine was 1.5 mg/dL. Random urine protein to creatinine ratio was 0.28. She was found to have an inferior cross-fused ectopic kidney, in which the left kidney is fused to the lower pole of the right kidney. The right kidney in Panel A is very irregular in its contour and shows areas of scarring probably secondary to recurrent pyelonephritis. Panel B demonstrates the left kidney that is fused to the right kidney with a malrotated axis. The voiding cystourethrogram demonstrates reflux into both kidneys (Panel C).

Panel A. The right kidney is irregular in contour and shows areas of scarring.

Panel B. The left kidney is fused to the right kidney with a malrotated axis.

Panel C. Voiding cystourethrogram shows reflux into both kidneys.

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Cross-fused ectopic kidney is a rare renal anomaly. It is usually an incidental finding [1] with an estimated incidence of 1 in 7,500 [2]. It is still unclear how cross-fused ectopic kidneys develop. It is believed to happen either when the nephrogenic cells fail to separate during development, or secondary to environmental factors that lead to fusion of the two metanephric blastemas during abdominal ascent. Interestingly, familial inheritance of this anomaly has also been described [3]. The lower kidney is typically mal-rotated, and its ureter usually crosses the midline and enters the bladder on the contralateral side at the normal position. End-stage renal disease due to reflux nephropathy associated with cross-fused ectopic kidney has also been reported [4]. However, most patients with cross-fused ectopic kidneys have normal longevity and prognosis [1]. There are currently no evidence-based recommendations on how to manage patients with cross-fused ectopic kidney and how to preserve renal function.

REFERENCES