Crossed Fused Renal Ectopia

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Introduction Background Crossed fused renal ectopia is the fusion of both kidneys, with at least one kidney on the side opposite its normal location. Originally, this condition was diagnosed at autopsy; currently, it is identified with various imaging studies. Pathophysiology The fusion of 2 kidneys is believed to result from 1 of 2 events: (1) failure of the primitive nephrogenic cell masses to separate or (2) fusion of the 2 blastemas during their abdominal ascent. Either component of the fused kidneys can have associated renal abnormalities such as a Wilms tumor, hydronephrosis, multicystic dysplasia, and ectopic ureterocele. Crossed fused renal ectopia is not known to be associated with abnormalities of nongenitourinary systems. Frequency United States The frequency in the United States is unknown, but renal ectopia, anomalies of fusion, and anomalies of rotation occur in approximately 1 child in 500. Mortality/Morbidity No mortality or morbidity is observed unless crossed fused renal ectopia is associated with renal failure that results from obstruction or chronic pyelonephritis. Patients with ectopic kidneys have an increased risk for complications such as hydronephrosis, infection, and calculus formation. In the absence of associated complications and symptoms, the condition may be incidentally discovered on images obtained for reasons other than the evaluation of crossed fused kidneys. Anatomy The ectopic kidney, located entirely or primarily on the opposite side of the abdomen, typically forms the lower portion of the renal fusion mass. The ureter of the upper renal component descends on the ipsilateral side into the bladder, while the ureter from the crossed ectopic kidney crosses the midline to enter the bladder on the contralateral side.