Case Report

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Solitary Crossed Renal Ectopia with Vesicoureteral Reflux

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Solitary crossed renal ectopia is a rare anomaly of the urinary tract. This anomaly is often diagnosed incidentally when patients are being evaluated for other associated findings including genitourinary, cardiovascular, hematological or vertebral abnormalities. We report a boy with solitary crossed renal ectopia that was considered a solitary normal positioning kidney by ultrasonography and dimercaptosuccinic acid scan. However, voiding cystourethrogram revealed vesicoureteral reflux and crossed ectopia. Therefore, in any normal appearing solitary kidney, crossed ectopia may be a possible finding.

Keywords: Ectopic Kidney; Vesico-Ureteral Reflux; Ureter.

Running Title: Solitary Crossed Renal Ectopia with Vesicoureteral Reflux

Introduction

Solitary crossed renal ectopia (SCRE) is a congenital anomaly that occurs due to the combination of renal ectopia and unilateral renal agenesis [1]. Commonly, the patients are asymptomatic; however, the few symptomatic cases usually present with symptoms related to genitourinary, cardiovascular, hematological or vertebral abnormalities [1-4]. We report a case of SCRE that was initially considered a normally located solitary kidney.

Case Report

Our patient was a five-year-old boy who was evaluated for a mild abdominal pain. He had normal physical examinations and laboratory evaluations except for evidence of β-Thalassemia minor. Additionally, ultrasonography revealed a normal appearing right kidney and a non-visualized left one. Likewise, dimercaptosuccinic acid scan showed a normal solitary right kidney located at the expected site. Finally, a voiding cystourethrogram (VCUG) disclosed a refluxing ureter originating from the left side of the bladder and connecting to the kidney on the right side (Fig. 1).

Discussion

An ectopic kidney can be found in the pelvic, iliac, abdominal, thoracic, or contralateral locations due to maldescent [5]. Crossed renal ectopia is a condition in which the kidney is located on the opposite side of its ureter entering the bladder. SCRE is a very rare anomaly of the urinary tract [6]. To our knowledge, fewer than 10 cases with SCRE associated with vesicoureteral reflux (VUR) have been reported so far.

Most of the reported cases of SCRE are associated with genital abnormalities, orthopedic deformities, hematological disorders, and anorectal malformations [4,7]. Extrarenal anomalies are reported in about one third of the patients [8].

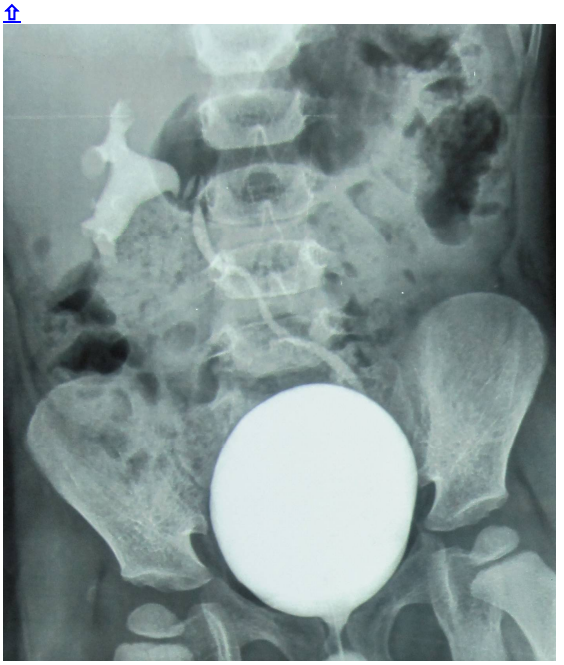

Figure 1. Voiding cystoureterogram shows reflux into the solitary crossed ectopic kidney.

Associated genital anomalies mostly include urethral duplication, hypospadias, and undescended testes [9]. However, in our patient, the only associated anomaly was VUR. If VCUG had not been performed in our patient and the ureter was not refluxing, crossed ectopia would not have become evident.

In conclusion, crossed ectopia may be a possible finding in any normal appearing solitary kidney. Also, VCUG can be considered a diagnostic procedure for the evaluation of SCRE.

Conflict of Interest

None declared

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None declared

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