

## Trauma in crossed renal ectopia in a child - a case report

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### Abstract

An 8 year old male child presented to casualty with hematuria and right flank pain following a fall from a height of 3 feet. On evaluation the child had left-to-right crossed renal ectopia without fusion with grade 3 renal injury in the left ectopic kidney. The child was hemodynamically stable. He was managed conservatively and discharged in a stable condition. Follow up ultrasound scan after 3 months did not reveal any perinephric collection.

**Keywords:** Renal ectopia, Renal trauma, CT scan, Nonoperative

### Introduction

Crossed ectopic kidney is an uncommon congenital anomaly. Approximately 90% of crossed ectopic kidneys are fused to their ipsilateral mate. Renal ectopy from left-to-right is 3 times more frequent (1). The most commonly noticed pattern is the fusion of upper pole of ectopic kidney with the lower pole of the normally placed kidney. The anomaly occurs more commonly in males with a ratio of 2:1. Most individuals with crossed renal ectopia have no symptoms (2). These patients are susceptible to urinary tract infection, obstruction, blunt trauma and inadvertent intra-operative injury.

We present a case of an 8 year old boy with left-to-right crossed renal ectopia without fusion with grade 3 injury of the ectopic kidney that was successfully managed non-operatively.

### Case report

An eight year old male child presented to the casualty with hematuria and right flank pain following a fall from height of 3 feet. There was no external injury.

On clinical examination the child was conscious and oriented, pulse rate was 96/minute and blood pressure was 100/80 mmHg. There was no pallor. Abdominal examination revealed right lumbar and iliac region tenderness. The abdomen was not distended. Hematuria was evident on placing per urethral Foleys catheter.

Ultrasound revealed crossed left ectopic kidney with perinephric collection noted around the ectopic kidney. Contrast enhanced CT scan revealed grade 3 injury of the left ectopic kidney.

Since the child was hemodynamically stable he was managed conservatively. He was put on strict bed rest for a period of one week.

Oral antibiotics and analgesics were administered for one week.

Hematuria resolved within 3 days and the per urethral foley catheter was removed on the 4<sup>th</sup> day. Pain and tenderness subsided over a period of 1 week. Urine microscopy done on the 10<sup>th</sup> day did not reveal any red blood cells. Ultrasound showed resolving hematoma. The child was discharged in a stable condition and was advised to avoid strenuous activity for 6 weeks.

The child was reviewed at one and three months. Urine microscopy was normal and ultrasound examination showed complete resolution of the hematoma.



**Fig. 3: Contrast CT scan showing left-to-right crossed renal ectopia without fusion and Grade 3 renal injuries in the left ectopic kidney with perinephric hematoma**



**Fig. 1: Contrast CT showing normal right kidney with empty left kidney fossa.**



**Fig. 2: Contrast CT showing left crossed ectopic kidney with grade 3 renal injuries and large perinephric hematoma.**

### Discussion

Crossed renal ectopia without fusion is a congenital disorder not frequently seen. Most cases of crossed renal ectopia are asymptomatic. They are usually found during autopsy, screening tests or during investigation for other conditions. The exact incidence of crossed renal ectopia is unclear. The estimated prevalence in autopsy series is 1:2000 (3). Patients with crossed renal ectopia are prone to blunt trauma in addition to obstruction, infection and stone formation (4).

In our case, crossed renal ectopia in an 8 year child was noticed due to trivial blunt trauma. The child had grade 3 injury of the ectopic kidney and was successfully managed conservatively.

The ideal candidate for conservative management is the hemodynamically stable patient sustaining either blunt or penetrating trauma and having a grade 1 or 2 renal injury. Patients who are hemodynamically stable with isolated grade 3, 4 and 5 injuries are also candidates for non-operative management (5).

Non-operative management consists of bed rest, strict monitoring of vital signs and

urine output, serial abdominal examinations and serial haemoglobin determinations. In renal trauma, antibiotics should be administered if a large retroperitoneal hematoma, urinary extravasations, extensive soft tissue injuries or indwelling urethral catheter are present (5).

Ambulation is allowed as soon as hematuria has resolved. Strenuous physical activity should be avoided for 6 weeks. At 6 weeks, a physical examination and urine analysis should be obtained. . Patients are reevaluated again at 12 weeks with a repeat physical examination and urine analysis, in addition to a radiographic evaluation for patients with grade 3 to 5 injuries (5).

### **Conclusion**

Crossed renal ectopia without fusion is a rare entity. The individuals are susceptible to trauma and should be managed according to the standard guidelines as for renal trauma.

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