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Pyelonephritis with obstructive uropathy in a crossed fused ectopic kidney: Report of a rare case and successful management

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Abstract

Crossed Fused Renal Ectopia is a very rare anomaly of the kidneys with a prevalence of 1 in 1000 live births. It is usually asymptomatic and goes undetected in most patients or is usually picked up incidentally when being evaluated for abdomen pain or other pathologies or during autopsy. Here we report a case of acute pyelonephritis with obstructive uropathy in a crossed left fused renal ectopia, which was diagnosed with computed tomography (CT) in a patient who presented with abdomen pain and how he was managed successfully with DJ stenting.

Keywords: Uropathy, ectopic kidney, successful management

Introduction

Crossed Fused Renal Ectopia (CFRE) is a very rare anatomic anomaly of the kidneys. It is usually asymptomatic and goes undetected or is usually picked up incidentally on imaging studies and rarely during autopsy. Pyelonephritis of a crossed fused ectopic kidney is a very rare occurrence with only two cases being reported in the past ^[1, 2]. Here we report a case of acute pyelonephritis with obstructive uropathy in a crossed left fused renal ectopia, and how he was managed successfully with DJ stenting at our center.

Case report

A 65-year old man diabetic man came to our Department complaining recurrent left flank pain, for the past 2 weeks. It was associated with vomiting fever with chills burning micturition and decreased urine output. The patient was febrile on presentation and had tenderness of left lumbar and iliac region. Ultrasound was suggestive of absent right kidney with left kidney showing features of pyelonephritis. CT scan of abdomen showed a left crossed fused ectopic kidney with features of pyelonephritis and obstructive uropathy. (FIGURE 1) Urine was sent for culture and the patient was empirically started on Piperacillin Tazobactam. Patient underwent bilateral DJ stenting on emergency basis. (FIGURE 2 & 3) Post stenting the patient recovered well and the renal parameters improved. There were no complications on further follow ups.

Discussion

Crossed fused renal ectopia is one of the rare congenital anomalies of urinary tract. It has a prevalence of 1 in 1000 live births with a 3:2 male-to-female predominance. Left to right is more common than right to left (3:1). The exact cause of this condition is not known yet though many theories have been postulated like influence of genetic factor, teratogenic factor or malalignment and abnormal rotation of caudal end of embryo, as a result of which both kidneys could not achieve normal position. Most cases were diagnosed incidentally as they are generally asymptomatic. However, if symptomatic then the most common presenting symptoms are abdominal or flank pain, a palpable mass, dysuria or haematuria. Ureteral orifices are usually at normal location with ectopic ureteric orifices seen in 3% of cases. Conditions like Vesicoureteric Reflux, ureterocele, nephrolithiasis, Ureteropelvic Junction obstruction and very rarely malignancy can also be associated with these anomalies ^[3-5].

Vesicoureteric Reflux is the most common associated anomaly that can lead to pyelonephritis [5]. Only two cases of pyelonephritis of ectopic crossed fused kidneys are reported so far in English literature. Imaging plays a key role in the diagnosis. Ultrasound might show a characteristic ‘notch’ between the two fused kidneys [4]. CT urogram is usually diagnostic of this condition showing the location of the kidneys, the course of the ureter and any other associated urinary tract anomalies.

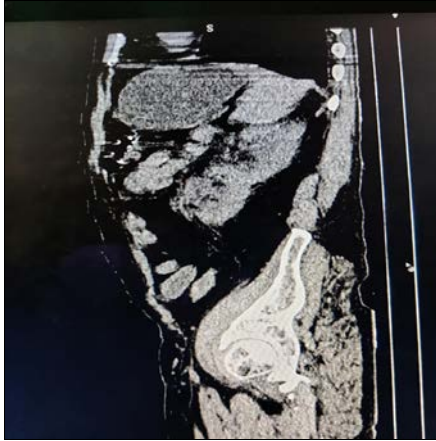


Fig 1: CT image (Saggital view) showing a crossed fused ectopic kidney with pyelonephritis

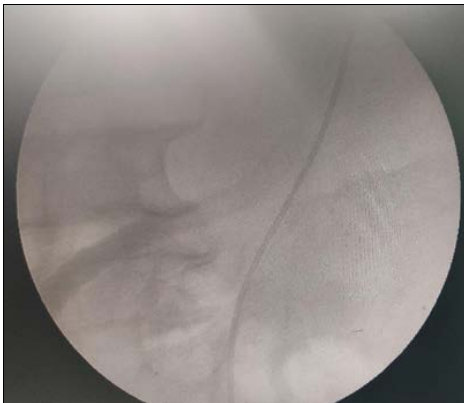


Fig 2: Intra operative image of the right dilated ureter which is crossing over to the contralateral side



Fig 3: Post-operative x ray kub

incidentally detected unilateral renal agenesis. It doesn't require any treatment until the patient is symptomatic. Pyelonephritis of a crossed fused kidney is a very rare occurrence with only two cases being reported in literature. High suspicion, early appropriate imaging and early intervention are the key in management.

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Conclusion

Crossed fused ectopic kidney is a very rare congenital anomaly and should be considered as a differential diagnosis of