



A Dilemmic Case of Left to Right Crossed Fused Renal Ectopia Reported as Solitary Kidney with Renal Cyst: A Rare Case Report

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Abstract

A 46-year-old male with history of hemoptysis was evaluated with ultrasound showing solitary right kidney with hydronephrosis. CT IVU showed Crossed fused left to right renal ectopia with gross HUN of left kidney and moderate HUN of right kidney. Creatinine was 1.55 in January 2022. Patient was totally asymptomatic. CT done here in AIMS Kochi showed single right kidney with moderate HUN. Large cystic lesion in relation to lower pole of right kidney reaching up to pelvis which could be urinoma or large renal cyst. This cystic lesion was seen compressing the mid/distal right ureter causing HUN. Cystoscopy was done first during surgery. Retrograde Pyelogram (RGP) on the left side showed Left ureteric orifice. Guidewire seen to be coiled at some distance. RGP showed? dilated pelvis? Cyst with some contrast at the base of the enlarged moiety. Right side RGP showed moderate to severe HUN.USG guided fluid aspiration was done before surgery. Approximately 350 ml of brownish thick fluid was aspirated out to relieve the mass effect before surgery. Fluid was sent for creatinine which came to be 3.11. Intraoperatively huge cystic moiety noted at the lower pole of right kidney which was separated from the surrounding tissues. One vessel? Renal vein of left side was clipped and divided. Cystic moiety was incised and the fluid was sucked out. Part of the moiety which was adhered to the lower pole was not separable so remaining moiety was cut and excised and the area at the lower pole was cauterized and surgical was placed over it. Postoperatively creatinine trend was like 1.91-1.76-1.66-1.55. Follow up USG showed Right gross HUN. Creatinine on follow up after one month was 1.5. Biopsy of the specimen showed Left renal mass - Features suggestive of Hydronephrosis.

Keywords: Crossed Fused Ectopia (CRE); Hydronephrosis (HUN); Computerized Tomography Intravenous Urography (CT IVU); Retrograde Pyelogram (RGP)

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Introduction

Crossed Renal Ectopia (CRE) is a rare congenital anomaly that is frequently associated with gastrointestinal, cardiovascular, genital and bone malformations. The incidence of crossed fused renal ectopia on autopsy and live birth has been reported to be approximately 1:7500 and 1:1000, respectively with a male predominance [1]. This condition can be misleading as it can present as solitary kidney with cyst as happened in our following case.

Case Presentation

A 46-year-old male had history of hemoptysis and hematemesis in January 2022. He was evaluated in Guwahati (India) with Ultrasound showing Solitary Right kidney with hydronephrosis. CT IVU showed Crossed fused left to right renal ectopia with gross HUN of left kidney and moderate HUN of right kidney. Creatinine was 1.55 in January 2022. Patient was totally asymptomatic. CT done here in AIMS Kochi showed Single right kidney with moderate HUN. Large cystic lesion in relation to lower pole of right kidney reaching up to pelvis which could be urinoma or large renal cyst. This cystic lesion was seen compressing the mid/distal right ureter causing HUN (Figure 1). Patient was taken up for the surgery. Cystoscopy was done first. Retrograde Pyelogram (RGP) on the left side showed Left ureteric orifice. Guidewire seen to be coiled at some distance. RGP showed? Dilated pelvis? Cyst with some contrast at the base of the enlarged moiety (Figure 2). Right side RGP showed moderate to severe HUN.USG guided fluid aspiration was done before surgery. Approximately 350 ml of brownish thick fluid was aspirated out to relieve the mass effect before surgery (Figure 3). Fluid was sent for creatinine which came to be 3.11. Intraoperatively huge cystic

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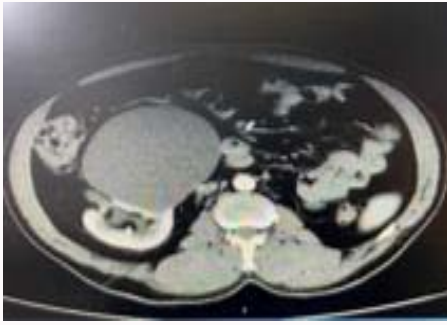


Figure 1: CT scan.



Figure 2: Retrograde pyelogram.



Figure 3: Aspirated fluid.

moiety noted at the lower pole of right kidney which was separated from the surrounding tissues (Figure 4). One vessel? Renal vein of left side was clipped and divided (Figure 5). Cystic moiety was incised and the fluid was sucked out. Part of the moiety which was adhered to the lower pole was not separable so remaining moiety was cut and excised (Figure 6) and the area at the lower pole was cauterized and surgical was placed over it. Postoperatively creatinine trend was like 1.91-1.76-1.66-1.55. Follow up USG showed right gross HUN. Creatinine on follow up after one month was 1.5.

Results

Biopsy of the specimen showed left renal mass - features suggestive of hydronephrosis.

Discussion

Crossed fused ectopia is rare entity of renal anomaly. It can be with or without fusion. When a kidney is located on the side opposite

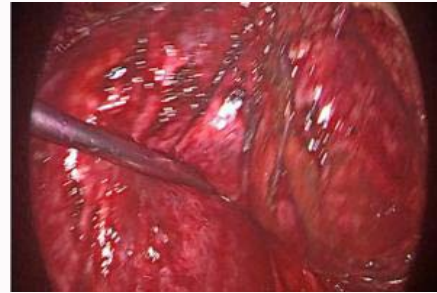


Figure 4: Crossed fused ectopia.

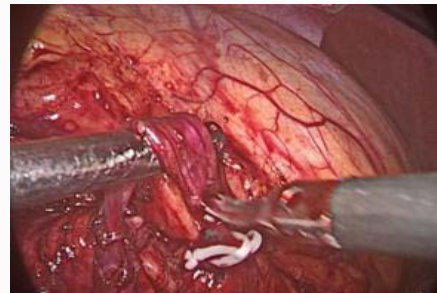


Figure 5: Unidentified vessel.

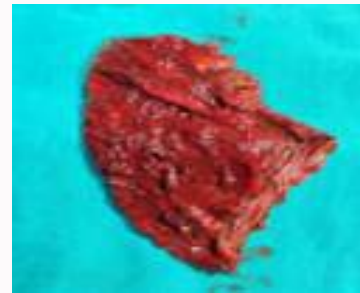


Figure 6: Postoperative specimen.

that in which its ureter inserts into the bladder, the condition is known as crossed ectopia. It can be classified as 1) Crossed ectopia with fusion, 2) Crossed ectopia without fusion, 3) Solitary crossed ectopia, 4) Bilaterally crossed ectopia. The fusion anomalies can be divided as 1) Unilateral fused kidney with inferior ectopia which is the most common type, 2) Sigmoid or S shaped, 3) Lump or Cake, 4) L-shaped or tandem, 5) Disc, shield or doughnut, and 6) Unilateral fused kidneys with superior ectopia which is the least common [2]. In our case when CT was done at our institute it appeared as a right solitary kidney with a huge cyst which was confirmed with the reporting by the radiologist. By the discussion above if we are suspecting a crossed ectopia we would have seen the ureter of the fused kidney on the opposite side. We anyway decided to proceed for the surgery. Cystoscopy was carried out first. We encountered bilateral ureteric orifice. On the left side guidewire seen to be coiled at some distance. RGP showed? Dilated pelvis? Cyst with some crescent shaped contrast uptake at the base of the enlarged moiety. Right side showed moderate to severe HUN which was probably due the compression of the ureter by this moiety. Before proceeding for the surgery, we thought of aspirating some fluid from the entity via USG. Around 350 ml for dark colored fluid was aspirated. Main confusion arose after getting the fluid creatinine value which came

out to be 3.11, which was not even close to that of urine. But as the surgery progressed, we could figure out that it was a left to right crossed ectopia. We could identify one vessel? Renal vein of left side which was clipped and divided. Finally, the cystic moiety was excised and sent for histopathology examination. We confirmed our diagnosis as the HPE came out to be kidney mass with HUN. So here it's very important to realize that these patients may be totally asymptomatic as in our case. Sometimes the CT image might confuse us as happened in our case that there was no visible vasculature and ureter of the opposite side which was compelling us to think this as a solitary kidney with cyst. Also, we realized not to get distracted by the fluid creatinine values as it may be misleading and anyway it does not change the plan of management. Early detection of these type of cases may save the kidney function of these patients.

Conclusion

Crossed fused renal ectopia is a rare entity which can be asymptomatic and can sometimes mimic a solitary kidney with large renal cyst. In clinical practice, these conditions are mostly

detected incidentally during evaluation of other conditions unless it is associated with other anomalies or complicated by obstruction or infection [3]. Reporting of such cases will help us deal with the clinical dilemmas which a practicing urologist might face. Also, early detection of this rare entity may save the kidney function of these patients.

References

1. Cao Y, Zhang Y, Kang W, Suo N, Cui Z, Luo Y, et al. Crossed-fused renal ectopia with renal calculi: Two case reports and a review of the literature. *Medicine (Baltimore)*. 2019;98(48):e18165.
2. Khanduri S, Tyagi E, Yadav VK, Pandey S, Yadav H, Khan M. Crossed fused renal ectopia with single ureter and single renal vein: A rare case. *Cureus*. 2019;11(1):e3914.
3. Bhattar R, Maheshwari A, Tomar V, Yadav SS. Crossed fused ectopic kidney: A case report. *J Clin Diagn Res*. 2017;11(8):PD11-PD12.