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Crossed Fused Ectopic Kidney In A Nigerian Male and Review of the Literature.

*** Maduforo C.O, ** Ekeke O.N., **U.S Etawo,M.D,**
Departments: *Radiology and **Surgery, University of Port Harcourt Teaching Hospital, Rivers State, Nigeria. ***Correspondence:*** ***Maduforo C.O. Phone No. +234807209285. E-mail gcecilsmaduforo@yahoo.com**

ABSTRACT
Crossed fused renal ectopia is a rare anomaly of the urinary system. It is seen more at autopsy than in clinical practice and usually remain asymptomatic during life. It is usually diagnosed incidentally. Useful imaging modalities for the diagnosis of this anomaly are ultrasonography, intravenous urogram, computed tomography and renal scintigraphy. Demonstration of crossed renal ectopia is important because it is a predisposing factor for obstruction, infection and neoplasia of the urinary system. We report a case of right to left crossed renal ectopia with a dull left sided lower abdominal pain in a Nigerian male and review of available literature .

INTRODUCTION
Crossed fused renal ectopia is the fusion of both kidneys with one kidney opposite its normal location. This condition is rare and it is identified with various imaging studies. [1] The fusion of two kidneys results from failure of the primitive nephrogenic cell masses to separate or fusion of the two blastemas during abdominal ascent[2]. Any of the fused kidneys may have associated renal abnormalities like hydronephrosis, multicystic dysplasia, Wilms tumour and ectopic ureterocele[2]. There is no known association of crossed fused renal ectopia with abnormalities of non-urogenital systems [2].Crossed fused renal ectopia has an incidence of 1 out of 1,000 births and a male to female ratio of 2:1 with left to right ectopy being three times more common[3]. In 90% of crossed ectopy, there is at least partial fusion of the kidneys[3]. Twenty to thirty percent of cases of crossed ectopia is an incidental finding. In 70-80% of cases, the commonest, symptoms are abdominal or flank pains, a palpable mass, heamaturia, urinary tract infection and dysuria [4].
Renal ultrasongraphy, intravenous urography, computerized tomography and renal scintigraphy (Technetium based tests) are the imaging modalities for the diagnosis of renal ectopia.
We report a case of crossed fused renal ectopia in a 35-year- old Nigerian male.

CASE REPORT
A.T is a 56year old Nigerian male who complained of low grade dull non-radiating pain in the left lower quadrant region for 5 years. There was no aggravating or relieving factors. No associated jaundice, fever or cough.
There was also no history of trauma. Physical examination revealed a healthy looking, middle aged man that was not pale or jaundiced. There was no peripheral lymphadenopathy. Review of the systems was nil contributory. Abdomino-pelvic ultrasound scan showed a complex appearance of the renal parenchyma in the left mid and lower abdomen without any evidence of kidney in the right renal angle (fig.1). There was no associated calyceal clubbing or dilated renal pelvis on the left kidney.
Intravenous urogram showed a mal-rotated left calyceal system with another pelvicalyceal system on the same side (fig. 2). The right ureter was seen crossing from the left renal pelvis to the trigone of the bladder where it inserted in the normal position. No evidence of nephrogram or collecting system was seen on the right renal bed (fig. 2) the patient was managed conservatively and was advised on bi-monthly serial sonographic evaluation.

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Fig. 1 Ultrasound scan of the left abdomen showing a complex appearance of the renal parenchyma on the left abdomen (arrows)

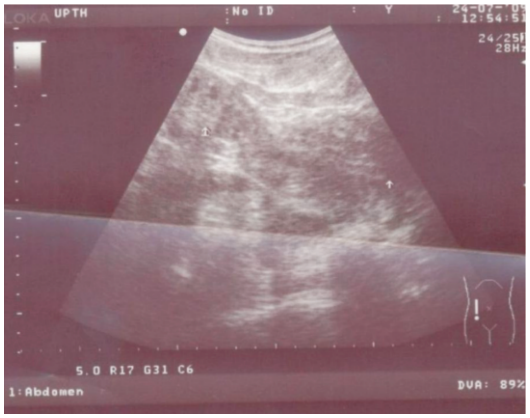

Fig.2 Full length Intravenous venous urogram showing deformed left calyceal system and second pelvycalyceal system at the pelvic brim on the same side indicating a pelvic kidney.

DISCUSSION:

Crossed renal ectopia was first described by Pannorlus in 1654. Mc Donal and Mcclell classified crossed ectopia into four types namely (1) crossed renal ectopia with fusion (2) Crossed renal ectopia without fusion (3) Solitary crossed renal ectopia and (4) Bilaterally crossed renal ectopia. Those with fusion are further classified by nature of the fusion and position[5]. More than 90% of crossed renal ectopia are at least partially fused[3]. Our patient had fused crossed renal ectopia Fishman *et al.*[6] reported that renal. Ectopia without fusion is commoner than crossed fused ectopia [6] Winram *et al.* [7] noted that crossed renal ectopia is very rare.

The incidence of crossed renal ectopia worldwde has been reported to be 1 out of 1,000 births [3]. Some investgators have reported the incidence of 1;500 in the United States of America[6] and 1:200 to 1:7000 from autopsies. There is paucity of data on the incidence of crossed fused renal ectopia in Nigeria. The male to female ratio is 2:1. Our patient was a male. The left kidney is usually ectopic three times more often than the right. In our patient, the right kidney showed ectopia. The ectopic kidney is usually the lower of the two[7]; this was the case in our patient.

Both the normal and ectopic kidneys tend to be mal-rotated and located lower down in the abdomen [8]. This was also demonstrated in our patient.

In 20-30%, the anomaly is an incidental finding while in the rest, the commonest symptoms are abdominal or flank pains, a palpable mass, haematuria, urinary tract infection and dysuria[9]. Our patient complained of left lower quadrant abdominal pain. The urological conditions that are associated with crossed ectopic kidneys include hydronephrosis, reflux, tumour and renoliths. Our patient did not have any of the aforementioned urological conditions. There is increased incidence of associated genitourinary anomalies with crossed renal ectopia [2]. A 55% incidence of associated anomalies has been reported in a series of 378 cases of crossed renal ectopy with the incidence higher in solitary crossed ectopy [5,10] . Our patient had no other anomaly. Typical sonographic findings in crossed fused ectopia is a complex appearance of the renal parenchyma with no definable contralateral kidney. This was demonstrated on our patient.

Intravenous urogram demonstrates crossed ectopia as two collecting systems, two ureters and atypical renal mass and no definable collecting system or nephorgram on the contralateral side. Again, this was demonstrated in our patient. We noted that the crossed ectopic kidney was located lower in the pelvis and had normal insertion of the ureter into the urinary bladder.

Management of crossed renal ectopia could be

conservative, if there are no complications and both kidneys are functional[11], as was seen in our patient. Nephrectomy is the treatment of choice in case of a crossed ectopic non-functioning kidney, because of the fact that the chances of ipsilateral kidney being abnormal are high[11].

CONCLUSION

Crossed renal ectopia is one of the rarest urinary system anomalies. It is more often seen at autopsy than in clinical practice. Renal ultrasonography,intravenous urography computerized tomography and renal scintigraphy are the imaging methods for the diagnosis. Demonstration of crossed renal ectopia is important because it is a predisposing factor for obstruction, infection and neoplasia of the urinary system. [12]

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