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Case Report

Cross-Renal Ectopia about a Case

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Abstract: Crossed renal ectopia is a rare congenital anomaly, it was described by WILMER in 1938 [1], implies that one of the two kidneys sits on the contralateral side, the ureter of the ectopic kidney crosses the midline to meet in the bladder on the opposite side, the existence of a parenchymal fusion is frequent (85 to 90%). This anomaly is most often asymptomatic and discovered incidentally. We report the observation of a 21-year-old woman with a G1P1V1A0 obstetrical history (ATCD), presenting cross renal ectopia discovered fortuitously following pain in the right flank associated with palpation of an abdominal mass and to review the literature.

Keywords: Crossed renal ectopia, (ATCD), ectopic kidney.

INTRODUCTION

Crossed renal ectopia is a rare congenital anomaly, it was described by WILMER in 1938 [1], implies that one of the two kidneys sits on the contralateral side, the ureter of the ectopic kidney crosses the midline to meet in the bladder on the opposite side, the existence of a parenchymal fusion is frequent (85 to 90%). This anomaly is most often asymptomatic and discovered incidentally.

We report the case of a 21-year-old patient with crossed renal ectopia discovered fortuitously following pain in the right flank associated with palpation of an abdominal mass.

PATIENT AND OBSERVATION

21-year-old patient with a G1P1V1A0 obstetrical history, having consulted a general practitioner for pain in the right flank of low intensity, intermittent, sometimes provoked by palpation with the patient in the supine position. The palpable noted a firm mass of the right flank mobile in relation to the deep and superficial plan and aroused a slight pain.

The biological assessment noted a creatinine level at 82 µmol/l, hemoglobin level at 12.6 g/dl, hematocrit level at 39.24%, blood sugar at 4.1 mmol/l.

Abdominal ultrasound revealed an empty left lumbar fossa associated with the presence of both kidneys in the right flank without dilatation of the renal cavities.

In view of these results, a specialist consultation was requested for support.

Our emergency response was:

- Inform the patient about the congenital anomaly she presents,
- That the treatment is most often conservative
- Ask for a uro-scan
- Advise taking an analgesic (paracetamol) if pain.
- ECBU + Antibiogram, CRP came back normal.

The requested uro-scan confirmed the diagnosis evoked on the ultrasound by the presence of crossed left renal ectopia.

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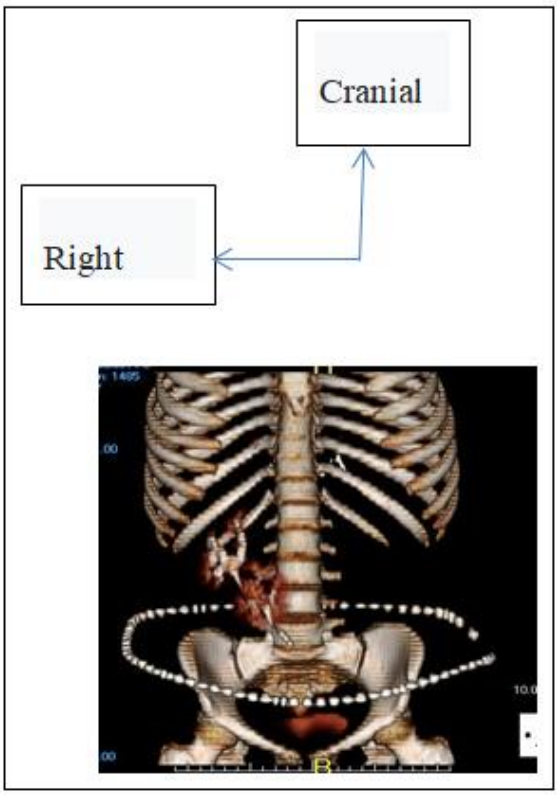

Fig 1: URO-CT showing the left kidney crossed on the right with the ureter of the ectopic kidney which comes to the midline and eventually ends up on the left

Fig 2: URO CT, transverse section showing the left kidney crossed to the right

The kidneys are not fused, the upper pole of the kidney in normal position is thoracic and its lower abdominal pole comes into contact with the upper pole of the ectopic kidney. The lower pole of the ectopic kidney is iliac. There was no arterial time on the different cuts provided.

Cystoscopy was performed to confirm the orthotopic position of the ureteral meati.

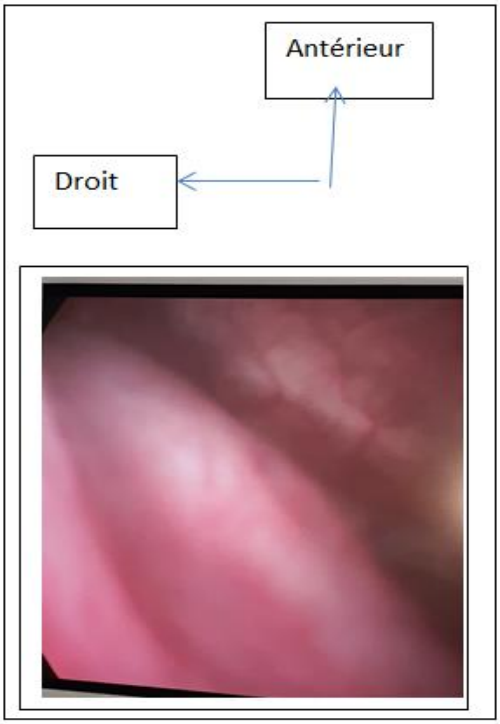

Fig 3: Right ureteral meatus on cystoscopy

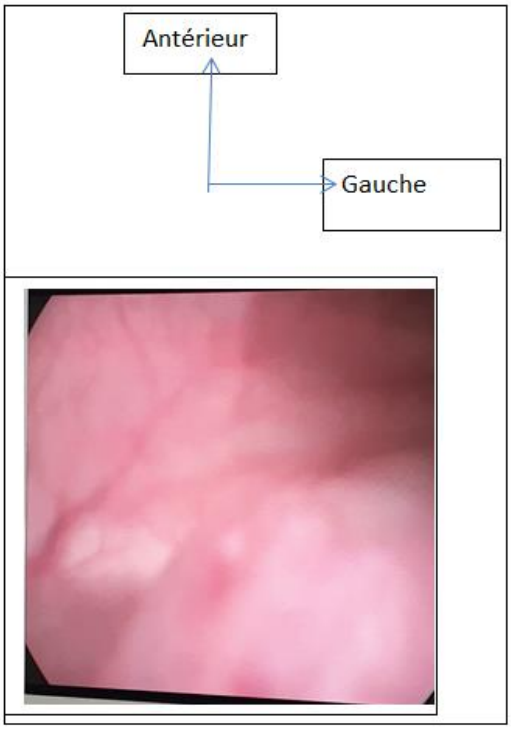

Fig 4: The left ureteral meatus on cystoscopy

DISCUSSION

Ectopia renal cross is a rare congenital malformation, is due to an abnormality in the embryonic development of the ureteral bud and the metanephric blastema between the fourth and eighth week of gestation [2].

There are four types of crossed renal ectopia [4]: crossed ectopia with fusion, crossed ectopia without fusion, solitary crossed ectopia and bilateral crossed ectopia. The incidence of cross-fused renal ectopia at autopsy is 1 in 7,500, while that of cross-fused ectopia without fusion is ten times rarer, 1 in 75,000 [5, 6]. In the literature, the prevalence of cross-renal ectopia reported was 0.01% without fusion and 0.04% with fusion [7]. But the true incidence cannot be estimated because many cases remain asymptomatic and undiagnosed throughout life [2].

Ectopic crossed kidneys are usually located in the abdomen in its lower part or in the pelvic cavity [8]. For our patient the crossed kidney was in the right flank. Crossing of the left kidney to the right side is the most common form of crossed renal ectopia [2, 9]. The predominance is male and reported by many authors [8, 10], three men for one woman. Embryologically, the exact etiology of crossed ectopia is not known. Many theories have been put forward [7], such as the influence of a genetic factor, a teratogenic factor or an abnormal rotation of the caudal end of the embryo which would lead to the aberrant development of the metanephric blastema and the ureteral bud during the 4th to 8th week of intrauterine life. So both kidneys could not reach the normal position. The eventual shape and site of the kidneys then depends on the degree of fusion and rotation [11, 12].

Vascular changes may be seen due to the lower position, the ectopic kidney may receive arterial supply from the distal aorta near its bifurcation, common iliac, internal iliac, inferior mesenteric or median sacral arteries [8]. Double venous drainage; a left main renal vein and an accessory renal vein [13]. For our patient, the different sections on the scanner did not include the arterial phase.

Most cases of crossed renal ectopia are incidentally discovered and generally asymptomatic [8]. But pelvic pain, a palpable pelvic mass, dysuria and hematuria are symptoms that can be encountered [7].

For our patient, the circumstances of discovery were a slight pain in the right flank associated with the palpation of a firm mass by the patient.

On cystoscopy, the ureteral orifices were orthotopic. The ureteral meatus can be ectopic in 3% of cases [11, 14].

Abnormalities such as vesicoureteral reflux, ureterocele, nephrolithiasis, and obstruction of the ureterovesical junction and very rarely cancer can be associated with these abnormalities [11, 14]. Abdominal ultrasound is often useful for its detection and evaluation of the state of the intra-renal cavities. The diagnosis of our patient was made by abdominal ultrasound and uro-scanner.

Uro-CT and renal scintigraphy provide additional information whether or not associated with other abnormalities or complications [15]. The Uro-CT scan confirmed the diagnosis of our case of crossed renal ectopia on the right, without anomaly or associated complication. Other malformations associated with fused crossed renal ectopia have been described, in particular bilateral radial aplasia, TAR syndrome [16].

Operative abstention must be put under cover of ultrasound monitoring and periodic analysis of urine, the kidneys do not need to be separated [8, 4].

CONCLUSION

Faced with the clinical signs of abdominal mass and pain in the right flank, ultrasound and uro-scanner led to the fortuitous discovery of a rare case of crossed renal ectopia on the right. Apart from a slight pain in the right flank, there was no malformation or associated complication. Renal function was normal.

Crossed renal ectopia usually does not require treatment. The treatment is related to the presence of associated anomaly or complications.

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