

An incidental finding of a crossed fused renal ectopia

Mehdi Rabboudi, Sataa Sallami, Khawla Ben Nasr, Oubeid Belghith, Fadhel Chtourou, Mehdi Bouassida, Selim Sassi, Hassen Touinsi.

1 : Service de chirurgie -Hôpital Mohamed Taher maamouri - Nabeul

Crossed renal ectopia (CRE) is an unusual congenital anomaly in which both kidneys are located unilaterally (1,2). The crossed kidney is situated on the side opposite to its ureteral orifice and usually lies below the normal kidney (2). Its incidence in the general population is estimated at 0.05 to 0.1% (2). Most of the patients remain asymptomatic and are incidentally encountered on autopsy or during routine medical imaging for unrelated disorders (3). Actually, the diagnosis is possible due to a wide range of imaging techniques: Ultrasound, IVU, CT Scan, MRI, and TcDMSA scan (2). The deformity itself usually produces no symptoms and the clinical presentation generally suggests obstruction and infection (1). Complications are frequent and included hydronephrotic, non-functioning kidneys, vesico-ureteral reflux, anomalous blood supply, skeletal anomalies, vertebral anomalies, coarctation of the aorta, and another atrial septal defect and anal atresia (4). Thus, a complete urological evaluation is necessary in patients with CRE for the high incidence of associated urological and no-urological anomalies (5). Moreover, periodic follow up seems warranted, at least until young adulthood (6).

We herein report a case of a crossed unfused ectopic kidney diagnosed incidentally in a male infant.

Case report

A 4-year-old male child presented to us with complaints of dysuria for 1 month. There was no other significant history. The clinical examination of the child was essentially normal. The boy had neither abdominal mass nor lumbar contract. External genitalia were normal, testicles were in place and he had a satisfactory urinary stream. There were no sign of heart defect or skeletal abnormalities. Urinalysis, blood urea nitrogen and creatinine levels were normal.

An ultrasound of the abdomen showed a large left kidney. The right kidney was absent. Intravenous urography showed a malrotated left kidney which was normally sited with calices of normal configuration and a crossed ectopic right kidney located at the second and third lumbar vertebra (Figure 1). The right ureter which was of normal caliber crossed the midline at L-2 to enter the bladder on the right (Figure 2). There was no sign of urinary complication such as infection or urolithiasis. Therefore, we opted for therapeutic abstention and advocate a clinical and radiological monitoring.

The mother was informed about this unusual congenital anomaly and the risk of infectious, obstructive and urolithiasic complications. She was also informed of the potentially higher risk of renal trauma especially during combat sports and abdominal blunt trauma even for low intensity trauma.

Figure 1 : IVU: Crossed right renal ectopia, an L-shaped kidney



Figure 2 : The right ureter crossed the midline at L-2 to enter the bladder on the right (arrow).



Conclusion

Crossed renal ectopia is a rare congenital anomaly often asymptomatic. The finding of this entity warrants complete urologic investigation to rule out surgically correctable pathology in the urinary tract.

References

- Gotoh T, Shinno Y, Koyanagi T. Crossed renal ectopia and asymmetric fused kidney, with special reference to associated vertebral anomalies. *Int Urol Nephrol.* 1987;19:33-40
- Polak-Jonkisz D, Fomalczyk K, Musiał K, Zaleska-Dorobisz U, Apoznański W, Zwolińska D. Crossed renal ectopia: can it be a diagnostic problem? *Postępy Hig Med Dosw.* 2012;66:210-4.
- Felzenberg J, Nasrallah PF. Crossed renal ectopia without fusion associated with hydronephrosis in an infant. *Urology.* 1991;38:450-2.
- Hertz M, Rubinstein ZJ, Shahin N, Melzer M. Crossed renal ectopia: clinical and radiological findings in 22 cases. *Clin Radiol.* 1977;28:339-44.
- Arena F, Arena S, Paolata A, Campenni A, Zuccarello B, Romeo G. Is a complete urological evaluation necessary in all newborns with asymptomatic renal ectopia? *Int J Urol.* 2007;14:491-5.
- Van den Bosch CM, van Wijk JA, Beckers GM, van der Horst HJ, Schreuder MF, Bökenkamp A. Urological and nephrological findings of renal ectopia. *J Urol.* 2010;183:1574-8.