CROSSED ECTOPIC KIDNEY – A CASE REPORT

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Abstract

Renal ectopia is caracterised by congenital abnormal renal position as a result of the migration disorders during embriogenesis. There are 2 types of Renal Ectopia: simple renal ectopia or direct renal ectopia and crossed renal ectopia. The incidence of this affection is aproximately the the same in both sexes (1:900). The authors present the case of a 8 years old child, admitted to the Clinic II Pediatrics from Timisoara, with fever (39 C), shiver, polaki-disuria. After the clinical and biological investigations, as well as the ultrasound exam, the diagnostic of crossed ectopic kidney was applied.

Key words crossed ectopic kidney, migration disorders, diagnosis.

Introduction

Renal ectopia is caracterised by congenital abnormal renal position as a result of the migration disorders during embriogenesis (1).

Normally, the kidneys start developing in the pelvis and migrate to their anatomical position in the upper abdomen. The kidneys's ascension precedes the gonades's descent in the pelvis. Genetic and teratogenic factors can determine abnormal kidney migration resulting in Renal Ectopia (2).

There are 2 types of Renal Ectopia: simple renal ectopia or direct renal ectopia and crossed renal ectopia. Simple renal ectopia may be unilateral or bilateral and the kidneys may have various positions: thoracic, high lombar, ileo-lumbar, iliac or pelvine. In the crossed renal ectopia, the kidney develops in the opposite side, usually in the lower lumbar region, the ureter crosses the spine, the ureter orifice having a normal opening site in the bladder (3,4,5). The incidence of this affection is aproximately the the same in both sexes (1:900); in 10% of the cases, renal ectopia may affect both kidneys (6,7,8).

Although pelvic renal ectopia can be associated with hydronephrosis and vesicoureteral reflux, in most cases it's asymptomatic and is often a random discovery (9,10).

Case presentation

The authors present the case of a 8 years old child, admitted to the Clinic II Pediatrics from Timisoara, with fever (39 C), shiver, polaki-disuria.

There are no significant data in the patient's history. His physiological history reveals: the 4-th child, natural term birth, BW=3050 g, L=54 cm, APGAR score = 10, physiologic jaundice – 3 days, breast fed. Pathological history: 1 hospitalisation for Pneumonia.

History: 8 years old child, with no significant pathologic history, is presenting 7 days before admittance with fever and polaki-disuria.

Clinical examination on admittance: altered general status, febrile (39 C), constitutional hyperpigmentation of the skin and mucosa, well hydrated. Cardio-pulmonary balanced. Normal abdomen, liver and spleen. Giordano maneuver – positive on the right side. Polaki-disuria.

Laboratory findings:

WBC = 8.530/mm^3 ; N = 44%, Ly = 47%, M =7,01%, E = 1,01%, Ba = 0,972%, RBC = 4.470.000/mm3, Ht = 37,8%, Hb = 12,5 g%, ESR= 25mm/h, RCP= 47mg/l, urea, creatinine, uric acid – in normal range.

Urine analysis: 15-20 leukocytes, erythrocytes – absent, crystals – absent, microbial flora – present. Urinalysis (3 days consecutively) revealed over 100.000 germs/ml – E. coli (sensible for Gentamicin, Cefuroxim, Amikacin).

Abdominal ultrasound: liver with normal dimensions and structure, PV=1,2 cm, gallbladder – no lithiasis, spleen = 7,3 cm, right kidney = 6,5/7cm, normal structure; the absence of the left kidney in the renal fossa (Fig 1).

Urography: bilateral urinary excretion; in the right kidney: double basinet. The left kidney is situated in the upper pelvic region with axial rotation (Fig 2).

Surgical examination: crossed renal ectopia with axial rotation. It does not require surgical intervention.

Corroborating the clinical and the paraclinical investigations we established the diagnosis: High Urinary Tract Infection, Left Crossed Renal Ectopia with axial rotation. In consequence, during the hospitalization the patient received antibiotics for urine sterilization: Gentamicin for 10 days, followed by consolidation treatment with Ciprofloxacin for 7 days. Renal ectopia does not require treatment in the absence of complications.

This case had a favorable evolution, with complete healing of the urinary tract infection and urine sterilization.

The immediate prognosis is good and the future prognosis depends on the evolution of the renal malformation on which the UTI episode developed.

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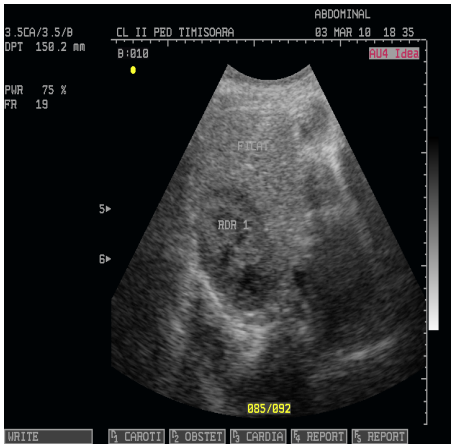

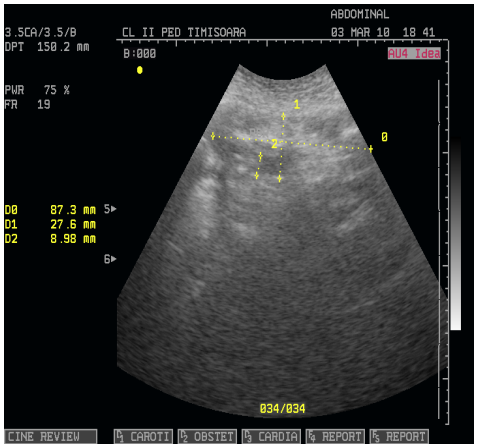

Fig. 1. Abdominal ultrasound: the absence of the left kidney in the renal fossa.

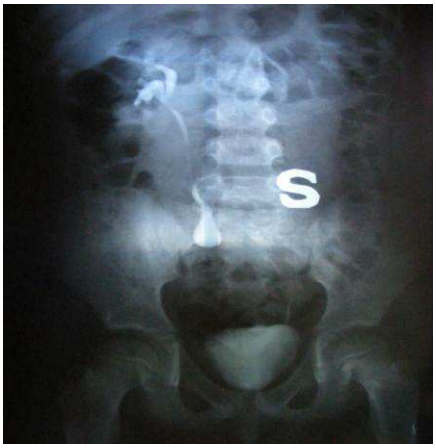

Fig. 2. Urography.

Discussions

Pelvic Renal Ectopia is the most frequent form of renal ectopia and must be differentiated from renal ptosis (the ptotic kidneys have normal-length ureters and renal arteries with a normal origin from the abdominal aorta). The ectopic kidney can be localized in the ileo-lumbar region, high lombar, iliac, pelvine, in the thorax (extremly rare) and in a few cases on the opposite side, also known as crossed ectopia.

In the case of pelvic renal ectopia, the kidneys are situated in the pelvis, and the diagnosis is based on the ultrasound examination. Most of the cases of renal ectopia are asymptomatic and do not have a higher risk for UTI, renal lithiasis or hydronephrosis.

The diagnosis of pelvic renal ectopia is of great clinical importance and must be considered while evaluating unknown pelvic structures, to avoid a nephrectomy or mistake a renal colic for acute appendicitis.

Renal ectopia is often associated with other malformations as kidney agenesis, vascular malformations or genital anomalies. In this particular case, no genital anomalies were present.

The treatment depends on the clinical manifestations and on the presence of complications. If the renal function is normal and there are no other associated renal anomalies, only routine follow-up is required.

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