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A Case of Acute Pyelonephritis of Crossed Right Fused Renal Ectopia Identified after Appendectomy

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Crossed Fused Renal Ectopia (CFRE) is a rare uncommon anatomic anomaly, which often goes undiagnosed. The paper reports a case of acute pyelonephritis of crossed right fused renal ectopia, which was diagnosed postappendectomy with contrast computed tomography (CT) in developing country Mongolia.

Keywords: Acute pyelonephritis of Crossed Fused Renal Ectopia; Acute appendicitis

Introduction

An 39-year-old women transported by ambulance doctor, the patient hospitalized with complaints of left lower abdominal pain, elevated temperature 38–39° C, vomiting 3–4 times, which were started 2 days ago. The patient's condition during admission was blood pressure 135/95 mm Hg, pulse 94 and saturation 98%. We had taken blood for CBC, biochemistry, immunology test and coagulagrama. We had done ultrasonography, which was suggestive of the acute appendicitis. There were not mentioned about acute puelonephritis of crossed fused renal ectopia. A contrast-enhanced computed tomography (CT) is not

charged by health insurance, the patient could not pay by themselves. Alvarado score was 7–8 points.

The complete blood count showed elevated WBC- $12.7 \times 10^3/\mu\text{l}$, and Gran- $10.9 \times 10^3/\mu\text{l}$. Biochemistry was not changed. Coagulogramme was not changed.

The patient was done open appendectomy with spinal anesthesia. The histological result showed acute phlegmonous appendicitis, however the some symptoms like fever, vomiting, and pain in right lower abdominal were continued postoperative day 1.

We suggested the patient to do a contrast-enhanced computed tomography (CT), which showed the crossed fused renal ectopia.



(A, B) Sagittal view of crossed fused right renal ectopia

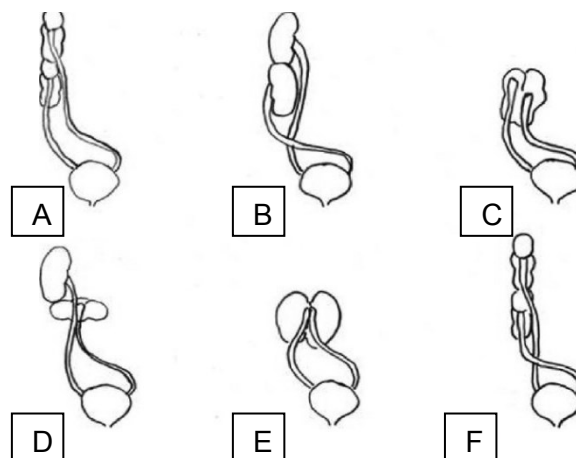


(C, D) Coronal view of crossed fused right renal ectopia

Discussion

CFRE is the second common fusion anomaly after horseshoe kidney (1), which is asymptomatic and go undiagnosed until making an imaging by some reasons, which were in our case the appendix inflamed secondly. The urinary tract system anomalies possess 3% in all congenital anomalies (2).

CFRE is classified into 4 main categories: crossed renal ectopia with or without fusion, unilateral crossed renal ectopia and bilateral crossed renal ectopia without fusion (3). 85%-90% of the crossed renal ectopia cases are partially or completely fused. CFRE happens two times more in men than women (4).



Diagrammatic representation of classification of crossed fused renal ectopia. (a) Unilateral fused kidney (inferior ectopia). (b) Sigmoid or S-shaped kidney. (c) Lump kidney. (d) L-shaped kidney. (e) Disc kidney. (f) Unilateral fused kidney (superior ectopia).

The ultrasonography identify the crossed fused renal ectopia, which includes an anterior and posterior noth with difference in orientation of the 2 collecting systems in the fused kidneys (5).

Shailesh. S reported detection of crossed fused renal ectopia was in most patients for different investigation of disease (6). Here we try to describe the challenges of diagnosis of CFRE, which was secondly detected after appendectomy operation. Computed tomography with contrast identifies definitely the anomaly, however that CT is not available for everybody.

Conclusion

The important thing is to detect the CFRE is an experienced radiologist, who could diagnose by ultrasound in the first examination.

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