Ectopic bilobar non-rotated left kidney: a case report

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Abstract

Introduction
The kidney is known to show anomalies in its position, shape, size, rotation and blood supply. Most of its anomalies are congenital. This article reports a case of ectopic bilobar non-rotated left kidney.

Case Report

We observed a rare bilobar, non-rotated ectopic left kidney in an 18-year-old female during autopsy. The right kidney was normal in shape, position and vascular supply. The left kidney was situated in front of the bifurcation of the aorta, with its hilum facing forwards. It was supplied by two renal arteries from the abdominal aorta and drained by two renal veins, both of which drained into the inferior vena cava. The renal pelvis was formed outside the hilum by union of two major calyces.

Conclusion

The abnormal location of the kidney might compress the terminal aorta and lead to restricted blood supply to the pelvis and lower limbs. It is also likely to float as it does not have much support.

Introduction

Ectopic kidney or displaced kidney is a congenital anomaly. The kidney is said to be ectopic when it is seen in the pelvis, lower abdomen and thorax or in the contralateral side of the abdomen¹. Ectopic kidney has a reported frequency of 1:500 to 1:110 and ectopic thoracic kidney 1:13,000 (solitary kidney, 1:1,000; solitary pelvic kidney, 1:22,000; one normal and one pelvic kidney, 1:3,000 and crossed renal ectopia, 1:7000)². In renal ectopia, the vascularisation pattern remains frozen at whatever development stage the ascent ceases³. Ectopic kidney may cause diagnostic problems when a renal disease develops, and an unwary surgeon is tempted to remove it as an unexplained mass⁴. Here, we report a case of a bilobar ectopic left kidney and discuss its embryology and clinical importance.

Case Report

A rare bilobar, non-rotated ectopic left kidney was noted in an 18-year-old female during autopsy. The right kidney was normal in shape, position and vascular supply. The left kidney was bilobar and was situated in front of the bifurcation of the aorta (Figure 1). There was no proper hilum for the left kidney. The atypical hilum was present on the anterior surface. The renal pelvis was formed outside the atypical hilum by union of two major calyces. The left kidney was supplied by two renal arteries from the abdominal aorta. The renal arteries arose from the anterior surface of the abdominal aorta, just above its bifurcation, and entered the two lobes from the posterior aspect of the kidney. There were two left renal veins, both of which drained into the inferior vena cava. Both the left renal veins first ascended upwards in the grooves present on the anterior surface of the kidney and then turned to the right and terminated into the inferior vena cava separately. Each renal vein had two tributaries, and these tributaries formed two venous collars around the renal pelvis(Figures 1 and 2).

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from behind and the bilobed kidney looked like a rosette formation by the union of both kidneys. Its atypical hilum had only the renal veins and the renal pelvis. Extra-renal formation of the renal pelvis and the presence of only veins without the arteries in the hilum is a very rare occurrence.

Most of the ectopic kidneys are clinically asymptomatic except for the development of hydroureter and urinary calculus formation. The abnormal position of ectopic kidneys may result in a pattern of direct and referred pain that may be misdiagnosed as acute appendicitis or pelvic organ inflammatory disease in women. Other signs and symptoms of ectopic kidneys include incontinence, a palpable abdominal mass, urinary tract infection, renovascular hypertension secondary to an anomalous blood supply and dystocia from a pelvic kidney. Ectopic kidney is often associated with other abnormalities like agenesis of the opposite kidney, vascular malformation and genital anomalies. The current case is a rare case that can be mistaken for a rosette formation by both the kidneys. The bilobar appearance, supplied by two pairs of renal vessels, and its position in front of the aorta support this. This kidney is liable to kinking of the ureter or renal vessels due to lack of proper support to it.

**Conclusion**

The variation in the current case can cause abnormalities of renal physiology in pregnancy due to distension of the uterus since it will be in close proximity with the uterus. It is also prone for vascular trauma since it is protected only by the abdominal wall and not hidden in the retroperitoneal area.

**References**

Case report


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