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Case Report

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CONGENITAL ANOMALY OF KIDNEY (UNILATERAL RENAL AGENESIS)- A CASE REPORT

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INTRODUCTION

Congenital abnormalities of the kidney and urinary tract occur in 3-6 per 1000 live births and may cause end- stage renal disease (ESRD) with many other complications like stone formation, infection, hypertension and renal failure. Therefore it is crucial to have early diagnosis and management. Imaging helps in the early diagnosis, follow up, surgical planning, detection of complications and associated renal and extrarenal malformations.

CASE REPORT

A 50 year old male presented with complaint of lower back ache predominantly on the left side. No history of hematuria. Radiograph abdomen was done which showed few radiopacities in the left pelvic region. Ultrasound was done which showed presence of a small anechoic area in left renal fossa region. Left kidney and ureter were not clearly visualised and possibility of atrophic/ ectopic kidney was given. For further evaluation NCCT KUB was done to rule out obstructive cause of pain as ultrasound was inconclusive.

NCCT KUB showed presence of a small cystic area in the left renal fossa region measuring 22x 11 x 14 mm (AP X TR X CC) (figure 1a and 2c) , with dilated left ureter (predominantly in the mid and distal aspect) measuring approximately 8.5 mm in calibre (figure 1b and 2a). Few calculi were seen in the distal ureter largest measuring 15 x 14 mm (figure 1c, 1d and 2b). There was also presence of a diverticula seen along the anterior and left lateral wall of Urinary Bladder measuring 1.4 x 4.2 x 4.8 cm (AP X TR X CC) (figure 1c). Right kidney and ureter were normal in size, outline, position and orientation. Seminal vesicles were normal.

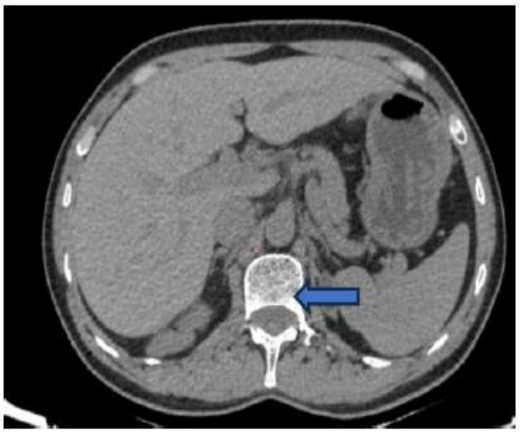

Figure 1a

Figure 1b

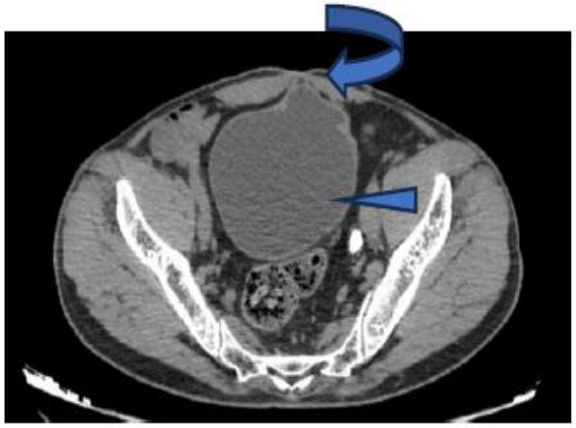

Figure 1c

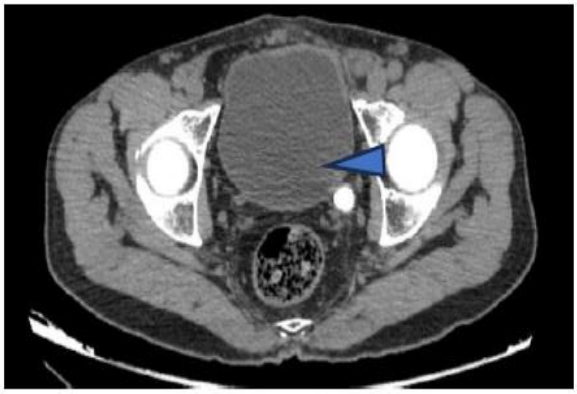

Figure 1d

Figure 1: Axial sections of NCCT KUB arranged from cranial to caudal direction, showing small cystic structure seen in left renal fossa region (figure 1a) with dilated mid and distal ureter(Figure1b) with ureteric calculi seen within it (figure 1c and 1d). There is a diverticula seen along left anterolateral wall of urinary bladder (curved arrow).

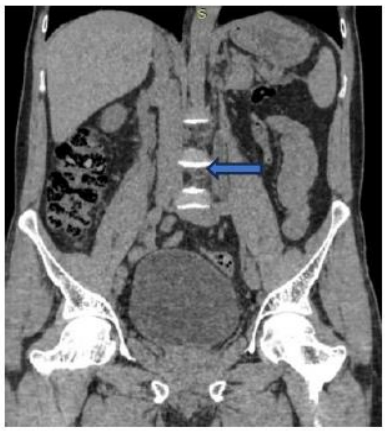

Figure 2a

Figure2b

Figure2c

Figure 2: Coronal sections of NCCT KUB arranged from anterior to posterior direction, showing dilated mid and distal ureter (figure2a) with distal ureteric calculi (figure 2b) and cystic structure in left renal fossa region (figure 2c).

DISCUSSION

The kidneys develop during the 4th week of gestation by the union of the ureteric bud with the metanephric mass of intermediate mesoderm at the level of first or second sacral segment. Complete absence of one or both kidneys indicates renal agenesis. It is thought to result from a lack of induction of the metanephric blastema by the ureteral bud. Bilateral agenesis is incompatible with life. Unilateral renal agenesis is not uncommon and is seen in 1/1300 pregnancies. It is often incidentally detected in adults in ultrasound or CT performed for other reasons. It may be associated with other abnormalities like ipsilateral seminal vesicle cyst or ipsilateral absence of seminal vesicle. In our case the seminal vesicles were normal. Timely diagnosis is crucial in selected anomalies to minimise renal damage, prevent or delay the onset of end stage renal disease and provide supportive care to avoid complications of ESRD.

CONCLUSION

Congenital abnormalities of the kidney and urinary tract include a wide range of abnormalities which varies from ectopic kidneys to life threatening renal agenesis (bilateral). Ultrasonography is typically the first imaging performed as it is easily available. CT and MRI are useful to confirm the ultrasound detected abnormality and for early detection of complications like renal calculi, infection and malignancy.

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