

Images in medicine

Horseshoe kidney



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Image in medicine

A 21-year-old male presented with a one day history of right flank pain and signs of severe sepsis. The recorded vital signs included a temperature of 39.9° Celsius, blood pressure of 95/65 mmHg and heart rate of 165. The laboratory investigations confirmed a raised C-reactive protein (CRP) of 485 mg/l but it was interesting to note that the white cell count and creatinine were respectively normal ($5.85 \times 10^9/l$; $77 \mu\text{mol/l}$). Microbiological investigations confirmed *Klebsiella pneumoniae* ($>10^6$ cfu/mL) on urine culture whilst two blood cultures were negative. Intravenous fluid resuscitation was successful in restoring hemodynamic stability. Amoxicillin/clavulanic acid (1200mg) was administered and continued for seven days after confirmation on antibiotic sensitivity testing. After ultrasonography confirmed severe right hydronephrosis, a contrasted computed

tomography (CT) scan confirmed a horseshoe kidney (A, B, C, D) with an obstructed right-sided renal moiety secondary to right pelvi-ureteric junction (PUJ) obstruction (B) and urothelial enhancement suggestive of an infected collecting system. Horseshoe kidneys are the most common congenital renal abnormality with an incidence of 1:400-600. It is commonly asymptomatic and rarely require intervention unless treating complications such as ureteral obstruction (PUJ), urinary tract infections, urolithiasis and Wilms Tumour. It is associated with Trisomy 18 and females with Turner syndrome. Our patient underwent a right percutaneous nephrostomy (PCN) and 500 millilitres of infected urine were aspirated. He made a complete recovery at discharge. An interval MAG3 renogram confirmed that both moieties had good and excretion. A pelvi-ureteric junction repair will be performed after 6 weeks.

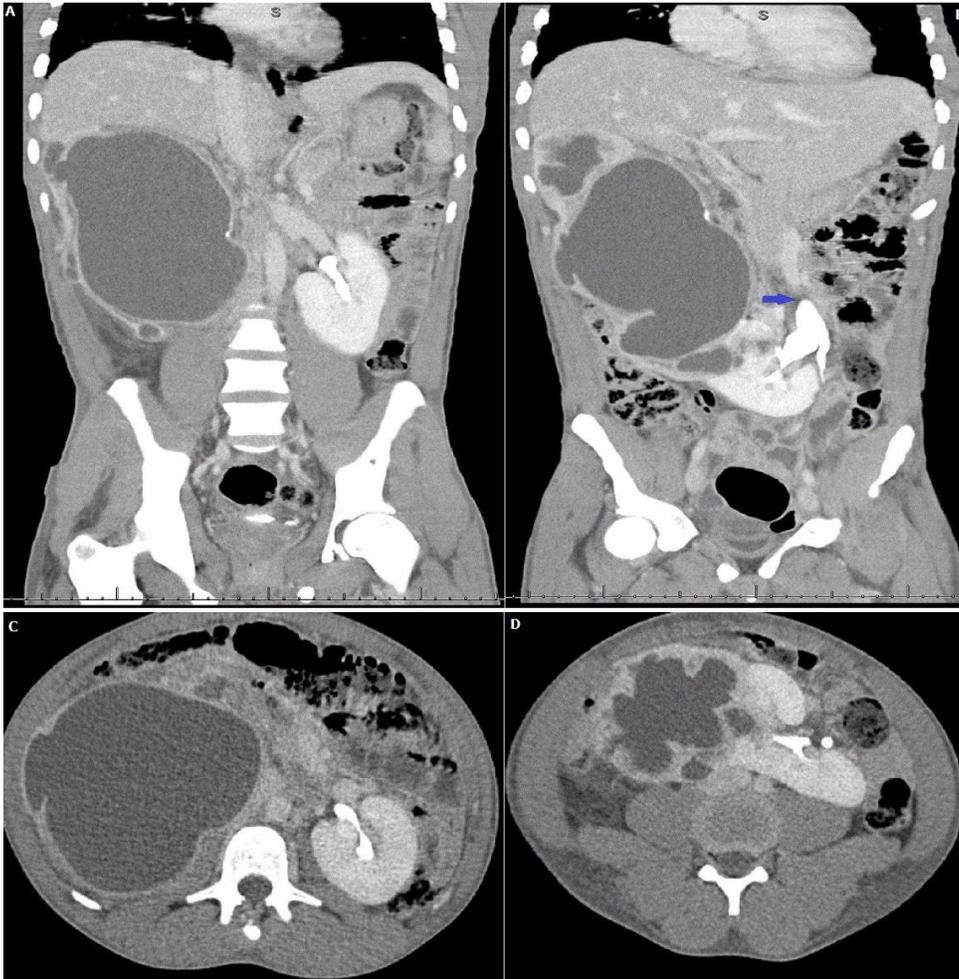


Figure 1: CT-IVP coronal (A, B), axial (C, D) images of the horseshoe kidney, the blue arrow labels the PUJ obstruction