

Scintigraphic Appearance of an Incidental Giant Hydronephrosis in a Pediatric Patient

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A 6 years old boy attended to hospital by night sweats, weight loss and bone pain. Physical examination results revealed prominent collaterals visualized on the abdomen and splenomegaly and left kidney was also palpable. Laboratory results showed an increased sedimentation rate (52 mm/h (reference: 0-10 mm/h)), BUN levels (30 (reference:12-20)) and Brucella agglutination (COOMBS) titres (1/2580) and Brucella Rose Bengal test were positive. Abdominal USG showed hepatosplenomegaly (138mm long axis of the liver and 108mm long axis of the spleen), grade IV hydronephrosis of the left kidney (214mmX100mm, anteroposterior diameter of the pelvis 5.5cm) (Figure 1)

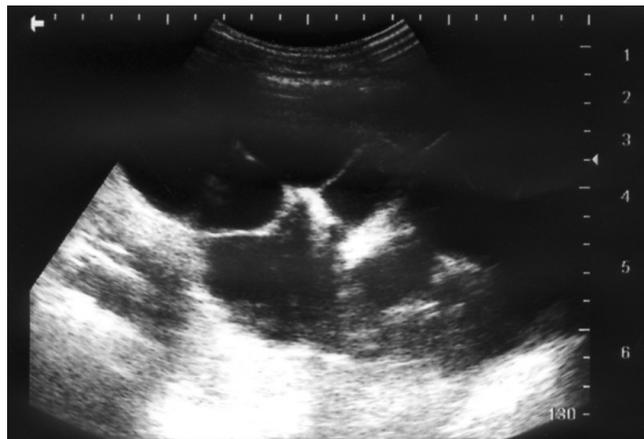
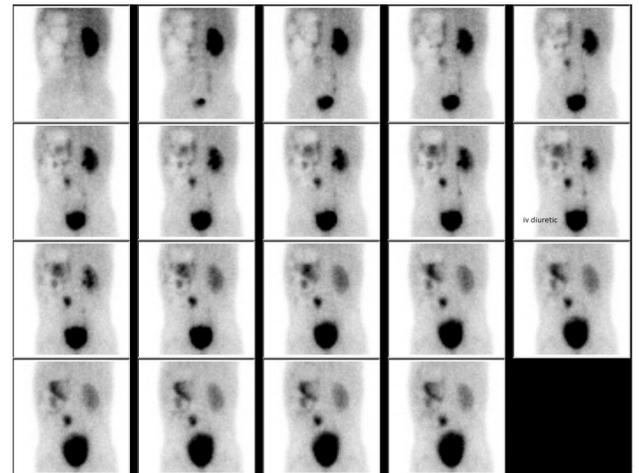
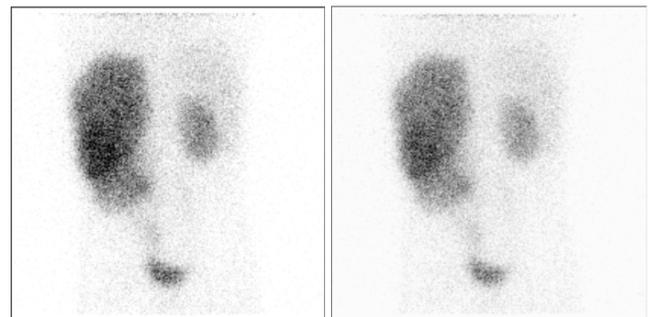


Figure 1: Ultrasonographic appearance of the left kidney.

with a decrease in parenchymal thickness (4-9mm) and dilatation (3cm) and tortiosity of left ureter. On diuretic renogram with Tc-99m MAG3, perfusion and extraction was seriously decreased, the kidney was enlarged and excretion was prologed on the left side. Right kidney functions were normal (Figure 2A). On postvoiding images obtained on the 40. min and 80.min (Figure 2B, C), an intense activity retention was observed on the



A



B

C

Figure 2: Dynamic scintigraphic images and postvoid static images of the kidneys.

left kidney, the pattern was consistent with obstruction. Static planar Tc-99m DMSA image in posterior position showed decreased activity uptake on the enlarged left kidney with giant hypoactive areas due to enlarged collective system structures (Figure 3). Intravenous pyelography (IVP) also revealed Grade I dilatation in the collecting system of the left kidney. The nephrogram phase of the the left kidney was normal but urogram phase was not visualized (Figure 4). Voiding cystourethrogram (VCUG) detected Grade II vesicoureteral reflux (VUR) on the left side. The patient received doxycycline and gentamisin for Brucellosis and amoxicillin for left hydronephrosis and VUR.

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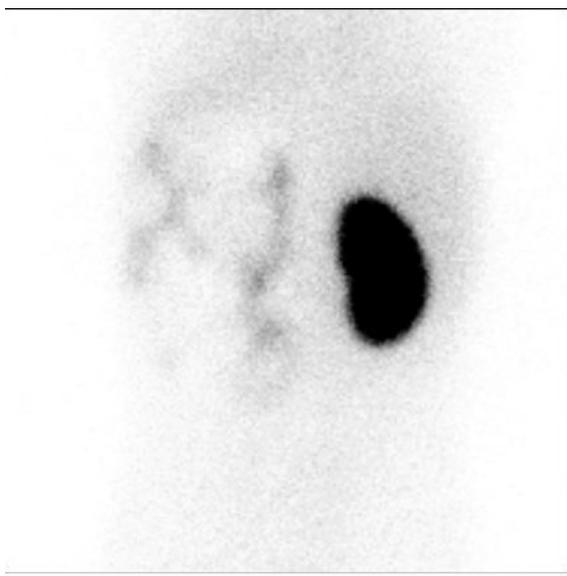


Figure 3: Tc-99m DMSA static planar images of the kidneys.

Percutaneous nephrostomy tube (PNT) was also inserted. He was asymptomatic 1 month later and so operation for hydronephrosis was not performed. He still didn't have any symptoms during the 2 years follow up.

Giant hydronephrosis was first defined by Stirling in 1939 as accumulation of more than 1 liter fluid in the collecting system structures [1]. It was reported to be rare and that the most frequent reason was obstruction [2]. Unilateral hydronephrosis may stay silent for a long time unless an obscure function loss was detected [3]. In this asymptomatic pediatric brucellosis case, we represent incidental detection of giant hydroureteronephrosis and dramatic imaging findings.

ACKNOWLEDGEMENTS

None to declare.



Figure 4: IVP images of the kidneys.

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