A 3 Year-old Male Presenting with Hematuria

A 3 year–old boy was admitted because of gross hematuria and abdominal pain. He had been treated with antibiotics over the past 4 days for a presumed lower urinary tract infection. The physical examination showed high blood pressure (BP: 130/95 mmHg) and abdominal mass. The physician performed the abdominal ultrasonography as a first line investigation for hematuria and abdominal pain (Fig. A, B). Then he underwent abdominal CT scan for better diagnosis (Fig. C, D).

What is Your Diagnosis?
Kidney ultrasonography demonstrates normal right kidney (Fig. A.) and a relatively hyperechoic mass in the lower lobe of the left kidney (Fig. B). Coronal and axial CT scan with contrast showes a soft tissue mass measuring 42*41*42 mm with moderate heterogeneous enhancement in the lower pole of the left kidney with extension to the middle pole and bulging in to the renal pelvis. Another mass with similar characteristics measuring 15*16*16 mm is demonstrated in the lower pole of the right kidney (Fig. C, D). The patient underwent left nephrectomy and Wilms tumor was confirmed on pathology. On a second look sonography from the right kidney, only a subtle isoechoic bulge was seen into the renal pelvis in the lower pole which was hardly separable from the normal parenchyma. (Fig. E) Even during the surgery, the right tumor was not palpable. This case emphasizes on the limitations of sonography in detecting small isoechoic renal tumors and the necessity of further imaging modalities such as CT scan and MRI with contrast in detecting these kind of tumors. Totally Wilms' tumor is the most common abdominal tumor in pediatric group. The age and clinical examination of the child and distinctive imaging features may help in reaching a specific diagnosis in most cases. This is important as it has implications on the diagnosis, work-up and prognosis of the child [1]. Magnetic resonance imaging (MRI) has become the principal tool for Wilms tumor (WT) evaluation and follow-up [2].

References