A CASE OF RENAL TUBERCULOSIS PRESENTING AS "SPONTANEOUS" PERIRENAL HAEMORRHAGE

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CASE REPORT

A 28 year old Somalian man presented to the Emergency Department with sudden onset severe right loin pain. He also had a history of intermittent fever and weight loss. On examination he had mild pyrexia of 37.5°C, and a palpable cervical lymph node. Pulse was 110 beats per minute and blood pressure 140/90 mm Hg. His chest was clear to auscultation. Abdominal examination revealed a tender right loin mass. Urine dipstick test showed a trace of blood and protein ++. His haemoglobin was 12.8 g/dL, white cell count 13.3x10⁶ and serum creatinine 190 μmol/L. ESR was 57mm/h and CRP was 212 mg/L. He was HIV and hepatitis B negative. Over the subsequent 24 hours his haemoglobin concentration dropped by 4 grams/dL.

On chest X-ray he had an enlarged right hilum and a small right pleural effusion. First an emergency CT, then an MRI scan showed a large right perirenal haematoma with evidence of bilateral parenchymal renal disease (Figure 1). He was managed conservatively without the need for radiological or surgical intervention. Four separate early morning urine specimens for tuberculosis were negative.

A renal biopsy was performed, which showed acute caseating granulomatous tubulo-interstitial nephritis due to tuberculosis (TB). (Figure 2) Fully sensitive
Mycobacterium tuberculosis was subsequently grown from the biopsy material. He was commenced on quadruple anti-tuberculosis therapy for two months (pyrazinamide, ethambutol, isoniazid and rifampicin) and triple therapy (as above minus the ethambutol) for another seven months. Twelve months later he was well, with no evidence of ongoing tuberculosis, and stable impaired renal dysfunction (plasma creatinine 142 μmol/L). ESR fell to 12 mm/h and CRP to 13 mg/L.

Figure 2. Renal biopsy (Haematoxylin and Eosin; magnified 400 times) showing a blood vessel whose wall is infiltrated by chronic inflammatory cells (marked with an arrow) in the context of caseating granulomatous interstitial nephritis (due to tuberculosis).

DISCUSSION

Genitourinary TB is an uncommon form of TB in the developed world affecting only 1-2% of patients, whilst in developing countries up to 20% of TB patients are found to have Mycobacterium tuberculosis in the urine.\(^1\) Spontaneous renal haemorrhage due to tuberculosis is rare and has previously only been reported once.\(^2\) The sole case report details the findings at renal angiography of patients with renal tuberculosis. Diffuse abnormalities of small and medium sized blood vessels were demonstrated.

Intra-renal haemorrhage is well known to occur in the setting of benign or malignant renal tumours, of which angiomyolipomas predominate closely followed by renal cell carcinomas. Other causes include vascular disease, acquired renal cystic disease, infection and pregnancy.\(^3\) The histological findings from the renal biopsy in this case showed that the kidney was diffusely infiltrated by caseating granulomata, many of which, as shown in Figure 2, were involving blood vessel walls, which presumably explains the propensity to renal parenchymal haemorrhage. Intra-renal granulomata can occur not only with tuberculosis, but also vasculitis, sarcoidosis and interstitial nephritis. Caseation, and the subsequent growth of Mycobacterium tuberculosis confirmed tuberculosis of the kidney as the cause of the abnormal renal pathological appearances.

Radiological evaluation by computerised tomography and magnetic resonance imaging are the imaging modalities of choice for perirenal haematoma. Where a tumour is present this may be clearly identified along with the haematoma. In this case there was evidence of renal scarring bilaterally from the MRI scan which raised the possibility of a systemic disease.

Thought should be given to each case of renal or perirenal haemorrhage, and investigations of this rare phenomenon will include multi-modal imaging techniques, and investigations will often will also need to include renal biopsy.

REFERENCES