Genitourinary melioidosis in a patient with horseshoe kidney and staghorn calculi

Jun Cong Low, MRCP, Chee Yik Chang, MRCP

Infectious Diseases Unit, Medical Department, Hospital Sultanah Aminah, Johor Bahru

SUMMARY

Melioidosis is an infection caused by *Burkholderia pseudomallei*, presenting with various manifestations, including pneumonia, abscesses, and septicaemia. However, urinary tract infection (UTI) due to *B. pseudomallei* is an uncommon presentation and is rarely reported in the literature. **Case presentation:** A 60-year-old man with bilateral nephrolithiasis and horseshoe kidney presented with fever, diarrhoea, and poor oral intake for one month. He had a failed retrograde pyelogram stenting for a left proximal ureteric calculus and benign prostatic hyperplasia managed with oral doxazosin. On admission, the physical examination was unremarkable. Initial investigations showed leucocytosis and elevated C-reactive protein of 310 mg/L. Urine analysis revealed leukocyturia with a negative nitrite test. He was treated for urosepsis with intravenous piperacillin-tazobactam and later escalated to meropenem due to persistent fever. A CT scan showed lesion at isthmus of horseshoe kidney measuring 2.5x3.5x3.0cm (APxWxCC) with large left proximal ureteric stone causing obstructive uropathy, pyelitis, and cystitis, with no prostate abscess. Urine culture grew *B. pseudomallei*, susceptible to meropenem, co-amoxiclav, co-trimoxazole, and ceftazidime. Blood cultures were negative. Treatment included intravenous ceftazidime and oral co-trimoxazole for six weeks. A repeat CT scan after intensive phase of antibiotic showed reduction of lesion at isthmus of horseshoe kidney measuring 2.0x2.9x3.0cm (APxWxCC) with resolved pyelitis and stable calculi. He was discharged with co-trimoxazole for a planned 12-week duration and repeated CT assessment later. Structural abnormalities like horseshoe kidney and ureteric calculi increase the risk of urinary melioidosis. This case highlights the need to consider B. pseudomallei in urinary infections, especially in endemic areas and patients with urinary tract anomalies.