

Localised Treatment of Renal Fungal Balls

S. Quirke, R. O'Connor, A. O'Rourke, S. Clarke, C. Bannan

Case Details

This is the case of a 78-year-old lady with a background of type II diabetes mellitus, hypertension and advanced chronic kidney disease. She had a history recurrent extended spectrum beta-lactamase (ESBL) urinary tract infections (UTI), candiduria and candidaemia over a number of years. She presented to the emergency department with haematuria. She had a severe acute kidney injury and raised inflammatory markers. In the months prior to admission CT imaging revealed progressive right sided urinary obstruction. Biopsy of friable tissue from the right renal pelvis had revealed abundant fungal scores and hyphae consistent with candida species giving a diagnosis of a fungal focus within the renal pelvis. She had received treatment with oral and intravenous fluconazole. Despite systemic therapy she continued to deteriorate. Repeat CT imaging revealed progression of invasive fungal renal disease now showing bilateral obstruction causing severe acute kidney injury. [Figure 1] Bilateral nephrostomies were inserted to provide urgent decompression. Following multidisciplinary discussion, we decided to proceed with a trial of localised therapy.

Treatment

- Nephro-ureteric stents were inserted
- 7 day course of fluconazole instillation through nephrostomy (50mg in 500mls NaCl 0.9% was administered over 12 hours)
- Serial mid stream urine samples to assess for candiduria

Outcome

Clinical: Improvement in urinary tract symptoms, normalisation of inflammatory markers (WCC & CRP)

Radiological: Resolution of hydronephrosis & improvement of perinephric stranding post treatment (CT Imaging) [Figure 2]

Microbiological: No further candiduria or candidaemia to date

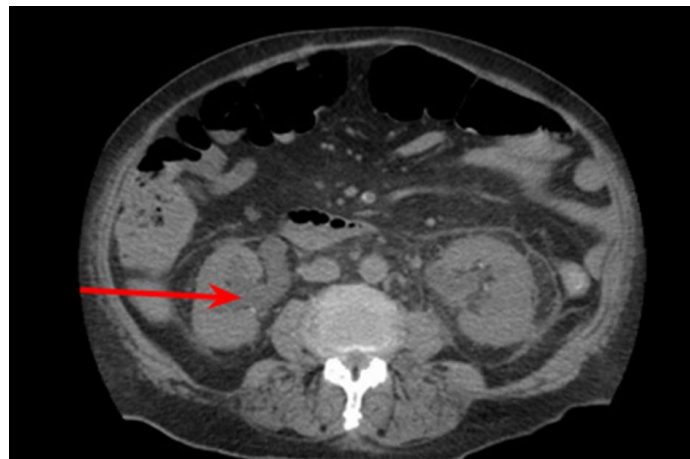


Figure 1: Initial CT Abdomen/Pelvis showing marked hydronephrosis & perinephric stranding

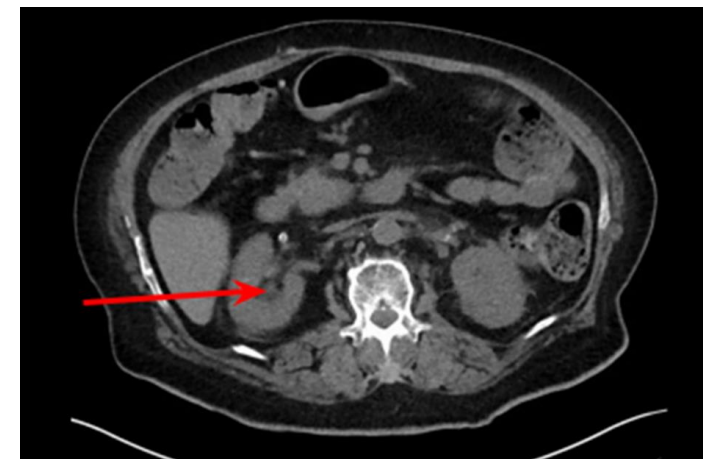


Figure 2: Resolution of hydronephrosis & improvement in perinephric stranding post localized treatment

Evidence & Discussion

Invasive fungal renal tract infection and the formation of fungal balls is rare, serious, particularly in immunocompromised hosts and can be difficult to treat.

Treatment of invasive fungal renal disease with instillation of antifungal agents through nephrostomy tubes has been described in case report evidence only. Through literature review we identified eight case reports detailing success with such therapy. There have been no larger clinical trials conducted on its efficacy or outcomes to date. We demonstrate another successful clinical outcome using this treatment modality.

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