Fatal fungal nephropathy in an immunocompetent host: an interesting case

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DESCRIPTION
Isolated renal mucormycosis is rarely encountered in immunocompetent individuals. Mucor affects the kidney producing extensive necrosis and vascular thrombosis. Aggressive antifungal therapy is generally attempted in such cases, but the kidney is seldom salvageable and fatality is high. We report a unique case of fatal renal rupture and infarction presenting in an immunocompetent host who presented with fever of unknown cause.

A 50-year-old patient without diabetes presented to the emergency department in a state of shock. This was preceded by low-grade fever and malaise for 10 days, with reports of moderate lymphocytosis and an erythrocyte sedimentation rate of 42 mm. Chest X-ray was normal and urinalysis showed haematuria, but no bacterial growth was seen on urine and blood cultures. A CT of the abdomen revealed a ruptured right kidney.

The nephrectomy specimen showed an irregular rupture across the lower pole and cortical infarcts (figure 1). Extensive renal parenchymal necrosis and vascular thrombi were present along with numerous broad-based aseptate fungal hyphae consistent with Mucor (figure 2). Prompt amphotericin therapy was instituted; however, the patient succumbed to the illness. A fungal blood culture report available posthumously was negative.

Isolated renal mucormycosis is of rare occurrence and may be consequent to haematological spread from a silent pulmonary lesion or an ascending infection from the urinary tract.1 There was no evidence of known predisposing factors such as HIV infection, diabetes, intravenous drug use, alcoholism, malnutrition or renal transplantation in our case. Rare cases of renal mucormycosis in immunocompetent individuals have been reported; however, this is the first such case with consequent renal rupture and fatality.1–3

Learning points
▸ Renal mucormycosis is generally encountered in immunosuppressed individuals though rare cases may present as fever of unknown origin in immunocompetent patients.
▸ The combination of benign clinical findings with negative blood cultures and paradoxical severe inflammation on CT scan should raise suspicion for infection with angio-invasive organisms such as Mucor.
▸ Renal infarcts, rupture and high fatality are the norm.

Contributors KPM was involved in making the pathological diagnosis of the case, and conceptualising and writing the draft of the article. SS was involved in making the pathological diagnosis of the case and writing the draft of the article. AS was the treating physician of the case and contributed clinical data, and assisted in writing the case.

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REFERENCES