Isolated renal allograft arterial mucormycosis: an extremely rare complication

Sir,

Mucormycosis is a rare opportunistic fungal infection that is being increasingly recognized in immunocompromised transplant recipients [1]. We describe a unique case of isolated renal allograft arterial mucormycosis, resulting in its rupture and death of the patient.

A 52-year-old male suffering chronic glomerulonephritis with end-stage renal disease and grade I, stage I HCV-related liver disease underwent living renal transplant. The patient received induction immunosuppression with inj. basiliximab (Novartis, Basel, Switzerland) (2 doses of 20 mg on days 0 and 4), cyclosporin (8 mg/kg), azathioprine (1.5 mg/kg) and Wysolone (0.5 mg/kg). Post-operatively, the patient had good diuresis and the serum creatinine came down to 2.0 mg/dl on post-operative day 2. From days 3 to 7, the creatinine showed an asymptomatic rising trend (maximum of 3.4 mg/dl) with adequate urine output. The investigations revealed: Hb 7.8 g/dl, TLC 7400, DLC 76-22-1-1, bilirubin 0.7mg%, SGOT/PT 25/20 IU/l, RBS 76 mg/dl and cyclosporin trough level 260 ng/ml. Urine microscopy, urine and blood cultures did not reveal any abnormality. Ultrasound of the graft kidney was normal. Renal allograft biopsy was performed and showed mild to moderate patchy interstitial infiltrate comprising neutrophils, eosinophils and lymphocytes with no evidence of rejection. The patient was empirically started on antibiotics. On post-operative day 8, he had sudden onset of intense pain and swelling at the operative site with profound hypotension. Immediate exploration was carried out after resuscitation, which revealed a large haematoma around the graft extending into the retroperitoneum. The vascular anastomoses were intact. The graft artery showed a 1 × 1 cm perforation distal to the anastomosis. However, the patient could not be salvaged. Post mortem biopsy of the arterial wall showed transmural necrotizing inflammation with broad aseptate fungal hyphae characteristic of mucormycosis infiltrating the vessel wall. There were no hyphae seen in the renal allograft.

On review, although rhinocerebral, pulmonary and disseminated forms can occur in immunocompromised patients, renal allograft involvement by mucormycosis is very rare [2] and mucormycosis involving isolated graft renal artery has so far not been reported in the literature. Involvement of renal allograft by mucormycosis had occurred in the setting of intense immunosuppression in the four cases reported in the literature [2]. However, our case had received only inj. basiliximab in addition to our routine immunosuppression protocol.

The diagnosis of mucormycosis is often delayed as it is difficult to isolate the organism from infected tissue and to grow on culture and there are no serological tests commonly available [1].

Unrelated transplantation in Third World countries with poor hygiene and humid environmental conditions has been suggested as a predisposing factor for fungal infections [3,4]. In our centre with over 1000 living-related renal transplants, this is the first case of mucormycosis complicating the early post-operative course. The reported infection was probably contracted during the surgery as the disease manifested early in the post-operative period and there was no other primary focus, both in the donor and the recipient.


DOI: 10.1093/ndt/gfg086