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LETTERS TO THE EDITOR

Fulminant Mucormycosis in a Renal Transplant Recipient

Sir,

Mucormycosis is an uncommon deep mycosis caused by eumycetes included in the Mucorale order that belong to the zygomycete class (1). Species of *Rhizopus*, *Mucor* and *Absidia* are the most frequently isolated zygomycotic fungi in human infected tissue (2). They can cause opportunistic infections in the immunocompromised host and in patients with underlying diseases such as diabetes mellitus or leukaemia, or in those receiving antibiotics or corticosteroids (2). We describe here a case of fulminant mucormycosis which occurred immediately after a cadaveric renal transplantation.

A 63-year-old man with focal segmental glomerulosclerosis disease and chronic renal failure was admitted for cadaveric renal transplantation. The immediate postoperative course was marked by a hypovolaemic deficiency secondary to an anastomotic disruption of the renal vein. One week after transplantation an inflammatory swelling of the nose developed, while the patient was receiving 120 mg/day of prednisone and 150 mg/day of azathioprine. A cellulitis due to a pyogenic organism was suspected and an antibiotherapy was prescribed. One day later a centrofacial black necrotic area with a purple raised margin developed. Concomitantly, the patient became comatose with 40° hyperthermia and multivisceral failure. The biopsy specimen from lesional skin demonstrated the presence of large, broad, non-septate hyphae with right-angled branching stained with both hematoxylin – eosin and periodic acid – Schiff (PAS) (Fig. 1). In the derm, hyphae invasion of the blood vessels and their walls resulted in vascular thrombosis and tissue necrosis. These findings were consistent with mucormycosis and amphotericin B (Fungizone®) therapy (1 mg/kg/day) was thus initiated. Despite this treatment the patient died on day 13. Post-mortem hepatic biopsy demonstrated characteristic hyphae of mucormycosis on histological sections of viscera. On day 16 a skin tissue culture was positive for *Rhizopus* sp.

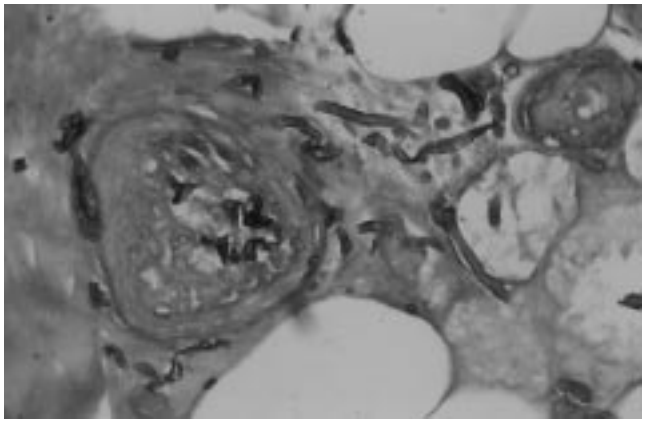

Fig. 1. Biopsy specimen from lesional skin: broad non-septate hyphae with right-angled branching typical of mucormycosis (Gomori Grocott, original magnification, ×250).

The different forms of mucormycosis are categorized by the involved anatomical area: rhinocerebral, pulmonary, gastrointestinal, cutaneous and disseminated. Despite its rarity, mucormycosis represents one of the most common causes of opportunistic fungal infection in renal transplant recipients (3, 4). Although rhinocerebral mucormycosis is the most common clinical form in renal transplant recipients, few cases of fulminant forms have been reported immediately after transplantation (5). Diagnosis must be suspected in the presence of an erysipelatoid or necrotizing lesion of the skin. The standard for diagnosis remains the presence of broad aseptate fungal hyphae with right-angled branching on histological sections, as positive culture may merely indicate the presence of this ubiquitous saprophyte and not necessarily its invasion. However, culture is required to identify the fungal species (6). Because of the angiophilic properties of hyphae, patients with localized lesions are at risk of secondary disseminated and life-threatening infection (2). In our case the presence of hyphae on the hepatic sections and the fulminant fatal issue are consistent with a secondary disseminated form. Amphotericin, extensive surgical excision and reversal of predisposing factors are reported to be effective for infections caused by mucorales (7). Nevertheless, despite antifungal and/or surgical therapy the prognosis remains poor (5). Our observation underlies the severity of this deep fungal infection.

REFERENCES

1. Sugar AM. Mucormycosis. Clin Infect Dis 1992; 14: S126 – S129.
2. Parfrey NA. Improved diagnosis and prognosis of mucormycosis. A clinicopathologic study of 33 cases. Medicine 1986; 65: 113 – 123.
3. Chugh KS, Sakhuja V, Jain S, Talwar P, Minz M, Joshi K, Indudhara R. High mortality in systemic fungal infections following renal transplantation in third-world countries. Nephrol Dial Transplant 1993; 8: 168 – 172.
4. Nampoory MR, Khan ZU, Johny KV, Constandi JN, Gupta RK, Al-Muzairi I, et al. Invasive fungal infections in renal transplant recipients. J Infect 1996; 33: 95 – 101.
5. Morduchowicz G, Shmueli D, Shapira Z, Cohen SL, Yussim A, Block CS, et al. Rhinocerebral mucormycosis in renal transplant recipients: report of three cases and review of the literature. Rev Infect Dis 1986; 8: 441 – 446.
6. Baker RD. Mucormycosis, a new disease? JAMA 1957; 163: 805 – 808.
7. Mizutari K, Nishimoto K, Ono T. Cutaneous mucormycosis. J Dermatol 1999; 26: 174 – 177.

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