***Paecilomyces lilacinus* Peritonitis in a Peritoneal Dialysis Patient**

Editor:

A 58-year-old man who had commenced peritoneal dialysis (PD) in 2008 presented with abdominal pain on 31 March 2010. A previous *Candida albicans* peritonitis in this patient in 2008 had resolved after Tenckhoff catheter removal, with subsequent catheter re-insertion.

Immediately before admission, the man had been in the Cook Islands. He reported that his PD bags had been stored in an outdoor shed and that the final bag used had shown black surface discoloration. Shortly afterward, he developed abdominal pain, and on his return to New Zealand, he was admitted to hospital.

Along with abdominal pain, the patient also had fever and cloudy effluent. The effluent white cell count was $136 \times 10^6/\text{L}$, with 38% polymorphs, 43% monocytes, and 14% eosinophils. Fungal hyphae were seen after staining with calcofluor white.

The patient was initially given empiric intraperitoneal antibiotics. When fungal hyphae were reported, his treatment was changed to oral fluconazole 200 mg daily. The Tenckhoff catheter removed, and hemodialysis was commenced.

The initial cultures later grew *Paecilomyces lilacinus*. Results of minimal inhibitory concentration testing showed resistance to fluconazole 128 mg/L, amphotericin B 16 mg/L, and itraconazole >16 mg/L, and sensitivity to voriconazole 0.5 mg/L. The isolate was also sensitive to terbinafine, but the minimal inhibitory concentration not determined. Treatment was changed to oral voriconazole 300 mg twice daily. The patient improved slowly and was discharged 33 days later.

After 2 weeks, the patient's abdominal pain and fever relapsed, and computed tomography showed enhancing intraperitoneal collections. Aspirated fluid had profuse fungal hyphae and *P. lilacinus* was again isolated from cultures. Oral terbinafine 250 mg on alternate days was commenced, and the voriconazole was continued.

The patient's pain improved, but the intraperitoneal collections remained static on repeat computed tomography. Repeat percutaneous drainage showed a reduction in the amount of fungal hyphae, and cultures now remained sterile. The patient continued on hemodialysis and completed 12 months of oral therapy with voriconazole and terbinafine, complicated by poor appetite and altered taste.

At 3 months after treatment end, the patient remains free of clinical relapse, with no recurrence of pain and a normalized level of C-reactive protein (1.6 mg/L).

DISCUSSION

P. lilacinus is a common environmental fungus, but rarely causes human infection (1). Chang *et al.* reported a similar case of *P. lilacinus* continuous ambulatory PD peritonitis in a 15-year-old boy whose initial treatment with voriconazole and washout failed, but who responded to combination treatment with voriconazole and terbinafine (2). Cases of PD peritonitis caused by other *Paecilomyces* species have been reported, but our case and that reported by Chang *et al.* are the only cases attributed to *P. lilacinus*.

P. lilacinus is resistant to most of the older antifungal drugs, and the newer triazoles and terbinafine have variable activity (3). Combination testing has shown potential synergy between amphotericin B (or terbinafine) and the active azoles (1).

The optimal treatment regimen for *P. lilacinus* infection is unclear, but our experience and that of Chang

and colleagues suggests that long-term combination therapy with voriconazole and terbinafine is more effective than treatment with voriconazole alone.

SUMMARY

A case of severe treatment-resistant *P. lilacinus* PD peritonitis required long-term combination antifungal treatment for cure. This case demonstrates the importance of proper storage of PD fluid, and the need for patient training to identify and reject apparently contaminated fluid.

DISCLOSURES

The authors have no financial conflicts of interest to disclose.

M. Wolley
J. Collins
M. Thomas*

Auckland City Hospital
Auckland, New Zealand

*email: mthomas@adhb.govt.nz