Fatal *Bipolaris spicifera* infection in an immunosuppressed child

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DESCRIPTION

A 20-month-old boy with a history of hypoplastic left heart syndrome and a heart transplant was transferred to our institution due to cardiorespiratory failure. His course had been complicated by chronic rejection requiring significant immunosuppression. Over the few weeks prior to transfer, he started developing dark macular skin lesions on the forehead, toes and fingers. The lesions rapidly progressed to necrotic ulcers within approximately 1 month of their onset (figure 1A,B).

At transfer, he was on broad spectrum antibiotic coverage including vancomycin and piperacillin-tazobactam, as well as prophylactic voriconazole. Because of the symmetric distribution of lesions, disseminated fungal infection with septic emboli was considered and amphotericin was started; an echocardiogram was negative for vegetations. A skin biopsy was obtained and cultures grew *Bipolaris spicifera* (figure 2A). The patient's mental status gradually deteriorated and a brain MRI showed evidence of possible infection (figure 2B).

Figure 1 Purple/black lesion on the medial aspect of the right foot (A) and advanced necrotic ulcer on the hand (B); both images were taken on the same day.

Figure 2 (A) Image showing *Bipolaris spicifera* hyphae. (B) Brain MRI showing multifocal areas of restricted diffusion (yellow arrow) predominantly along the right periventricular region.

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Despite aggressive medical therapy, the patient had continued progression of skin lesions and died from cardiorespiratory arrest 2 months after the lesions first developed.

B spicifera is a mould rarely associated with disease in humans and clinical presentations vary.¹ The role of *B spicifera* in human disease is not well described and is mainly associated with allergic fungal sinusitis.^{1 2} Skin manifestations are less often described, generally as part of systemic infection,³ as in our case. Our patient developed lesions resembling septic

emboli in the brain and the skin. His history of transplantation and immunosuppression, as well as prolonged antibiotic use, predisposed him to invasive fungal infection. Although rare, it is important to consider this pathogen in the differential diagnosis of necrotic skin lesions, especially when patients are poorly responsive to conventional therapy and in immunosuppressed individuals; antifungals should be initiated early.

Contributors CGT was part of the treatment and follow-up of the patient and wrote most of the manuscript. KD was consultant of the case and edited the manuscript. MM was part of manuscript editing and wrote part of it.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Learning points

- ▶ *Bipolaris spicifera* is a mould rarely associated with disease in humans.
- ▶ Chronic immunosuppression is a preponderant risk factor for invasive disease.
- ▶ *Bipolaris* species should be considered in the differential diagnosis of necrotic skin ulcers.

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