



### Case Report: The Mote in Thy Brother's Eye - *Fusarium Solani* in an immunocompromised host

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*Fusarium* species have been increasingly recognized in recent years as pathogens in immunocompromised hosts, causing a spectrum of localized, invasive and disseminated infections, with correspondingly higher mortality rates [1]. Immunocompromised hosts with prolonged and severe neutropaenia are at risk of acquiring *Fusarium* infections, despite increasingly broader anti-fungal prophylaxis [2]. It is crucial to recognize localized fusariosis early since treatment of disseminated disease is often ineffective, given its high resistance to most anti-fungal agents [3]. Combination therapy is generally recommended along with early aggressive surgical control of the site of infection when possible [4].

We report the case of a 59-year-old female with acute myeloid leukaemia and relapsed disease 2 years after achieving remission. She was initiated on salvage FLAG-Ida (fludarabine, cytarabine [cytosine arabinoside], granulocyte colony-stimulating factor, idarubicin), and prophylactic posaconazole as a bridge to allogeneic HSCT. On Day 11 of chemotherapy and day 7 of neutropenia, the patient developed left eye pain and erythema, initially diagnosed as episcleritis by Ophthalmology. She became febrile, with worsening left eye redness, and was treated with broad-spectrum anti-microbials (piperacillin-tazobactam, then meropenem) for peri-orbital cellulitis, (Figure 1). She was subsequently noted to have multiple scattered tender nodular skin lesions on her extremities (Figure 2). A skin biopsy showed invasive fungal hyphae, and eventually grew *Fusarium solani* (Figure 3). One of multiple blood cultures also grew *Fusarium* (Table 1). Upon noting the skin lesions, she was switched to IV voriconazole, and later liposomal amphotericin (5mg/kg escalated to 10mg/kg) was added. She also underwent several local eye debridements. Her neutrophil count recovered on Day 29 of

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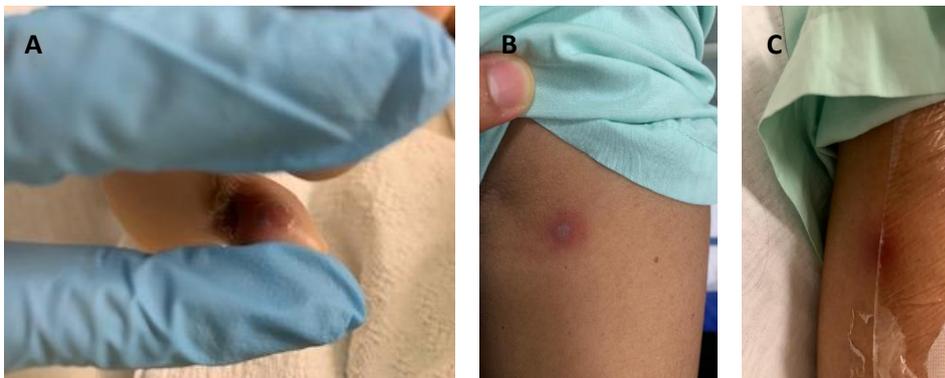


chemotherapy and a Day 35 bone marrow examination showed morphological remission. Despite attempts at source control, aggressive antifungal therapy and count recovery, the patient continued to deteriorate clinically and radiologically (Figure 4). She succumbed to disseminated fusariosis a month from the time she first experienced eye symptoms. The identification down to species level and the difficulty with interpretation of anti-fungal susceptibility testing of fusarium, further hinders effective treatment. This case also illustrates the failure of broad anti-fungal prophylaxis with posaconazole, which may result in more resistant, non-aspergillus mould infections.

Figures



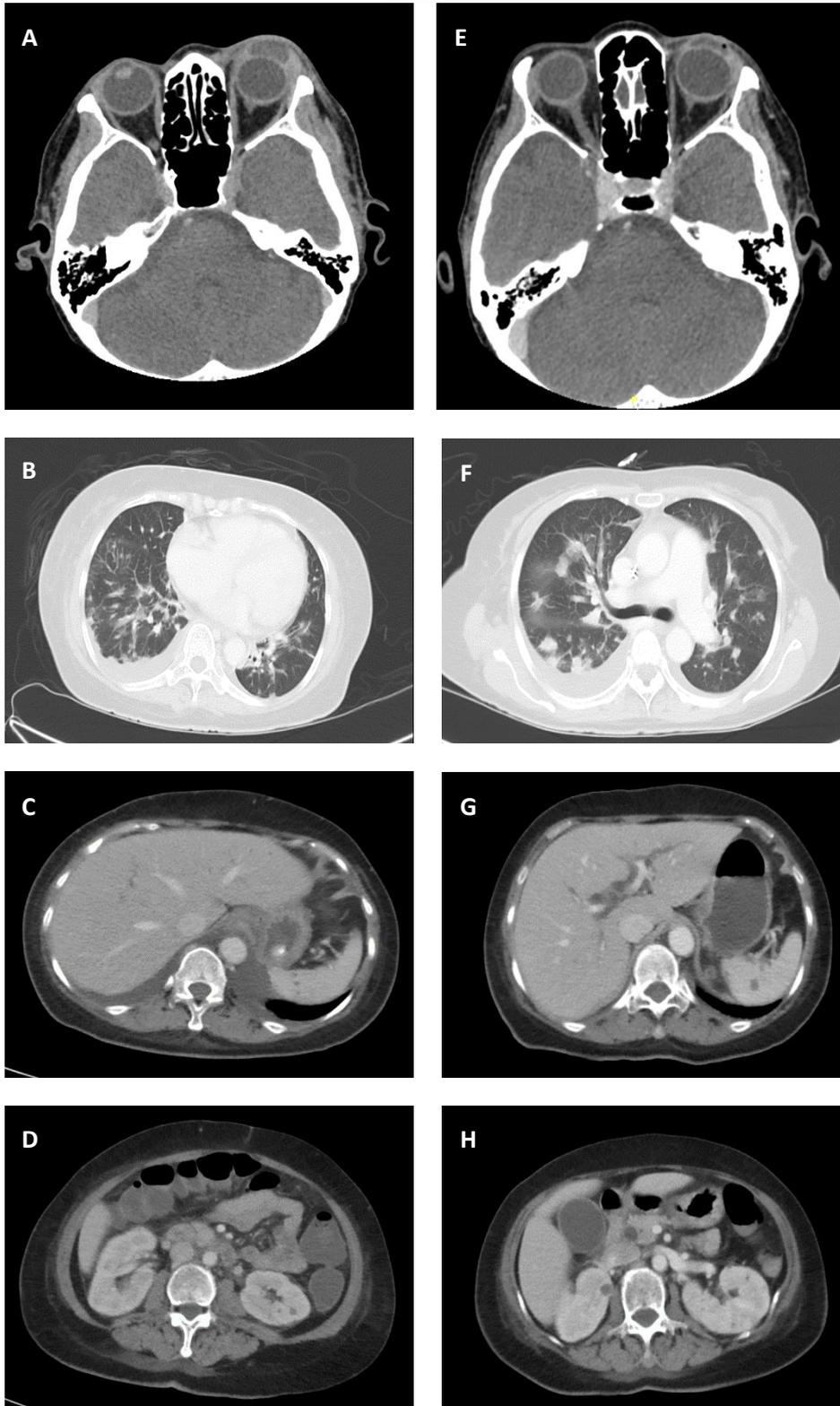
**Figure 1.** Progression of eye symptoms over the course of illness. **A.** Day 1 of symptoms. Initial impression is that of episcleritis. **B.** Day 6 of symptoms – worsening orbital cellulitis despite broad spectrum anti-microbial therapy. **C and D.** Day 23 of symptoms.



**Figure 2.** Multiple skin lesions. **A.** Left fifth toe. **B.** Left arm. **C.** Right calf.



**Figure 3.** H & E stain showing the septated hyphae with parallel walls



**Figure 4.** Worsening radiological signs. **A.** CT orbit on Day 12 of symptoms show an abscess in the left superoanterior episcleral region. **B-D.** CT thorax, abdomen and pelvis Day 19 of symptoms shows multiple bilateral air space opacities in the lungs, and multiple abscesses in the liver, spleen and kidneys. **E.** CT orbits on Day 24 show a recurrent left eye collection and a new right eye

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collection abutting the rectus muscle. **F-H.** Repeat CT thorax, abdomen and pelvis on Day 29 shows worsening air space changes in both lungs and increase in size and numbers of abscesses in the liver, spleen and kidneys.

Fusarium Solani Sensitivity	
Amphotericin B	2 mg/L
Voriconazole	>8 mg/L
Anidulafungin	>8 mg/L
Posaconazole	>8mg/L

**Table 1.** Anti-fungal drug sensitivity for *Fusarium Solani* isolated from the patient's blood culture.

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## References

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