



## Picture of a Microorganism

Disseminated *Fusarium solani* complex infectionA. Ang<sup>1</sup>, K.L. Chew<sup>2,\*</sup><sup>1</sup>) Department of Medicine, National University Hospital, Singapore<sup>2</sup>) Department of Laboratory Medicine, National University Hospital, Singapore

## ARTICLE INFO

## Article history:

Received 23 May 2020

Received in revised form

29 May 2020

Accepted 31 May 2020

Available online 12 June 2020

Editor: E. Yusuf

## Keywords:

Fungus smear

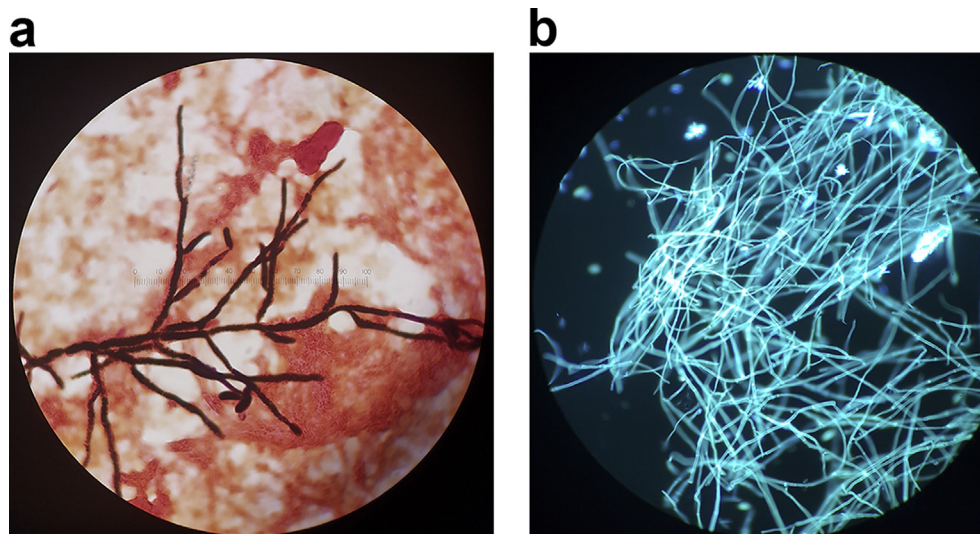
*Fusarium solani* complex

Immunocompromised host

Mould fungaemia

Opportunistic infections

A 46-year-old man with newly diagnosed mixed-phenotype acute leukaemia (myeloid and B-cell) was admitted for chemotherapy. He developed severe prolonged neutropenia and remained febrile despite treatment with intravenous meropenem, associated with bilateral calf pain and multiple purple papules over his face, trunk and lower limbs. Blood culture was positive, and direct Gram stain revealed hyphal structures, which were initially misinterpreted as pseudohyphae due to candidaemia (Fig. 1a). The pathogen was subsequently identified as *Fusarium solani* complex by Sanger-sequencing of the internal transcribed spacer [1]. Magnetic resonance imaging of the lower limbs revealed the presence of multiple small abscesses in both lower limbs. The patient also developed worsening sinusitis; CT imaging of the nasal cavity and sinuses demonstrated pan-sinusitis and raised



**Fig. 1.** a: Gram stain from blood culture bottle demonstrating fungal hyphae of *Fusarium solani* complex. b: Calcofluor White stain from sinus tissue demonstrating regularly septated hyphae of *Fusarium solani* complex.

\* Corresponding author. K.L. Chew, Department of Laboratory Medicine, National University Hospital, Singapore.

E-mail address: [ka\\_lip\\_chew@nuhs.edu.sg](mailto:ka_lip_chew@nuhs.edu.sg) (K.L. Chew).

concerns of concurrent mucormycosis. He underwent urgent sinus debridement and was noted to have extensive necrosis of sinonasal tissue. Calcofluor White stain of biopsy demonstrated non-specific regularly septated hyphae with parallel walls (Fig. 1b), later confirmed as *Fusarium solani* complex on culture. Neutrophil counts were  $0.03 \times 10^9/L$  on the day of the first positive blood culture, and the patient remained severely neutropenic ( $<0.5 \times 10^9/L$ ) for an additional 2 weeks despite daily administration of granulocyte colony stimulating factor. Susceptibility testing of the blood culture isolate using Sensititre (Thermo Fisher, Waltham, MA, USA) indicated the following MIC results: anidulafungin  $\geq 8 \mu g/mL$ , voriconazole  $\geq 8 \mu g/mL$ , posaconazole  $\geq 8 \mu g/mL$ , amphotericin  $4 \mu g/mL$ . The patient was initially treated with liposomal amphotericin B. Blood cultures were negative from neutrophil recovery (day 12) and he was eventually discharged well after 1 month of intravenous amphotericin B for ongoing outpatient parenteral antifungal treatment.

### Transparency declaration

The authors have no conflicts of interest to declare.

### Funding

No specific funding was required for this work.

### Author contributions

AA reviewed patient data and drafted the manuscript. KLC revised the manuscript and provided the images.

### Reference

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