LIPOSOMAL AMPHOTERICIN B AND TIGECYCLINE SYNERGY AGAINST INVASIVE SAPROCHAETA CAPITATA: A CASE REPORT IN A YOUNG AML PATIENT .

Z. Ouaddali, M. Loukhnati, N. Lasri, F.Z. Lahlimi, I. Tazi

Introduction

Invasive fungal infections represent a major cause of morbidity and mortality in patients with acute myeloid leukemia (AML). While Candida and Aspergillus species remain the most frequently encountered pathogens, infections caused by rare yeasts are increasingly reported. Saprochaeta capitata (formerly Geotrichum capitatum) is a rare emerging opportunistic yeast predominantly affecting profoundly neutropenic patients with hematological malignancies, characterized by intrinsic resistance to echinocandins and fluconazole, with variable susceptibility to other azoles, making therapeutic management particularly challenging. Herein, we report the case of a patient with AML presenting an invasive infection due to Saprochaeta capitata, treated with liposomal amphotericin B combined with tigecycline, along with a review of the literature.

Case report

A 19-year-old male with newly diagnosed AML-M1 developed persistent fever, cough, and watery diarrhea during induction chemotherapy, refractory to broad-spectrum antibacterial therapy. In the context of profound neutropenia, blood cultures identified Saprochaeta capitata. Cultural examination revealed white, dry, powdery colonies on Sabouraud Dextrose Agar (Figure A), and microscopic analysis demonstrated elongated arthroconidia arranged in chains (Figure B), consistent with Saprochaeta capitata morphology.

Given the organism's intrinsic echinocandin resistance, targeted antifungal therapy was promptly initiated with liposomal amphotericin B (Ambisome®) 150 mg/day (3 mg/kg/day), combined with tigecycline 50 mg every 12 hours for empirical antibacterial coverage.

Significant clinical improvement was observed within 48 hours, with resolution of fever and respiratory and gastrointestinal symptoms. Despite initial clinical improvement, the patient died on day 8 of treatment, presumably due to cerebral hemorrhage.

Figure A – Macroscopic appearance on Sabouraud Dextrose Agar showing white, dry, powdery colonies.

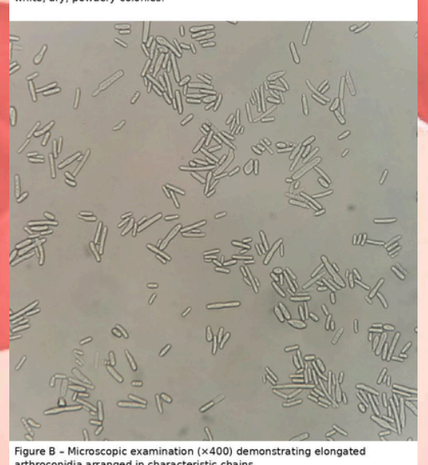

Figure B – Microscopic examination (×400) demonstrating elongated arthroconidia arranged in characteristic chains.

Discussion

Saprochaeta capitata predominantly affects AML patients with severe neutropenia. Beyond intrinsic echinocandin resistance, it also exhibits high resistance to fluconazole, predisposing patients on prophylaxis to breakthrough fungemia and underscoring the need for species-level identification. Blood culture remains the diagnostic gold standard, and negative galactomannan should never exclude the diagnosis.

ESCMID guidelines recommend liposomal amphotericin B with or without flucytosine as first-line therapy, while voriconazole represents a promising alternative. In our case, liposomal amphotericin B was combined with tigecycline for empirical antibacterial coverage in the context of febrile neutropenia. Expert opinion increasingly favors combination therapy with liposomal amphotericin B and voriconazole for severe infections.

Conclusion

Saprochaeta capitata should be considered in AML patients with persistent fever and negative conventional fungal markers, particularly under echinocandin or fluconazole prophylaxis. Early microbiological diagnosis and prompt initiation of targeted antifungal therapy are essential. This case highlights that combination therapy, associating liposomal amphotericin B with broad-spectrum antibacterial coverage, may contribute to rapid clinical improvement in severe invasive infections in profoundly immunocompromised patients.

References

- Karrati S, et al. Invasive Saprochaeta capitata infection in an immunocompromised patient: a case report and literature review. 2025.
- García-Ruiz JC, et al. Invasive infections caused by Saprochaeta capitata in patients with hematological malignancies: report of five cases and review of the literature. Journal of Clinical Microbiology. 2013.
- Killingsworth B, et al. Disseminated Saprochaeta capitata infection in a pediatric patient with relapsed refractory AML: a case report. 2024