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Pan-echinocandin-resistant Candida glabrata periprosthetic hip joint infection in an immunosuppressed rheumatoid host: a case report

CASE REPORT

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Introduction: Fungal periprosthetic joint infection (PJI) complicates 1–4% of all PJI and disproportionately affects immunosuppressed hosts. Non-albicans Candida species, particularly Candida glabrata, increasingly exhibit echinocandin resistance through FKS1 and FKS2 hot-spot mutations, but the orthopedic literature on resistant non-albicans Candida hip PJI remains small, and the 2019 International Consensus Meeting (ICM) does not stratify guidance by resistance phenotype.

Case Presentation: A woman in her late sixties with seropositive rheumatoid arthritis on prednisone and methotrexate presented 22 months after primary right cementless total hip arthroplasty (THA) with a six-month history of progressive right groin pain and a draining lateral sinus. An earlier outside-facility aspiration and debridement had been uninformative. Three of five intraoperative tissue samples and sonicate fluid grew Candida glabrata on Sabouraud dextrose agar; FKS2 sequencing identified a p.Phe659del mutation conferring pan-echinocandin resistance. Two-stage revision used a conventional-dose amphotericin-B-loaded cement spacer (200 mg per 40 g) with intravenous liposomal amphotericin B and oral flucytosine, later transitioned to oral posaconazole. A secondary extended-spectrum β-lactamase–producing Escherichia coli wound infection required repeat debridement. Stage II reimplantation with a cementless revision stem, a multi-hole uncemented acetabular shell, and a dual-mobility bearing was performed at five months, achieving Harris Hip Score 78 at one year. Reactivation at 20 months mandated salvage Girdlestone resection

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arthroplasty, underscoring that even a technically sound two-stage revision may not eradicate resistant non-albicans Candida PJI.

Discussion: This case highlights three lessons: the diagnostic findings that should prompt extended-incubation fungal culture and molecular susceptibility testing; the elution-driven limitations of conventional amphotericin-B-loaded cement spacers, which favour a liposomal formulation; and the realistic medium-term prognosis, with two-stage recurrence rates near 48% in contemporary non-albicans Candida PJI series.

Conclusion: Glabrata-complex PJI isolates should undergo echinocandin minimum inhibitory concentration testing and FKS1/FKS2 sequencing at speciation. Patients should be counselled pre-operatively about a meaningful probability of eventual joint salvage.

Keywords: *Candida glabrata*, *Prosthesis-Related Infections;*, *Arthroplasty*, *Rheumatoid Arthritis*

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