

A 3-year study: Yeasts species distribution and antifungal susceptibility pattern in Hospital Ampang, Selangor, Malaysia

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ABSTRACT

Introduction: Fungal infections are a major global health issue. Limited information on fungal distribution and antifungal susceptibility has posed challenges to the clinician in managing fungal infection. This study aims to provide data relevant to the local setting to assist in antifungal management. **Materials and Methods:** From January 2021 to December 2023, 272 yeast isolates were collected from sterile specimens at Hospital Ampang. Identification was done using MALDI-TOF (Bruker, Germany). Susceptibility was tested with SensititreTMYeastOne (TREK Diagnostic Systems, UK) against anidulafungin, micafungin, caspofungin, posaconazole, voriconazole, itraconazole, fluconazole and amphotericin B. Patterns were interpreted according to Clinical and Laboratory Standards Institutes (CLSI) or European Committee on Antimicrobial Susceptibility Testing (EUCAST). For more than 30 isolates, susceptibility was presented as percentages, meanwhile for isolates fewer than 30, as counts. **Results:** Out of 272 yeasts isolated, they include *C.tropicalis* 86 (32%), *C.albicans* 85 (31%), *N.glabratus* (*C.glabrata*) 42 (15%), *C.parapsilosis* 24 (9%), *C.orthopsilosis* 7 (2.6%), *C.dubliniensis* and *T.asahii* 5 (2%) each, *P.kudriavzevii* (*C.krusei*) 4 (1.5%), *C.metapsilosis* 3 (1.1%), *C.neoformans*, *C.duobushaemuloni*, *D.rugosa* (*C.rugosa*) and *M.guillermondi* (*C.guillermondi*) are 2 (0.7%) respectively. *C.haemulonii* and *P.ohmeri* exhibited one isolate each (0.37%). Only one *C.auris* isolated. Overall, *C.tropicalis*, *C.albicans*, and *N.glabratus* showed >90% susceptibility to echinocandins and amphotericin B. Moderate susceptibility (50-70%) was obtained for voriconazole and fluconazole against *C.tropicalis* and itraconazole against *C.albicans*. Furthermore, low susceptibility pattern (10-30%) was demonstrated for posaconazole and itraconazole against *C.albicans*. Otherwise, all antifungals showed excellent activity against amphotericin B, echinocandins, and azoles in *N.glabratus*. **Conclusion:** We are certain that the stated information may contribute to the yeast distribution and antifungal susceptibility data in Malaysia, hence will assist antifungal management particularly in our local setting.