## *In vitro* activities of six antifungal drugs against *Candida glabrata* isolates: An emerging pathogen

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**Background:** *Candida glabrata* is pathogenic yeast with several unique biological features and associated with an increased incidence rate of candidiasis. It exhibits a great degree of variation in its pathogenicity and antifungal susceptibility.

**Objectives:** The aim of the present study was to evaluate the *in vitro* antifungal susceptibilities of the following six antifungal drugs against clinical *C. glabrata* strains: amphotericin B (AmB), ketoconazole (KTZ), fluconazole (FCZ), itraconazole (ITZ), voriconazole (VCZ), and caspofungin (CASP).

**Materials & Methods:** Forty clinical *C. glabrata* strains were investigated using DNA sequencing. The *in vitro* antifungal susceptibility was determined as described in clinical laboratory standard institute (CLSI) documents (M27-A3 and M27-S4).

**Results:** The sequence analysis of the isolate confirmed as *C. glabrata* and deposited on NCBI GenBank under the accession number no. KT763084-KT763123. The geometric mean MICs against all the tested strains were as follows, in increasing order: CASP (0.17 g/mL), VCZ (0.67 g/mL), AmB (1.1 g/mL), ITZ (1.82 g/mL), KTZ (1.85 g/mL), and FCZ (6.7 g/mL). The resistance rates of the isolates to CASP, FCZ, ITZ, VZ, KTZ, and AmB were 5%, 10%, 72.5%, 37.5%, 47.5%, and 27.5%, respectively.

**Discussion:** The intrinsically low susceptibility of C. glabrata, an emerging opportunistic fungal pathogen, to azole antifungals has made its treatment challenging, and infection is accompanied by frequent relapse and failure. The findings indicate that the decreased susceptibility of Candida to azole agents may contribute to the increased proportion of infections caused by these species. Caution is thus recommended with CASP therapy for *C. glabrata* infections when azole resistance is predicted. The resistance of *C. glabrata* clinical isolates to both azoles and echinocandins has emerged over time. This is problematic, owing to its treatment limitations.

**Conclusion:** These findings confirm that CASP, compared to the other antifungals, is the potent agent for treating candidiasis caused by *C. glabrata*. However, the clinical efficacy of these novel antifungals remains to be determined.

### Speaker Biography

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