Evaluation of six antifungal drugs against Candida glabrata isolates as an emerging pathogen for healthcare

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Background: Candida glabrata is a 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 (Am B), ketoconazole (KTZ), fluconazole (FCZ), itraconazole (ITZ), voriconazole (VCZ), and caspofungin (CASP).

Materials and 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 Gen Bank 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), Am B (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 Am B were 5%, 10%, 72.5%, 37.5%, 47.5%, and 27.5%, respectively.

Conclusions: 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.

Biography
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