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

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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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