2018 spain
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Arch Oral Biol. 2018 Nov;95:100-107. doi: 10.1016/j.archoralbio.2018.07.017. Epub 2018 Jul 31.

Prevalence and antifungal susceptibility profiles of Candida glabrata, Candida parapsilosis and their close-related species in oral candidiasis

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PMID: 30096698 DOI: 10.1016/j.archoralbio.2018.07.017

Abstract

Objective: To evaluate the importance of Candida glabrata, Candida parapsilosis and their close-related species, Candida bracarensis, Candida nivariensis, Candida metapsilosis and Candida orthopsilosis in patients with oral candidiasis and, to determine the in vitro activities of antifungal drugs currently used for the treatment.

Methods: One hundred fourteen isolates of C. glabrata and 97 of C. parapsilosis, previously identified by conventional mycological methods, were analysed by molecular techniques. In vitro antifungal susceptibility to fluconazole, itraconazole, miconazole, and nystatin was evaluated by CLSI M44-A2 disk diffusion test, and by CLSI M27-A3 microdilution for fluconazole.

Results: All C. glabrata isolates were identified as C. glabrata sensu stricto, 93 out of 97 C. parapsilosis isolates as C. parapsilosis sensu stricto, three as C. orthopsilosis and one as C. metapsilosis. Candida glabrata was mainly isolated in mixed cultures but C. parapsilosis complex was more frequent in pure culture. Candida metapsilosis and C. orthopsilosis were isolated as pure culture and both species were susceptible to all antifungal agents tested. Most C. glabrata isolates were susceptible to miconazole and nystatin, but resistant to fluconazole and itraconazole. Azole cross resistance was also observed. Candida parapsilosis isolates were susceptible to fluconazole although azole cross resistance to miconazole and itraconazole was observed.

Conclusion: This study highlights the importance of accurate identification and antifungal susceptibility testing of oral Candida isolates in order to have an in-depth understanding of the role of C. glabrata and C. parapsilosis in oral candidiasis.

Keywords: Antifungal susceptibility; Candida glabrata; Candida parapsilosis complex; Oral candidiasis.

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