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ANTIFUNGAL SUSCEPTIBILITY OF CANDIDA ALBICANS AND CANDIDA DUBLINIENSIS BIOFILMS VS PLANKTONIC CELLS

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Candida albicans is the major etiological agent of oral infections. Recently a new species closely related to Candida albicans, Candida dubliniensis, was isolated from the mouth of HIV patients. Due to their similar surface properties, both species have equal abilities to colonise the oral cavity and to form biofilms. Candidal infections are often difficult to eradicate due to the resistance of biofilms to antifungal agents. In this work the susceptibility of two strains of Candida albicans and of two strains of Candida dubliniensis biofilms to flucanazole and amphotericin B was evaluated and compared to that of planktonic cells. Antifungal testing to determine the MICs of planktonic cells were performed according to the NCCLS M27 A broth micro dilution method. The same methodology was adapted for biofilm susceptibilities. Additionally the effect of the presence of artificial saliva on antifungal susceptibilities was evaluated. All Candidal strains grown in planktonic forms were susceptible to both antifungal agents (MIC₈₀<8ìg/ml), according to the NCCLS guidelines. As expected a great decrease in antifungal susceptibility was detected in all Candidal biofilms for both antifungal agents, with special relevance for flucanazole, in which MIC₅₀>12 ig/ml. Antifungal susceptibility was affected by artificial saliva, in this medium candidal cells exhibited a smaller susceptibility than in RPMI medium probably due to their lower metabolic activity.

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