The effectiveness of luliconazole against planktonic and biofilm forms of *Candida albicans*

Maral Gharaghani1*, Simin Taghipour1, Sahar Heyvari 1, Ali Rezaei-Matehkolaei1, Ali Zarei Mahmoudabadi1.

1. Infectious and Tropical Diseases Research Center, Health Research Institute, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

**ARTICLE INFO**

**ABSTRACT**

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**Introduction:** Candida albicans is one of the most common opportunistic human pathogen with a high mortality rate among patients with invasive forms. Biofilms formation by C. albicans often are associated to implanted medical devices, especially, dentures, catheters, etc. Biofilms are resistance to multiple antifungals, so that the minimum biofilm inhibitory concentration (MBIC) of fluconazole for the biofilm of C. albicans is several times higher than those for planktonic forms. Although, several studies have shown that luliconazole is active against dermatophytes and saprophytic fungi, there is no data about the effect of it against biofilms of C. albicans. The aim of the present study was to evaluate luliconazole potency against clinical C. albicans biofilm in vitro and compare with theirs planktonic cells.

**Materials and Methods:** In the present study 29 clinical strains of C. albicans were examined against luliconazole in both planktonic and sessile forms. Luliconazole susceptibility against planktonic and biofilm forms was performed using standard methods. The used concentration of luliconazole ranged of 1024-64 µg/mL and 0.5-<0.031 µg/mL for biofilm and planktonic forms, respectively. Minimum inhibitory concentration (MIC) and MBIC for all isolates against luliconazole were calculated.

**Results:** Our results show that the biofilms of *C. albicans* were more resistance to luliconazole than planktonic forms. Totally the MIC range for biofilm and planktonic form was 1024-64 and 0.5-<0.031, respectively. The MBIC50, MBIC90 and MBICGM were 512,512 and 309.9 µg/mL for biofilms forms of tested were *C. albicans* isolates. In contrast, the MIC50, MIC90 and MICGM were <0.031, <0.031 and 0.059 µg/mL for planktonic forms.

**Conclusion:** It is concluded that, although luliconazole was a more effective antifungal against planktonic form of *C. albicans* isolates, only high concentrations of drug can inhibit the grow of biofilms of *C. albicans* isolates in vitro.