

Candida albicans biofilms formed into catheters and probes and their resistance to amphotericin B

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Abstract :

In Algeria, many bacterial biofilms have been studied but those of fungal origin, particularly those due to the yeast *Candida albicans* remained unidentified. The present study was performed at the Chabane Hamdoune hospital in Maghnia (Algeria), where 51 strains of *C. albicans* representing 16.94% of all taken samples were isolated. They were collected from catheters and probes used in different hospital services with variable rates; the most concerned service was ICU (40.74%) followed by gynecology department (17.39%), while general surgery came third (15.79%). Testing the antifungal property of amphotericin B (AmB) we showed clearly that the sessile cells of *C. albicans* were much more resistant than their planktonic counterparts (suspended cells), especially when the resistance increased during the different phases of biofilm formation until it reached its threshold at the ripening stage (at 48h). Furthermore, scanning electron microscopy of the isolated strains in the laboratory revealed the formation of biofilms on catheters by *C. albicans*. Surprisingly, observations revealed the presence of a new structure in these biofilms: a chlamydospore?

Keywords : *Candida albicans*, Nosocomial infections, Catheters, Biofilms, Chlamydospore.

Journal title / Revue : JOURNAL DE MYCOLOGIE MÉDICALE, ISSN : 1156-5233, DOI: 10.1016/j.mycmed.2011.07.006, Issue : 3, Volume : 21, pp. 182-187 , SEP 2011.