Assessment of the types of catheter infectivity caused by Candida species and their biofilm formation. First study in an intensive care unit in Algeria.

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Abstract/Résumé : Nosocomial candidiasis remains a potential risk in intensive care units (ICUs), wherein Candida albicans is most responsible for its occurrence. Equally, non-C. albicans species, especially C. glabrata, are also involved. These infections are frequently associated with biofilms that contaminate medical devices, such as catheters. These biofilms constitute a significant clinical problem, and cause therapeutic failures, because they can escape the immune response and considerably decrease sensitivity to antifungal therapy. The diagnosis of catheter-related candidiasis is difficult; however, the differentiation between an infection of the catheter (or other medical implant) and a simple contamination is essential to start an antifungal treatment. Among the methods used for this type of study is the Brun-Buisson method, but this method only examines the infectivity of catheters caused by bacteria. For this reason, we wanted to adapt this method to the yeast cells of Candida spp. To assess the various types of infectivity of catheters (contamination, colonization, or infection) and their corresponding rates, as well as the responsible yeast species, we conducted our study, between February 2011 and January 2012, in the ICU at the University Hospital Center of Sidi Bel Abbes, Algeria; during this study, we took photographic images of the tongue of one patient and of that patient's implanted orobronchial catheter. In addition, catheters contaminated by C. albicans biofilms were observed by scanning electron microscopy.

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