

## ***Candida bracarensis* virulence factors (Poster 17)**

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### **Purpose**

Initially identified as *Candida glabrata*, *Candida bracarensis* is a new and rare pathogenic *Candida* species. Therefore, the virulence factors of three *C. bracarensis* strains (NCYC 3133, CMN-CL-7030 and 153 M<sup>T</sup>) were analyzed and compared to *Candida glabrata* ATCC 2001 and *Candida albicans* ATCC 90028.

### **Methods**

Strains were grown in RPMI medium and incubated at 37°C and 120 rpm. The ability of each strain to adhere and form biofilms was assessed. Additionally, the biofilm matrix was analysed in terms of protein and carbohydrate content. Hydrolytic enzymes secretion was assessed by growing the *Candida* strains on agar medium supplemented with BSA (proteases), egg (phospholipases) or blood sheep (hemolysins).

### **Results**

Cristal Violet results indicated that *C. bracarensis* strains CNM-CL-7030 and 153 M<sup>T</sup> adhered in higher extent comparatively to *C. albicans* and *C. glabrata* strains. Relatively to 24 and 48h *Candida* biofilms, *C. bracarensis* strains showed a lower biomass, but a higher number of viable cells. *C. bracarensis* biofilms matrices exhibited similar quantities of carbohydrates; although the amount of carbohydrates found in biofilms of strain CNM-CL-7030 increased after 24h of biofilm formation. This study also showed that like *C. albicans*, but contrarily to *C. glabrata*, *C. bracarensis* NCYC 3133 was able to secrete proteases. Furthermore, all *C. bracarensis* tested were able to cause total hemolysis, but were not able to produce detectable phospholipases.

### **Conclusion**

*C. bracarensis* has mistakenly been identified as *C. glabrata* for many years. This study contributed to clarify some differences between these two species, particularly concerning differences in virulence traits.