In vitro biofilm (BF) formation of Candida albicans (CA) planktonic isolates from urogenital tract (UGT) susceptible (S) and multiresistant (MR) to azoles

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Candida spp are BF producers and are frequently observed in medical devices as in gastrointestinal and urogenital normal flora. There are many reports about an altered phenotype in BF with respect to growth rate, gene transcription and resistance increase, but few reports about BF behavior of susceptible and resistant planktonic isolates from UGT when the BF is fully developed as normal flora or in pathological situations. **Aim:** to study S and MR planktonic isolates of CA from UGT and evaluate their behavior in BF. **Material and methods:** The CA susceptibility to azoles was performed by CLSI rules. We used 20 CA S: fluconazol (FCZ) MIC ≤ 2 μg/ml; itraconazole (ITZ) <1 μg/ml; voriconazole (VCZ) ≤0.125 μg/ml, and 5 CA MR. We study 1 CAMR isolate from catheter (FCZ >256 μg/ml; ITZ >32 μg/ml; VCZ >32 μg/ml) as control. All isolates were incubated 24-48 hours in Sabouraud broth (SB). The CA BF of each isolate was investigated using: a glass coupon (GC); a GC with vaginal layer (previously described) and acetate film. Each of them was placed in the SB and then we read by optical microscopy after 24 and 48 hours of incubation. We used microtiter assay (MA) for studying quantitatively BF formation. Following 24 hours and remotion of planktonic CA, the crystal violet tinction was employed. A RT-2100C microprocessor (absorbance mode λ 450nm) was employed for reading. **Results:** BF was detected in all isolates but the exopolisacharide (EPS) formation, thick and density in some CAS were deficient. Usually BF with blastospores, pseudohyphae, hyphae and EPS was present in CAMR. **Conclusions:** the previous susceptibility of CA is important in the BF formation. The MR is a risk factor to eradicate CA from host not only by resistance but due to their higher relative intensity of BF formation as virulence factor and the clinical status would progress to chronic condition.