

Streptococcus agalactiae and *Candida* spp. in anovaginal specimens of pregnant women living in Rio de Janeiro, Brazil

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Streptococcus agalactiae (Group B *Streptococcus*, GBS) and *Candida* spp. can be frequently found in the female genitourinary tract, either colonizing asymptotically or causing opportunistic infections. GBS and *Candida* spp. colonization in pregnant women can be associated with negative outcomes in both the mother and the newborn, as these microorganisms can be transmitted vertically during labor. Nevertheless, whether and how these microorganisms interact in the vaginal microbiome has not been fully elucidated, although recent studies indicate that they might present an antagonistic relationship. The aim of this study was to detect GBS and *Candida* spp. from anovaginal specimens of 84 pregnant women at 35-37 gestational week enrolled in the prenatal program of a Teaching Maternity between Jan-May/2019 and to evaluate the ability of selected strains to produce single and dual-species biofilms in 96-well polystyrene plates. GBS were isolated on blood agar plates after a broth pre-enrichment step and identified by MALDI-TOF MS. *Candida* spp. were isolated on Sabouraud agar and identified at species level by growing on chromogenic media. GBS was found in 8 (9.5%) anovaginal specimens while *Candida* spp. was detected in 20 (16.8%), being both microorganisms simultaneously detected in 2 specimens (2.4%). There was no difference on GBS detection rates between *Candida*-positive (2/20; 10%) and *Candida*-negative (6/64; 9.4%) specimens. Species of *Candida* were *Candida albicans* (13), *Candida glabrata* (3), *Candida krusei* (3) and *Candida parapsilosis* (1). Both cases of GBS co-isolation were associated with *C. albicans*. Two GBS strains and 5 *C. albicans* isolates were evaluated in biofilm production assay. In single-strain biofilms, all were classified as strong/moderate biofilm producers [optical density (OD) values from 0.1 to 0.8]. In dual-species biofilms, each GBS strain presented a peculiar phenotype: while one generated lower OD values with all 5 *C. albicans* isolates (average on 0.3) when compared to single-strain biofilms (average on 0.5), the other generated similar or slightly higher OD values (average on 0.4 in all cases). Results suggest that GBS-*C. albicans* interaction in biofilms may vary according to the GBS strain, from antagonistic to synergistic. The better elucidation of such inter-microbial relationships in the human vagina can contribute to the improvement of control and preventive measures of infections associated with these microorganisms.