

## Prevalence and Comparison for Detection Methods of Candida Species in Vaginal Specimens from Pregnant and Non-Pregnant Saudi Women

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**Abstract :** Pregnancy represents a risk factor in the occurrence of vulvovaginal candidiasis. To investigate the prevalence rate of vaginal carriage of Candida species in Saudi pregnant and non-pregnant women, high vaginal swab (HVS) specimens (707) were examined by direct microscopy (10% KOH and Giemsa staining) and parallel cultured on Sabouraud Dextrose Agar (SDA) as well as on "CHROM agar Candida" medium. As expected, Candida-positive cultures were frequently observed in pregnant-test group (24%) than in non-pregnant group (17%). The frequency of culture positive was correlated to pregnancy ( $P=0.047$ ), parity ( $P=0.001$ ), use of contraceptive ( $P=0.146$ ), or antibiotics ( $P=0.128$ ), and diabetic-patients ( $P < 0.0001$ ). Out of 707 HVS examined specimens, 157 specimens were yeast-positive culture (22%) on Sabouraud Dextrose Agar or "CHROM agar Candida". In comparison, the sensitivities of the direct 10% KOH and the Giemsa stain microscopic examination methods were 84% (132/157) and 95% (149/157) respectively but both with 100% specificity. As for the identity of recovered 157 yeast isolates, based on API 20C biotype carbohydrate assimilation, germ tube and chlamyospore formation, *C. albicans* and *C. glabrata* constitute 80.3 and 12.7% respectively. Rates of *C. tropicalis*, *C. kefyr*, *C. famata* or *C. utilis* were 2.6, 1.3, and 0.6% respectively. *Sachromyces cerevisiae* and *Rhodotorula mucilaginosa* yeasts were also encountered at a frequency of 1.3 and 0.6% respectively. Finally, among all recovered 157 yeast-isolates, strains resistant to ketoconazole were not detected, whereas 5% of the *C. albicans* and as high as 55% of the non-*albicans* yeast isolates (majority *C. glabrata*) showed resistance to fluconazole. Our findings may prove helpful for continuous determination of the existing vaginal candidiasis causative species during pregnancy, its lab-diagnosis and/or control and possible measures to minimize the incidence of the disease-associated pre-term delivery.

**Keywords :** vaginal candidiasis, *Candida* spp., pregnancy, risk factors, API 20C-yeast biotypes, giemsa stain, antifungal agents

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