

In-vitro Antifungal Activities of Kombucha Tea Culture Supernatant Combined with Voriconazole against Vulvovaginal Candidiasis Clinical Isolates

Rasha H. Bassyouni, M.D.¹, Fatma AboElnaga Ahmed, M.D.¹, Ahmed A. Ismaiel, Ph.D.², Abdelsamie Abdelmoneim, M.D.³, Haitham Badran, M.D.³, Mazen A. El Zahry, M.D.⁴, Reham Ali Dwedar, M.D.⁵ Ahmed Ashraf Wegdan, M.D.¹

¹Medical Microbiology and Immunology Department, Faculty of Medicine, Fayoum University, Fayoum ..., Egypt. ²Botany and Microbiology Department, Faculty of Science, Zagazig University, Zagazig..., Egypt.

³Obstetric and Gynecology Department, Faculty of Medicine, Fayoum University, Fayoum, Egypt.

⁴Obstetrics and Gynecology Department, Faculty of Medicine, Azhar University, Cairo, Egypt.

⁵Medical Microbiology and Immunology Department, Faculty of Medicine, Cairo University, Cairo, Egypt. Received 10 August 2022 | Revised 19 September 2022 | Accepted 17 November 2022 | Published online

Abstract:

Objective: To investigate the antifungal activity of voriconazole, with and without Kombucha tea culture, against *Candida* strains isolated from vulvovaginal candidiasis.

Material and Methods: The study included 150 females, within child-bearing periods, complaining of vulvovaginal candidiasis. *Candida* strains were isolated, and identified by conventional microbiological methods; and confirmed by Vitek-2 System. The sensitivity of the isolates to voriconazole was performed, via the Disc diffusion method. Resistant strains were then subjected to minimum inhibitory concentrations (MIC) investigation of voriconazole alone, and in combination with a Kombucha tea culture via the broth micro-dilution method in concentrations ranging from 0.0048 to 10 µg/ml. The ability of voriconazole, with and without Kombucha, to eradicate *Candida* biofilms were investigated using a crystal violet absorbance assay.