Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **36** (5): 993-9 (2017)

Received: November 27, 2016
Revised version: February 10, 2017
Accepted: February 13, 2017

Sensitivity of *C. albicans* to the *(S)*-(-)-Citronellal Alone and in Combination with Four Antifungal Drugs in Vulvovaginal Candidiasis

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***SUMMARY*. The vulvovaginal candidiasis (VVC) also called Candida vaginitis, is a common fungal infection, which affects healthy women of all ages mainly during reproductive ages. In this work, were evaluated the antifungal potential of the enantiomer *(S)*-(-)-citronellal [*(S)*-(-)-CT] against thirteen *C. albicans* strains and its effect in association to four antifungal medications used in the treatment of the VVC. The minimum inhibitory concentration (MIC) and the minimum fungicidal concentration (MFC) of the *(S)*-(-)-CT for 90% of the strains, were 64 and 128 µg/mL, respectively. In the susceptibility test, *C. albicans* presented a high resistance to fluconazole and itraconazole in 12 (92.30%) of the strains. However, for ketoconazole and miconazole the resistance was 4 (30.76%) and 3 (23.07%), respectively. In the association of the product with ketoconazole and miconazole, the resistance was completely reverted. However, for fluconazole and itraconazole the resistance was reverted in 6 (50%). The results of the present study suggest the *(S)*-(-)-CT as a potential therapeutic agent for VVC. In addition, studies are necessary in order to identify the action mechanism of the molecule against *C. albicans,* as well as its toxicity *in vitro*.**

RESUMEN. La candidiasis vulvovaginal (VVC) es una infección fúngica común, que afecta a las mujeres sanas de todas las edades, principalmente durante las edades reproductivas. En este trabajo se evaluó el potencial antifúngico del enantiómero *(S)*-(-)-citronelal [*(S)*-(-)-CT] frente a trece cepas de *C. albicans* y su efecto en asociación con cuatro fármacos antifúngicos utilizados en el Tratamiento de la VVC. La concentración inhibitoria mínima (MIC) y la concentración fungicida mínima (MFC) de *(S)*-(-)-CT para el 90% de las cepas fueron 64 y 128 µg/mL, respectivamente. En la prueba de susceptibilidad, *C. albicans* presentó una alta resistencia a fluconazol e itraconazol en 12 (92,30%) cepas. Sin embargo, para el ketoconazol y el miconazol la resistencia fue de 4 (30,76%) y 3 (23,07%), respectivamente. En la asociación del producto con cetoconazol y miconazol, la resistencia fue completamente revertida. Sin embargo, para el fluconazol y el itraconazol la resistencia se revertió en 6 (50%). Los resultados del presente estudio sugieren a *(S)*-(-)-CT como un potencial agente terapéutico para VVC. Además, son necesarios estudios para identificar el mecanismo de acción de la molécula contra *C. albicans,* así como su toxicidad *in vitro*.

KEY WORDS: anti-*C. albicans,* combination therapy, monoterpens, *(S)*-(-)-citronellal,

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ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)