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ABSTRACT BOOK



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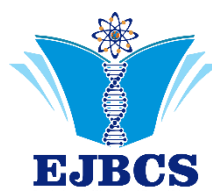
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➤ ORAL PRESENTATION

***In vitro* anti-candidal and anti-biofilm activity of new ethane sulfonyl hydrazone compound**

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Abstract

Candida species cause cutaneous and systemic infections with a high mortality rate, especially in immunocompromised patients. However, the emergence of resistance to the most common antifungal drugs, also due to biofilm formation, there is an increasing need to design new and more effective antifungals with less toxic. Sulfonyl hydrazones are well-known for their pharmacological effects, such as antifungal and antibacterial potential and can act as an antinociceptive, antidepressant, antineoplastic activity. The aim of this study was to investigate the anti-candidal and anti-biofilm activity of the new Sulfonyl hydrazones compound Anaf-Esh (3-hydroxynaphthalen-2-ethylidene ethanesulfonylhydrazone), derived from sulfonamides. A total of forty *Candida* isolates were included in the study, of which five were reference strains (*C. albicans* ATCC 10231, *C. krusei* ATCC 6258, *C. glabrata* ATCC 90030, *C. parapsilosis* ATCC 22019, and *C. tropicalis* NRRL Y-12968). The remaining 35 clinical isolates were obtained from the Gazi University Medical Mycology Laboratory culture collection. The isolates were identified by conventional methods and API ID32C® system. Both the ITS and D1-D2 region of 40 strains were amplified by PCR and sequenced. The minimum inhibitory concentration (MIC) and the minimum fungicidal concentration (MFC) values were determined by the broth microdilution method according to the European Committee on Antimicrobial Susceptibility Testing (EUCAST) standards. The range of compound concentrations tested was between 0.5–256 µg/ml. As a reference drug fluconazole was used. The anti-biofilm activity of the synthesized compound was evaluated in 96-well polystyrene flat-bottom microplates. Our data indicated the compound had broad-spectrum antimicrobial activity in the range 4-64 µg/ml. Furthermore, the synthesized compound exhibited anti-biofilm activity against tested isolates. This study highlights that following further clinical studies to investigate the various biological activities of Sulfonyl hydrazones, this new compound Anaf-Esh may play a role in the control and prevention or treatment of *Candida* infections.

Keywords: Anti-biofilm activity, Anti-candidal activity, *Candida*, Sulfonyl hydrazones.