**EFFECT OF HYDROXYTYROSOL AND OLEUROPEIN ON *CANDIDA ALBICANS* CELL PERMEABILITY**

**UTJECAJ HIDROKSITIROSOLA I OLEUROPEINA NA PERMEABILNOST STANICA *CANDIDA ALBICANS***

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Fungal infections caused by opportunistic pathogens of *Candida* species are very often in humans, especially in the population of immunocomprised patients. At the same time, the extensive use of drugs has been associated with appearance of drug-resistant species. Because of the increasing resistance to commonly used antifungal therapy, there is a growing need for the development of new antifungal agents.

Significant source of innovative therapeutic agents are natural products. Hydroxytyrosol and oleuropein are phenolic constituents of olive tree (*Olea europaea*) and are known to have biological properties including antibacterial, antioxidant and anti-inflammatory properties. However, limited data is available in literature on antifungal activity of the two phenolic constituents.

The objective of the present study was to evaluate the effect of hydroxytyrosol and oleuropein on *C. albicans* cell membrane permeability.

The effect of the compounds on *C. albicans* cells was evaluated according to the method of Khan and colleagues (Khan et al., 2013) with slight modifications. Cell suspension prepared from fresh cultures of *C. albicans* ATCC 10231 (5 McFarland units) was treated with different concentrations of test agents (0.1x, 0.25x, 0.5x, 1x and 4x MIC (minimum inhibitory concentration)). The samples were incubated at 37°C for 1h. The positive control was performed with voriconazole. After incubation, the samples were centrifuged and the release of cellular material in the supernatants was determined at 260 nm (Biospec Nano, Shimadzu).

The results have indicated that hydroxytyrosol and oleuropein cause reduction of viability of *C. albicans* cells in comparison to control. The lysis of cells and the release of cellular material was present dose-dependently in all oleuropein- and hydroxytyrosol-treated samples.