

**P0006**

**Poster Session I**

**News from the fungal frontier**

**COMBINED EFFECT OF OZONOUS OLEIC ACID AND TERBINAFFINE ON CANDIDA ALBICANS**

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**Objectives.** The problem of finding and developing advanced treatment techniques concerns multiresistant strains. The effect of ozone, ozonous solutions and oils is being actively investigated now. The antimicrobial effect of ozone is caused by the destruction of cell membranes, their barrier dysfunction, protein oxidation, inhibition of the functional activity of bacteria, plasmid DNA transformation, etc. As a result of ozonation the bacteria proliferation decreases and in larger quantities it causes their complete destruction. The antifungal terbinafine product is quite effective against *Candida albicans*, but there are increasing resistant strains.

The aim of the research is to determine the effectiveness of ozonous oleic acid and terbinafine synergistic action against *Candida albicans* in vitro fungi.

**Materials and methods:** determination of the ozonous oleic acid and terbinafine minimal inhibitory concentration (MIC) was performed by serial dilutions in polystyrene 96-well plates. The results were evaluated by optical density at 540 nm wavelength using the SF photometer.

**Results of the research:** when determining terbinafine MIC it was found that the its average optical density (OD) equals to  $0,307 \pm 0,05$  OD units, for ozonous oleic acid  $0,611 \pm 0,07$  OD units. While determining the combined effect of these substances the figures reached  $0,269 \pm 0,06$  OD units.

**Conclusion:** As a result of the study it was determined that terbinafine product is highly effective against *Candida albicans* fungi, the ozonous solution of oleic acid is not effective, but the combined use of these substances is the most effective, which is possibly a result of better terbinafine penetration through microorganisms cell membrane due to ozonous oleic acid .