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## Antibiotic susceptibility and some persistence factors of Gram-negative bacilli isolated from trophic ulcers

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### Abstract

**Background:** Infections that are difficult to treat might lead to high morbidity and mortality rates. In some infections, however, despite a proper antibiotic therapy, microorganisms might persist, under certain circumstances, and produce recurrent or chronic infections. It is a well-known fact that the persistence of microorganisms might influence their viability within the macro-organism, whereas the suppression of the microbial persistence via drug preparations might greatly reduce therapeutic duration. This study is aimed at assessing the antibiotic sensitivity and some factors, contributing to persistence of Gram-negative bacilli strains isolated from trophic ulcers.

**Material and methods:** Data were collected and examined from 128 samples of patients with trophic ulcers. The bacteriological examinations, factors determining the persistence and the antibiotic susceptibility of the isolated strains were carried out in accordance with the current method.

**Results:** 211 microbial strains were isolated. The identified microorganisms revealed a high taxonomic diversity, whereas Gram-negative bacilli made up 50.2%. Isolates showed multiple resistances to antimicrobial drugs in 76.4% of cases, 43.4% strains showed hemolytic, 88.7% – anti-lysozyme and 93.4% – anti-complementary activities, whereas 70.8% strains produced a detectable biofilm. The strains isolated from mixed infections exhibited a higher percentage of pathogenicity factors compared to those isolated from mono-infections.

**Conclusions:** Gram-negative bacteria showed great resistance to the antimicrobial drug tests and multiple persistence factors. The results of the study proved that trophic ulcers are difficult to treat, thus being a major problem, which requires coherent monitoring and control.

**Key words:** trophic ulcer, Gram-negative bacilli, antibiotic resistance, persistence factors.