

## **FEATURES OF THE ANTIMICROBIAL ACTION OF PLANT ESSENTIAL OILS ON THE OPPORTUNISTIC MICROFLORA**

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Biologically active substances medicinal plants can be an effective complement in the complex therapy of infectious diseases. Of particular interest are plant extracts that show activity against strains of microorganisms that are resistant to certain antibiotics and synthetic medicines. Ones of vegetable origin, even with prolonged using, do not provoke the development of resistant microorganisms. They can be effective for sanation from conditionally pathogenic germs, as medicinal plants in most cases destroy the pathogenic and preserve the saprophyte microflora. Promising is the use of multi-component plant charges and dosage forms based on them, which can improve the reliability of the expected therapeutic effect. Today timely and effective therapy of various infections is an actual problem of modern medicine. The detection of plant products that possess bactericidal properties and aimed at combating pathogenic microflora is an urgent and priority.

The aim of the study was to determine the antimicrobial activity of essential oils of wormwood, mint, myrrh, celandine, citronella, geranium and herba *Hyperici* in the conditionally pathogenic museum test strains: *Staphylococcus aureus* and *Escherichia coli*.

As a result of quantitative determination (evaluation of viability) of cultures on solid agar media in the presence of different concentrations of plant samples, it was established that samples of essential oils of wormwood, myrrh and peppermint had no significant effect on *E. coli* or on gram-positive cocci (*S. aureus*). Essential oils of geranium, celandine showed high antibacterial activity, herba *Hyperici* and citronella were less effective. Wormwood and mint, in all concentrations, inhibited the *S. aureus* plasmocoagulase.

Hemolytic activity of *S. aureus* completely inhibited the samples of essential oil of geranium and celandine, and at a high concentration of 2 g/ml – essential oil of citronella, wormwood and mint. Essential oils of myrrh and herba *Hyperici* had no inhibitory effect on the hemolysis of *S. aureus*. All samples in a high concentration (2 g/ml) suppressed proteolytic (most and least) and glycolytic (except for essential oils of myrrh and herb *Hyperici*) activities of *E. coli*.

Essential oils of wormwood, mint, celandine, geranium at a high concentration inhibit the growth and reproduction of *S. aureus*, *E. coli*, which indicates that the samples have a pronounced antimicrobial activity.

Thus, the results of *in vitro* experiments demonstrated a high antibacterial effect of plant essential oils against opportunistic microflora, which is realized, among other things, by suppressing the enzymatic activity of bacteria and reducing their survival.