NEW METODS OF FIGHTING WITH STAPHYLOCOCCUS

AUREUS BY EVCALIPTUS VIMINALIS AND CETRARIA ISLANDICA

Stadnytska Nataliya, Diakon Iryna, Novikov Volodymyr

*Lviv Polytechnic National University, DepartmentofTechnologyofBiologicallyActiveSubstances, PharmacyandBiotechnology, Lviv, Ukraine*

Pathogenic microorganisms cause infectious diseases, which are companions of humanity during the history of its existence. One of these microorganisms is Staphylococcus aureus. It is a pathogen of pneumonia, endocarditis, bacteremia, infections: skin ulceration, wound, eye, genitourinary system, mucous membranes. Treatment of diseases caused by microorganisms, synthetic drugs in many cases leads to the development of the resistance of pathogenic microflora to them, frequent side effects on the human body, the emergence of allergic reactions.Thesenegativepointscanbeavoidedusingherbalmedicines. ExpressionsofEvcaliptusviminalisandCetrariaislandica, whichhavebeenusedinthetreatmentofdiseasesoftherespiratorysystemand a numberofothers, havepronouncedantimicrobialproperties. TheactivesubstancesinfluencingthegrowthanddevelopmentofpathogenicmicroflorainEvcaliptusviminalisareessentialoils, andinCetrariaislandica - licoriceacids, inparticular, oralnios. Thesesubstanceshave a detrimentaleffectonstaphylococci, streptococci, mycobacteriumtuberculosis.

Pharmaceutical form of the drug is important for achieving the therapeutic effect. Sprays are becoming popular today. As a pharmaceutical form,the spray has many advantages, the main of which is the high dispersion and easy mobility of particles of the dispersed phase - factors that increase the pharmacological activity of drugs. When inhaled sprays, the medicine does not undergo changes that occur when taken orally, that is, there are no factors influencing the medicine of gastric and intestinal juice, liver barrier, drug loss. Sprays also have a number of advantages before the injection of drugs subcutaneously, intramuscularly and intravenously, first of all, the absence of a pain factor.

The purpose of our research was to investigate the effect of sprays on the content of extracts of Evcaliptusviminalis and Cetrariaislandica on the growth of the Staphylococcus aureus culture test. On the basis of the obtained dense extracts, a composition of two types of sprays was developed. The first extract of Evcaliptusviminalis was introduced into the composition, and the second one was combined with two extracts Evcaliptusviminalis and Cetrariaislandica.

Antibacterialactivitywasdeterminedbythemicrobiologicalmethodusing 2-fold serialdilutionsin a soy-caseinbrothwithStaphylococcusaureustestmicroorganism (25,000 microbialcellsperml). Fortesting, 3 rowsoftesttubesweretakenat 4 ineach. Theresultsofthetestwererecordedafterincubationat a temperatureof (32.5 ± 2.5) ° C for 48 hours. Theantibacterialactivityofthetestsamplewasevaluatedvisually.

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| --- | --- | --- | --- | --- |
| Investigated sample | *Concentration, μg/ml* | | | |
| 50 | 25 | 12,5 | 6,25 |
| Extract*Evcaliptusviminalis* | - | - | - | + |
| Spray з *Evcaliptusviminalis* | + | + | + | + |
| Spray з *Evcaliptusviminalis + Cetrariaislandica* | - | + | + | + |
| **+** - activity is present; - - activity is absent | | | | |

Extracts Evcaliptusviminalis and Cetrariaislandica have significant bactericidal activity against staphylococci, including polyantibiotic resistant clinical isolates. Both extracts exhibit antimicrobial action on the bacterial strain of Staphylococcus aureus and are promising for the creation of new antiseptic drugs for the treatment and prevention of staphylococcal infections.