STUDY OF THE INFLUENCE OF EXTRACTS OF COMMON LAVENDER (LAVANDULA ANGUSTIFOLIA) ON THE ABILITY TO DESTROY BIOFILMS AND PREVENT THE FORMATION OF BIOFILMS OF MICROBIAL CULTURES IN VITRO

Bogatyrova O.O., Naboka O.I., Filimonova N.I.
National University of Pharmacy, Kharkiv, Ukraine
elena.bogatyrova@live.com

Actuality of theme. The directions of application of the Lavandula angustifolia plant are diverse. The results of the previous studies allowed us to establish that dry extracts of common lavender, extracted with 40 % and 70 % ethanol, have antimicrobial properties against a wide range of infectious agents (*S. aureus, E. coli, K. pneumoniae, P. aeruginosa, C. albicans*), which was evidenced by the corresponding activity indices of the above-mentioned extracts. The least active was the extract of Lavender narrow-leaved, extracted with water, which showed background antistaphylococcal activity at the level of 125 μg/ml.

The aim of the research was a comparative study of the effect of test samples of dry extracts of common lavender on the ability to destroy biofilms and prevent the formation of biofilms of microbial cultures *in vitro*.

Materials and methods. To study the ability of strains to form biofilms, pure cultures of reference strains *S. aureus, E. coli, K. pneumoniae, P. aeruginosa* were sown on nutrient agar and incubated in a thermostat for 24 hours at 37 °C (*S. aureus, E. coli, P. aeruginosa*). Washes from agar cultures were carried out by adding 1 ml of isotonic sodium chloride solution and adjusted to the turbidity standard, considering the amount of 10^9 m.t./cm^3. The ability of microorganisms to form biofilms was studied in flat-bottomed tablets. The optical density of the initial bacterial suspension was measured on the "Densi-La-Meter" device of inoculated bacterial cells - on the "Multiskan EX" photometer at a wavelength of 540 nm. Digital data were processed using the Student-Fisher coefficient. A significance level of $p \leq 0.05$ was adopted.

Research results. The results of microbiological studies showed that the ability to inhibit the formation of biofilms was shown by test sample No. 2 (dry extract of common lavender, extracted with 40 % ethanol) in relation to gram-positive and gram-negative microorganisms: *S. aureus* and *P. aeruginosa*, according to *S. aureus* – 57.8 %, *P. aeruginosa* – 66.7 %. Samples #1 (dry extract of Lavandula angustifolia, extracted with water) and #3 (dry extract of common lavender, extracted with 70 % ethanol) did not slow down the formation of biofilms. When studying the effect on the destruction of biofilms (2nd day), it was established that the introduction of test samples into the tablet with formed biofilms was not accompanied by a change in the light transmission coefficient, which indicated the inability of the test samples to destroy biofilms of microorganisms.

Conclusion. Studies of the effect of test samples of dry extracts of common lavender on the ability of microorganisms (*S. aureus, E. coli, K. pneumoniae, P. aeruginosa*) to form biofilms demonstrated that the greatest inhibitory activity of biofilm formation was detected when the test sample of dry extract of Lavandula angustifolia, extracted with 40 % ethanol, which accounted for *S. aureus* – 57.8 %, *P. aeruginosa* – 66.7%. Test samples of dry extracts of lavender, extracted with water and 70 % ethanol, did not slow down the formation of biofilms. It was established that the studied extracts do not have a biodestructive effect on dense films of strains of *S. aureus, E. coli, K. pneumoniae, P. aeruginosa*.

CLINIC OF CHRONIC RECURRENT APHTHOUS STOMATITIS AGAINST THE BACKGROUND OF HELMINTHIASIS

Boltaeva F.M.

Bukhara State Medical Institute named after Abu Ali ibn Sino, Bukhara, Uzbekistan

lolanavruzova68@mail.ru

Abstract. Based on many years of observation and examination of patients, the.The authors concluded that the etiology of chronic relapsing diseases of the oral cavity (chronic recurrent apthous stomatitis, erithema polimorfa, candidiasis, desquamative glossitis, Stevens-Johnson syndrome, Behcet's disease, desquamative gingivitis) is a helminthic infestation. Oral disease can occur many years after infection with worms.

Relevance of the problem. To chronic recurrent diseases we classify pits in the oral cavity as: chronic recurrent aphthous stomatitis (r.a.s.), desquamative glossitis, candidiasis, multiform new exudative erythema (m.e.e.), chronic recurrent cracks in the lips and corners of the mouth, Behçet's disease, Stevens-Johnson syndrome, desquamative gingivitis.In the practice of a dentist, most often there are chronic recurrent afsevere stomatitis. According to WHO, it affects up to 20% of the world's population.About chronic recurrent aphthous a huge amount has been written about stomatitis works. However, unfortunately, its etiology is still unknown or, as many authors write, "undersufficiently studied." In this regard, treatment is "nonquite complete."The allergic nature of the possible disappearance of the disease. Allergens may befood, dust, toothpastes, medicines substances, worms and their vital products inactivity, hypovitaminosis B1, B12, deficiency iron intake into the body, chronicinflammatory diseases. Some cars suggest an autoimmune nature of the infection levania, genetic predisposition.

The authors indicate the benefit of the latter concept that children whose both parents suffer chronic recurrent aphthous stomaTitus is 20% more common than others.