EFFECT OF EXTRACT CELANDINE ON THE BIOLOGICAL PROPERTIES OF MICROORGANISMS

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Bacteria are extremely labile microorganisms. Any changes in the environmental conditions, the effect of biologically active substances lead to the inclusion of adaptation mechanisms, resulting in altered protein biosynthesis and metabolism in general. Changes and the enzymes. In this paper, as a source of biological active substances acts herb celandine (Herba Helidonii majus), which contains alkaloids: chelidonine, gomoheledonin, sangivinarin, heletrinin, berberine. For selected alkaloids gomoheledonin, heletrenin, sangivirin installed pronounced bacteriostatic activity against Staphylococcus aureus and other Gram-positive bacteria.

Study of the effect of different concentrations of extracts of celandine herbs on the biochemical activity of microorganisms was the aim of this work. Of special interest this work is in terms of development of drug resistance in microorganisms, which may be associated with the development of mutations (various morphological changes, changes in the enzyme composition) without stopping the process of cell division in the studied test cultures. These changes can be caused by the action of celandine alkaloids on the genetic apparatus of microorganisms, as well as the inclusion of protective (enzymatic) mechanisms. Sangivinarin alkaloids, chelerythrine and berberine, can form complexes with DNA intercalation by type. Also learned that the natural DNA intercalators alkaloids sangivirin heletrinin and causing disruption of ATP synthesis in mitochondria and can modify the thiol groups of SH-dependent enzymes.

As the test organisms used in the test culture: Staphyloccocus aureus and Escherihia coli as representatives of gram-negative and gram-positive bacteria. The study was conducted by the passage.

The results showed the biological properties of bacteria during prolonged cultivation in a medium containing an extract of celandine. The results are a justification for further research.