CZU: 579.61:633.88

CAPACITY OF MICROBIAL MULTIPLICATION DEPENDING ON THE FORM OF PREPARATION OF SOME ONCOPROTECTIVE PLANTS

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The constant increase of oncological morbidity affects the condition of the normal intestinal microbial flora, presenting an aggravating element in the case of chemo- and radiotherapy. The quantitative decrease of bifido and lactobacteria leads to the onset of dysbiosis, which in turn causes various physiological disorders. Globally, there is a growing interest in the use of natural herbal remedies against many diseases of various etiologies. Some native medicinal plants were used in the study, which contain anticancer, antitumor and antiproliferative agents: celandine (*Chelidonium majus*); mistletoe (*Viscum album*); wormwood (*Artemisia absinthium*); thorns (*Xanthium spinosum*) and calamus (*Acorus calamus*). Selective culture medias based on decoction, infusion, alcoholic tincture and cold maceration, prepared from the medicinal plants mentioned above, on the degree of multiplication of some representatives of normal microbial flora were tested. Subsequently, two forms of preparation were selected for each medicinal plant, which proved to be more effective. The data obtained show a different multiplication of bifido- and lactobacteria depending on the pharmaceutical form of preparation: celandine in the form of decoction led to an increase of 5.21 and 9.06%, compared to the tincture; cold macerated mistletoe - by 8.04 and 4.12%, compared to the infusion of this plant; wormwood infusion showed a better performance by 7.20 and 12.35% compared to tincture; thorns in the form of cold maceration - by 2.42 and 1.59%, compared to the infusion; and regarding calamus, no substantial difference was found between the form of cold maceration and infusion (powder preparations), compared to the decoction, for the preparation of which the dried plant was used. Cold maceration of mistletoe and thorns is more effective compared to other forms of preparation, probably due to mucilage, which contains both common plants with other substances – free amino acids, viscous acid, polysaccharides, glycosides, evercetin, minerals, vitamin C, choline, acetylcholine.

Thus, the cold macerated form proved to be the most effective in the case of two medicinal plants – mistletoe and thorn; the form of alcohol-based tincture had less influence on the multiplication of lactobacteria compared to bifidobacteria (wormwood and celandine). The infusion form can be used in subsequent research for wormwood, and calamus – in any form of preparation. When developing microbial phytopreparations with oncoprotective action, it is necessary to consider the potential anticancer, the dose and the optimal pharmaceutical form of preparation of medicinal plants, their impact on the intestinal microbial flora, as well as the risks. Being adjuvant preparations and less toxic than traditional therapies, they can still interact with some drugs (celandine may increase or decrease the effect of some drugs, wormwood may reduce the effectiveness of anticonvulsants, calamus may interact with anticoagulants, sedatives), so care is needed.

Keywords: *Chelidonium majus, Viscum album, Artemisia absinthium, Xanthium spinosum, Acorus calamus* adjuvant preparations, oncoprotective plants.