IMMUNOMODULATORY ACTIVITY OF POLYSACCHARIDES OBTAINED FROM LOCAL PLANTS

Nurova Zamira Annakulovna
Medical biology and histology
the head of the department is associate professor
Khaitov Azizkhan Akhmetovich
Assistant of the Department of Pharmacology and Clinical Pharmacology
Urazova Zarina Urmanovna
student of the 5rd course of treatment
all: Termez branch of Tashkent state medical university, Uzbekistan, Termez

Relevance: In recent years, it has been observed that the weakening of the immune system and immunodeficiency causes the development of many diseases. In particular, the demand for immunomodulators in chronic infections, allergic and autoimmune diseases is increasing. Polysaccharides obtained from natural sources, especially plants, have immune system stimulating, antioxidant and adaptogenic properties and are a promising direction for pharmaceuticals. Polysaccharides of some plants found in the flora of Uzbekistan are of great scientific and practical interest in this regard.

The purpose of the study: The purpose of this study is to determine the chemical composition of polysaccharides isolated from some medicinal plants growing in Uzbekistan, to evaluate their effect on the immune system, and to prove their immunomodulatory properties on a scientific basis. The research also aims to determine the possibilities of using polysaccharides in the pharmaceutical industry in the creation of new phytopreparations.

Materials and methods: Plantago major, Althaea officinalis, Aloe vera and Glycyrrhiza glabra, common in the flora of Uzbekistan, were selected as research objects.

Separation of polysaccharides: methods of aqueous extraction, boiling in hot water, alcohol precipitation and purification by gel chromatography were used.

Chemical analysis: monosaccharide composition of polysaccharides was studied using gas-liquid chromatography and high-performance liquid chromatography (HPLC).

Biological tests: the activity of the immune system in experimental animals was assessed by the number of leukocytes, the index of phagocytosis, lymphocyte proliferation and the level of cytokines (IL-2, IFN- γ).

Research results: Plantago major polysaccharides increased the activity of leukocytes and enhanced the process of phagocytosis.

- Polysaccharides of Althaea officinalis have a local anti-inflammatory effect and strengthen the protective reactions of the immune system.
-Aloe vera polysaccharides stimulate lymphocyte proliferation and increase interferon production.
Glycyrrhiza glabra polysaccharides normalized the cytokine balance and increased the overall activity of the immune system.

Conclusion: Polysaccharides obtained from some medicinal plants growing in the flora of Uzbekistan have been proven by experiments to be immune. According to Olinganley, they increased the activity of white blood cells, enhanced the process of phagocytosis, stimulated the proliferation of lymphocytes, and normalized the production of cytokines. At the same time, the anti-inflammatory and adaptogenic effects of polysaccharides were also noted. Therefore, polysaccharides isolated from medicinal plants are natural, safe and effective immunomodulators, and can be used in the pharmaceutical industry in the production of biologically active additives and new phytopreparations.