Study of the amino acid composition of the gynecological collection

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SUMMARY

The qualitative and quantitative amino acid composition of the gynecological collection "Adnectin" for the treatment of inflammatory diseases of the genital organs has been studied by the X-ray fluorescence method. It was shown that the study collection contains twelve amino acids, six of which are essential, three - semi-replaceable, three - replaceable. Thus, the gynecological collection "Adnectin" is an additional source of genetically encoded essential amino acids and it is possible to use these plants for pathologies caused by a deficiency of various amino acids.

Key words: amino acids, proteins, gynecological collection "Adnectin", X-ray fluorescence method.

RESUME

The qualitative and quantitative amino acid composition of the gynecological mixture "Adnectin" for treatment of sexual organs inflammatory diseases was researched. The mixture contains twelve amino acids, six of which are essential, three - semiessential, three - nonessential. Thus, the gynecological mixture "Adnectin" is an additional source of genetically encoded essential amino acids and these herbs can be used when pathology is caused by deficiency of various amino acids.

Keywords: amino acids, proteins, gynecological mixture "Adnectin", roentgenfluorescent method.

Biochemical studies of domestic and foreign scientists indicate the important role of amino acids in the work of various systems and human organs. Modern scientific medicine uses a wide range of pharmacological activities of amino acids obtained through chemical synthesis. Medicinal plant raw materials (MP) can also be a source of amino acids. As you know, biologically active substances (BAS) in plants are found in complexes easily assimilated by the human body and in biologically available concentrations. Therefore, they have a higher physiological activity in comparison with their synthetic counterparts. Amino acids also give other biologically active substances an easily digestible and harmless form, while simultaneously potentiating their pharmacological effect [1].

Amino acids as constituents of proteins are involved in all life processes along with nucleic acids, carbohydrates, lipids. Besides

amino acids that make up proteins, living organisms have a constant reserve of free amino acids contained in tissues and cell sap. They are in dynamic equilibrium with numerous exchange reactions. Amino acids are used in the biosynthesis of phosphatides, porphins, nucleotides.

All natural amino acids are L-series alpha amino acids. An exception is phenylalanine, which can have the dl-form [2]. Amino acids are transmitters or precursors of transmitters of nerve impulses at synapses, that is, they are involved in the work of the central nervous system and the brain, allowing it to receive and send signals. They form the nucleus of every cell. About 80% of amino acids are synthesized in the liver, and the rest we get from food. Distinguish between essential, semi-essential and nonessential amino acids. Indispensable are isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine. Semi-essential amino acids - arginine, histidine, cysteine, tyrosine. Essential amino acids - alanine, asparagine, aspartic acid, glutamine, glycine, glutamic acid [3].

In the body, processes are continuously going on with the use of proteins and amino acids, and the lack of any of them quickly leads to disease. Deficiency can be the result of improper or unbalanced nutrition, prolonged adherence to a vegetarian diet, or poor absorption of proteins by the digestive system. A deficiency of amino acids in the body leads to various pathological processes and disorders on the part of all organs and systems. Proline has the ability to improve wound healing, is an essential component of collagen, very important for the normal functioning of tissues in our body. A decrease in the level of serotonin in the body and L-arginine in the blood serum creates conditions for vasoconstriction of the vascular bed, which leads to damage to the vascular wall and activation of platelet adhesion. In addition, arginine slows down the growth of tumors, including cancerous, by stimulating the body's immune system. Isoleucine is one of the essential amino acids required for the synthesis of hemoglobin. All of the above indicates the relevance and great practical importance of studying the content of amino acids in plants, which can be used in the complex therapy of diseases associated with their deficiency.

The aim of our research was to study the amino acid composition and their quantitative content in the gynecological collection "Adnectin".

Materials and methods

The object of the study was the gynecological collection "Adnectin" for the treatment of inflammatory diseases of the genital organs, consisting of 15 types of medicinal plants permitted for use.

The amino acid composition of the samples under study was determined by the X-ray fluorescence method on a Pacific Scientific-6520 spectrometer, which is designed to determine the elemental and amino acid composition of various materials.

The software of the setup allows you to analyze samples by the “standardless” method with a relative error of 1–10%, depending on

connections. Additional calibration of the device against reference samples leads to a relative error of less than ± 0.1%. Statistical processing of the results was carried out by the Student's method [4].

Research results

According to the results presented in table. 1, the studied plants contain twelve amino acids, six of which are essential, three are semi-essential, and three are non-essential.

The results of determining the amino acid composition of the gynecological collection are presented in table. one.

Table 1

Amino acid composition of gynecological collection,%

amino acid	content	amino acid	content
lysine*	0.28	histidine	0.04
proline	2.02	isoleucine *	0.24
methionine *	0.28	arginine	0.84
glycine	1.15	leucine *	0.05
cysteine	0.57	threonine *	0.49
valine *	1.09	serine	0.64
tyrosine	0.31	phenylalanine *	0.58

* - essential amino acids

Discussion and conclusions

Based on the studies carried out, the following conclusions can be drawn: 1.

Gynecological collection "Adnectin" contains twelve amino acids, six of which are irreplaceable, three are semi-replaceable, three are replaceable.

2. The investigated collection will contribute to the therapeutic effect in treatment of inflammatory gynecological diseases of the genital organs.

Thus, medicinal plants are an additional source of amino acids that can be used in the complex therapy of diseases associated with their deficiency.

Literature

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