

Characteristics of Chemical Composition of Some Plants

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Abstract

The chemical composition of plants is very complex and consists of various organic and mineral substances. All of them will not be medicinal and will not have a curative effect in the treatment of diseases. Some of them interfere with the preparation of medicines, cause their quality to deteriorate during the storage of medicinal products, or cause rapid decomposition of the main active chemical compounds. Therefore, substances found in the composition of medicinal plants are divided into three groups from the point of view of medicine and pharmacy.

Keywords: medicinal plants, chemical compounds, biological active substance, therapeutic value

Introduction

The main biologically active substances of medicinal plants. Since the medicinal product contains biologically active substances of therapeutic value for the treatment of diseases, it is used in medicine and pharmacy. Medicinal biologically active chemical compounds with therapeutic value of the plant are called main active substances. These substances are often alkaloids characteristic of certain plants (belladonna, atropine characteristic of *Scopolia* species, hyoscyamine, scopolamine), glycosides (angishvonagul, strophanth, adonis, marvaridgul, cardiac glycosides typical of *Eryzimum* plants, amygdalin typical of flowering plants, sinigrin characteristic of cabbage plants and other isothiocyanates), coumarins, essential oils, flavonoids, vitamins, lignans, flavoring and other substances. 2. Compounds found together with the active substances of plants. Although such substances do not have therapeutic value in the same plant, they can change (enhance) the effectiveness of the main active compounds or accelerate their absorption into the body, resulting in their effect. Sometimes, other compounds found together with the main active substance can have a combined (complex) effect on the body. For example, steroidal saponins contained in the main active compound of this plant, accelerate the absorption of cardiac glycosides into the body, accelerate and enhance the effect of medicinal preparations of the product. 3. Unnecessary ballast substances without therapeutic value. These substances can be different substances in terms of their chemical structure, as well as compounds that mainly affect plants. These include carbohydrates, resins, essential oils, fats, organic acids, protein, minerals and other substances. They may be found as a ballast (unwanted) substance in another plant, even if they are considered compounds with therapeutic effects under certain conditions. Therefore, it is a mistake to say that ballast substances are always the same, compounds that belong to a certain group. For example, the oils obtained from the seeds of sesame, olive, almond, flax, etc. are considered the main active compounds, while the oils found in the seeds of the mushroom and strophanthus are used as ballast in the preparation of medicines from these plants and in product storage. substance. Also, tars in the psano leaf, lactic acid in the sago tree are ballast substances for the mentioned products. The main part of the science of pharmacognosy is the study and analysis of medicinal products obtained from plants, partly from animals[1]. The list of studied medicinal products is quite large and their composition consists of various chemical compounds (main active substances, etc.). The methods of analysis of these substances are also different, and specific conditions are necessary to do this. For the above reasons, medicinal products are studied by dividing them into certain groups - classes. The classification of medicinal products into classes is based on various factors: pharmacological effects of medicinal products, their morphological structure (surface part, leaf, flower, fruit, underground organs, etc.), properties of certain compounds in the medicinal product (for example, saponins formation of stable foam) and others. As a result, there were pharmacological, botanical and other classifications of medicinal products at the time, and they were studied on this basis. Even now, pharmacological classification is used in some cases in the study of medicinal plant products. When the main active substances of medicinal products were isolated and their chemical structure

was determined, their chemical classification was made. This classification is based on the chemical structure of the main active compound of medicinal plants. Medicinal plants and their products are classified according to chemical classification into the following classes in the science of pharmacognosy. read as: I. Medicinal plants and products containing polysaccharides.

Material and methods

Medicines used in the treatment of various diseases are prepared from plants and animals or obtained by chemical synthesis. Plants from which medicinal preparations are obtained - the study of medicinal plants and their products is the main goal and task of the science of pharmacognosy[2].

In the field of studying medicinal plants, the science of pharmacognosy carries out research in the following areas: 1. Study of medicinal plants as a source of highly effective phytopreparations (herbal medicinal preparations). In addition to the traditional types of medicine (decoction, tincture, extract, tincture) that have been used from medicinal plants for the treatment of patients, phytopreparations are also obtained from them.

Before obtaining phytopreparations from medicinal plants, their chemical composition should be thoroughly studied. For this, the main active substance of plants is identified, its structure, physical and chemical properties, and pharmacological properties are studied. It is determined in which growth period and in which part of the plant the main active substance accumulates, extraction and purification from co-occurring substances, and methods of qualitative and quantitative determination are developed. The main effect of its composition during the growth period of the plant Quantitative change of the active substance and the factors causing this change are studied, and the time of preparation of the product is determined[3]. After studying the pharmacological effect of the phytopreparation obtained from the plant, it is recommended to use it in the field of medicine after it has been examined in clinical (hospital) conditions.

Such study of medicinal plants, of course, medicine- should be completed with the creation of a phytopreparation for use in 2. Finding new medicinal plants and applying them to medical practice. Medicinal plants have been used by people for the treatment of various diseases since ancient times. There are many types of them, and in addition to those used in all regions of the world, each region has its own medicinal plant. However, not all medicinal plants used in folk medicine and traditional medicine have taken their place in scientific medicine. But some of them can cure diseases that have not been found yet.

Results

The search for new medicinal plants is carried out in accordance with the following: a) study of medicinal plants used in folk medicine and traditional medicine. It is known that the number of medicinal plants used in folk medicine is much greater than those used in scientific medicine. For example, in the folk medicine of Uzbekistan, more than 500 plants are used as healing agents, but more than 100 of them are used in scientific medicine. If the plants used in folk medicine are studied from all sides and in depth, it is certain to find some of them that have healing properties. Most of the medicinal plants used in scientific medicine these days were taken from folk medicine at the time. That is why medicinal plants of folk medicine are an inexhaustible source for conducting scientific research in order to create new, highly effective phytopreparations; b) study of plants taking into account their phylogenetic relationship. Phylogenetically related plants (in the same genus, sometimes in the same family) synthesize compounds that are the same or similar in chemical structure. For example, amygdalin glycosides. isothiocyanates are found in most representatives of the cabbage family.

Tropan group alkaloids belladonna and scopolia, some steroid-glycoalkaloids (solanines, tomatins, etc.) are characteristic of solanines species. Many such examples can be cited. Therefore, if one species of a certain family is a medicinal plant, the rest may also have this property. Because they must contain the same chemical compounds. Taking into account the mentioned fraternity, several new plants and phytopreparations have been applied to the treatment practice as a result of the study of the species of adonis, mythan, erizimum, hawthorn, roses etc., which are not used in medicine: d) total chemical analysis of vegetation of a certain region or district. If all plants growing in a district rich in flora are subjected to qualitative reactions to various (or exactly one) biologically active substances, and then the quantity is

determined, then, of course, a number of certain chemical compounds (or certain sought-after species that store a lot of biologically active substance) are found.

References

1. Shoniyoz Qurbonov, Nargiza Hamzayeva, Nozigul Qiyomova Dorivor fitopreparatlarning organizmga ta'siri <https://cyberleninka.ru/article/n/dorivor-fitopreparatlarning-organizmdagi-ahamiyati/viewer>
2. Nozigul F. Qiyomova, Nargiza R. Hamzayeva Dietary asofoetida(ferula asofoetida) <https://journals.researchparks.org/index.php/IJHCS/article/view/1889>
3. Nargiza Hamzayeva, Nargiza Yokubova Nutritional vegan products in Uzbekistan <https://www.giirj.com/index.php/giirj/article/view/2546/2453>