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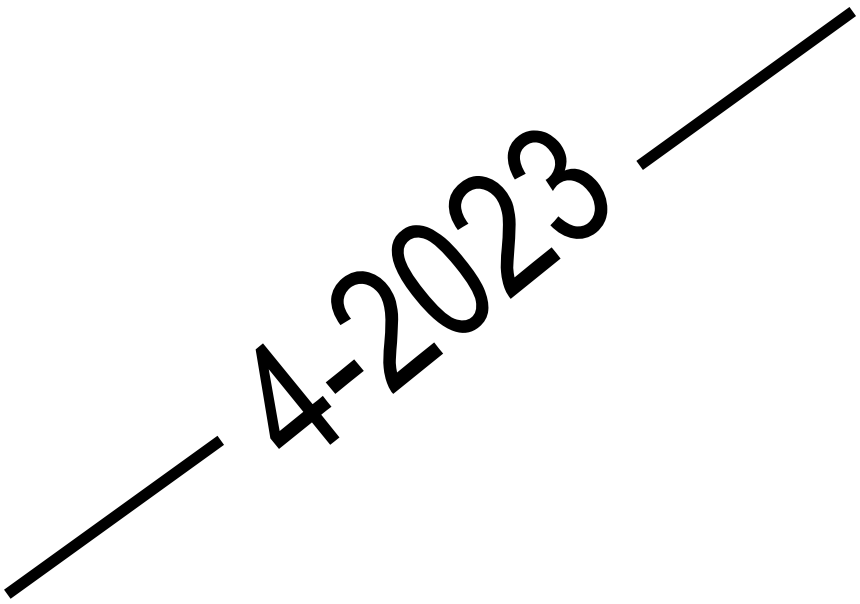

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VALERIYANANING KIMYOVIY TARKIBI VA XALQ TABOBATIDAGI AHAMIYATI

ХИМИЧЕСКИЙ СОСТАВ ВАЛЕРИАНЫ И ЗНАЧЕНИЕ В НАРОДНОЙ МЕДИЦИНЕ

CHEMICAL COMPOSITION OF VALERIAN AND SIGNIFICANCE IN FOLK MEDICINE

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Annotatsiya

Ushbu maqola valeriana o‘simligining kimyoviy tarkibi YSSX yordamida o‘rganilib, muhim flavonoidlar tarkibi eksperimental yo‘l bilan aniqlanganligi haqida. Olib borilgan tadqiqot natijalari asosida xalq tabobatida aholi orasida ko‘p uchraydigan markaziy asab tizimi kasalliklari aynan, nevrosteniya (asabiylashuv)ni oldini olish va davolash maqsadida qo‘llanilishi aytib o‘tilgan. Bundan tashqari, uyqusizlik, aqliy zo‘riqish holatlarida o‘simlik ildizi (ildizpoyasi bilan birga)dan tayyorlangan tabiiy vositalar, shifobaxsh oziq-ovqat qo‘shilmalaridan foydalanish haqida tavsiyalar berilgan.

Аннотация

Эта статья посвящена изучению химического состава растения валерианы с использованием YSSX и экспериментальному определению содержания важных флавоноидов. По результатам проведенных исследований отмечено, что его применяют в народной медицине для профилактики и лечения неврастении (нервности), которая является распространенным заболеванием центральной нервной системы. Кроме того, имеются рекомендации по использованию натуральных средств из корней растений (вместе с корневищем) и лекарственных пищевых добавок при бессоннице и умственной усталости.

Abstract

This article describes the chemical composition of the valerian plant, studied using HPLC, while the content of important flavonoids was determined experimentally. Based on the results of the studies, it was noted that it was used in folk medicine for the prevention and treatment of neurosthenia (irritability) of diseases of the central nervous system common among the population. In addition, recommendations are given on the use of natural remedies prepared from the root of the plant (together with the rhizome), healing food supplements for insomnia, mental disorders.

Kalit so‘zlar: *Gall kislota, rutin, kversetin, apigenin, kempferol, nevrasteniya, sedativ, yuqori samarali suyuqlik xromatografiyasi.*

Ключевые слова: *Галловая кислота, рутин, кверцетин, апигенин, кемпферол, неврастения, седативное средство, высокоэффективная жидкостная хроматография.*

Key words: *Gallic acid, rutin, quercetin, apigenin, kaempferol, neurasthenia, sedative, high performance liquid chromatography.*

INTRODUCTION

Nervousness, fatigue and excessive attention due to many different events and exciting situations can make a person exhausted. Chronic continuation of this causes various diseases. One of such diseases is tension of the nervous system. Nervousness and similar diseases caused by the tension of the nervous system are one of the most common diseases today. Nervous people quickly get sick due to their anger, blood pressure increases. Changes in the internal organs of such people also occur [1, 2].

According to the World Health Organization, neurological diseases account for 35% of all diseases in Europe. Among the world's population, stroke, dementia, epilepsy and Parkinson's disease remain the most important diseases that determine death. During a quarter of a century, the incidence of Parkinson's disease among the world's population has increased by 15.7%, Alzheimer's disease by 2.4%, locomotor system by 3.0%, and nervous system diseases by 8.9% [3, 4].

Biologically active compounds contained in valerian affect the central nervous system. This plant extract reduces stress and depression [5].

The application of phytotherapeutic methods, i.e., the use of local medicinal plants, in the treatment of the above-mentioned disorders of the central nervous system is a safe solution to this problem. In order to use locally grown medicinal valerian (Valeriana officinalis L) for the prevention and treatment of nervousness (neurasthenia) and similar diseases based on scientific evidence, we first focused our research on its chemical composition.

RESEARCH METHOD

The most important flavonoids in the plant root (along with the rhizome) were analyzed using a modern physico-chemical method. High-performance chromatography was used for this purpose.

Experimental part. We used 96% ethyl alcohol as a solvent to extract the flavonoids from the root of Valeriana officinalis L (with rhizome). For this, the obtained sample and alcohol were mixed in the ratio of 1:10 and extracted using a magnetic stirrer for 75 minutes at a temperature of 35°C. The amounts of rutin, gallic acid and quercetin in the samples were determined using an Agilent Zorbax 4.6 mm ID x 12.5 mm cartridge and a Perkin Elmer C18 250 x 4.6 mm 5 mm C18 (USA) column as the stationary phase. . For this, a 0.5% solution of acetic acid in a ratio of 35:65 and standard solutions in acetonitrile with different concentrations: 0.025 mg/ml and 0.05 mg/ml were prepared, the flow rate was 1 ml/min, the temperature of the thermostat was 400C, and the amount of injection was 10 µl. a calibration curve was generated. Based on standard samples, 2.5 min of gallic acid, 3.6 min of rutin and 16 min of quercetin were obtained on the HPLC device (LC 2030 C 3D Plus Shimadzu Japan). Below is the resulting chromatogram:

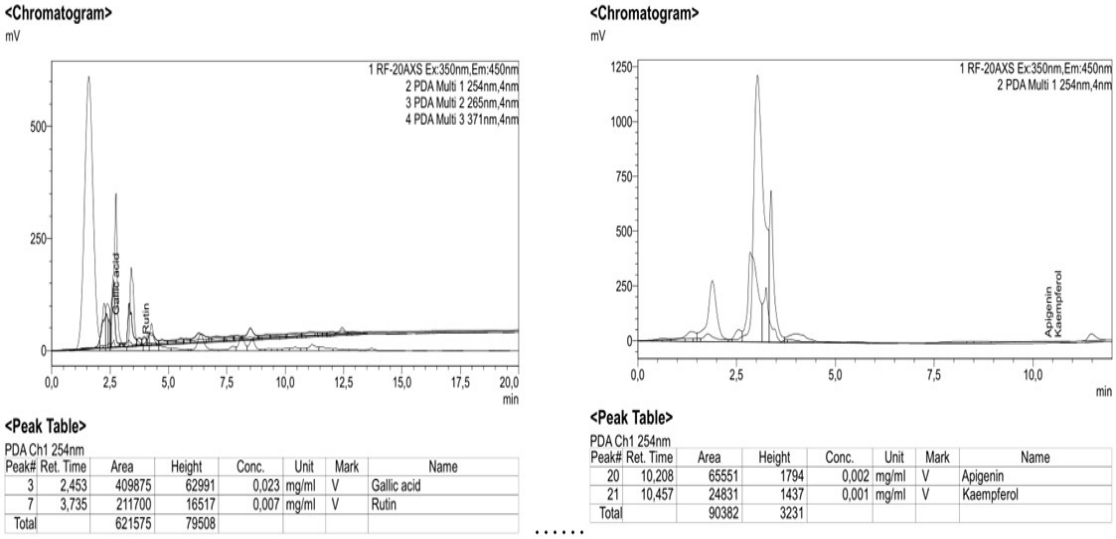

Figure 1. HPLC chromatogram of flavonoids from Valeriana officinalis L root (with rhizome).

According to the results of the research conducted with the help of HPLC, gallic acid gave a peak in 2.5 minutes, rutin in 3.6 minutes, and kaempferol in 10.5 minutes based on a characteristic gradient. Quercetin was not found in the extract. The following table shows the content of important flavonoids in medicinal valerian root (with rhizome):

Table 1. Results of quantitative analysis of polyphenols in plant extracts using HPLC

Plant name	Gallic acid mg/%	Rutin mg/%	Quercetin mg/%	Apigenin mg/%	Kaempferol mg/%
Valeriana officinalis L	23,0	7,1	0	2,0	1,0

DISCUSSION OF RESULTS

According to the quantitative analysis using YSSX, medicinal valerian did not contain quercetin, but gallic acid (23.0 mg/%), rutin (7.1 mg/%), apigenin (2.0 mg/%) and Kaempferol (1.0

mg/%) were found to be present. This shows that the plant is rich in biologically active polyphenols, so it leads to the conclusion based on the scientific basis that it is possible to obtain medicinal natural food supplements based on valerian.

Flavonoids are angioprotectors, that is, they increase the strength of capillary blood vessels and improve blood circulation. At the same time, it also has the property of cardioprotector (improving blood circulation in heart blood vessels and peripheral blood vessels) [6].

Cy. Since flavonoids (gallic acid, rutin, apigenin and kaempferol) found in valerian plant have strong antioxidant activity, they protect cells, including nerve cells, from oxidative damage [7]. It has been scientifically proven that the plant is rich in flavonoids. Based on this scientific evidence, we recommend the use of valerian root for the prevention and treatment of neurasthenia (nervous fatigue, overexcitability), and the following order of use:

1. Preventing overexcitation of the nervous system by regular drinking of medicinal phyto-teas containing medicinal valerian;

2 In case of insomnia, take one tablespoon of valerian root powder and boil it for 10 minutes in 200 ml of water;

3 In severe nervousness, the sedative effect of this medicinal plant can be used by placing a 1:1 mixture of valerian and lavender plants in hot water and taking a bath.

In order to prevent and treat diseases of the central nervous system, we have launched the production of new natural healing and harmless food additives called "ALINAB" and "ASNABALI" based on valerian and other local medicinal plants. These products of ours have the advantage of low price compared to food additives such as "Gingko biloba" (ATM Pharm. Uzbekistan, Russia, Ukraine) and "Evalar" (Evalar. Russia), which are currently used in the treatment of nervous system diseases.

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