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ОПРЕДЕЛЕНИЕ ЛЕКАРСТВЕННЫХ ПРЕПАРАТОВ ДЛЯ ПРОФИЛАКТИКИ И ЛЕЧЕНИЯ ВАРИКОЗНОГО РАСШИРЕНИЯ ВЕН НИЖНИХ КОНЕЧНОСТЕЙ В ДОМАШНИХ УСЛОВИЯХ

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Аннотация

Введение. В России различными формами варикозного расширения вен нижних конечностей страдают более 30 млн. человек, у 15% из которых имеются трофические расстройства кожных покровов конечностей. В последние годы отмечается не только рост числа заболевших, но и тенденция к возникновению поражения вен у лиц молодого возраста. Эта проблема указывает на необходимость в доступных лекарственных препаратах для профилактики и лечения данного заболевания. **Цель исследования** – определить наиболее перспективные лекарственные препараты из лекарственного растительного сырья, которые можно использовать в домашних условиях при варикозном расширении вен нижних конечностей. **Материал и методы.** Проведен анализ лекарственных препаратов, находящихся в ассортименте аптеки “Vita”, расположенной по адресу город Казань, улица Кулахметова, 19, а также лекарственного растительного сырья, содержащего действующие вещества для профилактики и лечения варикозного расширения вен нижних конечностей. В дополнение был проведён опрос посетителей аптеки, имеющих назначения врача по лечению и профилактике варикоза нижних конечностей. **Результаты.** Определены доступные лекарственные препараты для профилактики и лечения варикозного расширения вен нижних конечностей в домашних условиях, даны рекомендации по их применению, иные рекомендации по профилактике для пациентов, имеющих предрасположенность к варикозному расширению вен нижних конечностей. **Выводы.** Профилактика и лечение варикозного расширения вен нижних конечностей в домашних условиях возможны бюджетными и доступными препаратами при условии соблюдения указанных рекомендаций.

Ключевые слова: варикозное расширение вен нижних конечностей, профилактика варикоза, лекарственное растительное сырье, домашние лекарственные средства.

DETERMINATION OF MEDICATIONS FOR THE PREVENTION AND TREATMENT OF VARICOSE VEINS OF THE LOWER EXTREMITIES AT HOME

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Abstract

Introduction. In Russia, more than 30 million people suffer from various forms of varicose veins of the lower extremities, 15% of whom have trophic disorders of the skin of the extremities. In recent years, there has been not only an increase in the number of cases, but also a tendency for venous lesions in young people. This problem indicates the need for affordable drugs for the prevention and treatment of this disease. **The aim of the study** is to determine the most promising medication and medicinal plant materials which can be used at home for varicose veins of the lower extremities. **Material and methods.** The analysis of medicines assortment of the pharmacy located in Kazan, Kulakhmetov street 19, as well as medicinal herbal raw materials containing active ingredients for the treatment of lower extremities vein disease, was carried out. The following methods were used: theoretical, laboratory, and sociological survey. **Results.** Drugs for the prevention and treatment of varicose veins of the lower extremities used at home have been identified, recommendations for their use, and other recommendations for prevention for patients with a predisposition to VVLE have been indicated. **Conclusion.** Prevention and treatment of varicose veins of the lower extremities is possible at home using low-cost and affordable drugs, provided that these recommendations are followed.

Keywords: varicose veins, varicose veins of lower extremities, prevention of varicose veins, varicose veins of the lower limbs, medicinal plant material, home remedies.

INTRODUCTION

In Russia, more than 30 million people suffer from various forms of varicose veins of the lower extremities, 15% of whom have trophic disorders of the skin of the extremities. In recent years, there is not only an increase in the number of patients, but also a tendency to occur vein lesions in young people [1]. There are many reasons for pathologic vein dilation. In recent years, the COVID-19 virus has been added to such causes. Numerous studies of scientists confirm that when the COVID-19 virus enters the blood, the blood thickens; blood clots are formed, which in turn contributes to the development of varicose veins. During the pandemic, as well as in connection with the reduction in the number of imported drugs and the increase in prices for medicinal products, there may be difficulties with their acquisition, so at the moment the issue of prevention and treatment of varicose veins at home remains relevant [2,3].

The aim of the study is to determine the most promising medication and medicinal plant materials which can be used at home for varicose veins of the lower extremities.

MATERIAL AND METHODS

Medicines in the assortment of pharmacy, as well as medicinal plant materials containing active substances for the treatment of lower limb vein disease.: diosmin+hesperidin (Angiorus, Venarus, Detralex, Venozol), diosmin (Flebofa), dry extract from medicinal plant material (Angionorm), thiamine+escin (Escuzan) were considered. On the basis of the office № 421 in Kazan Medical College an experiment was conducted on the manufacture of a medicinal form for the treatment and prevention of varicose veins of the lower extremities. Plant raw materials for the experiment were purchased at the expense of own funds in the Pharmacy "Vita", located at 19 Kulakhmetova St., Kazan.

Laboratory method, which allows us to study the peculiarities of the technology of manufacturing the medicinal form from plant raw materials was making infusion. In a bottle of 300 ml. 15.0 g of licorice root, 10.0 g hawthorn, 10.0 g rosehip were placed. It was infused on a water bath for 15 minutes and then cooled at room temperature for 45 minutes. The tincture was separated by filtration; making ointment. A bottle with 100.0 g of pig fat was melted on a water bath, 20.0 g of crushed chestnut fruit and put into the bottle, 30 ml of the obtained infusion was filtered. The obtained infusion was emulsified with 21.0 g of anhydrous lanolin to form an ointment. Sociological survey to determine the nature of demand of the population on the use of medicinal preparations from medicinal plant raw materials. Pharmacy visitors with symptoms of varicose veins and purchasing over-the-counter drugs were selected for the survey. Respondents were asked 8 questions. The survey revealed the following data: age of respondents; lifestyle; presence of overweight; visiting a doctor and following the recommendations; preference for over-the-counter drugs.

RESULTS

A sociological survey (questionnaire) was conducted among pharmacy visitors with varicose veins symptoms who purchased over-the-counter medicines; the sample was 50 people, 45% of whom were 35 to 45 years old, 35% were 50 to 60 years old, 15% were 45 to 50 years old, and 5% were younger than 35 years old. When asked about the most recommended drugs by doctors, the respondents answered: Detralex (30%), Venitan (23%), Angionorm (23%), Venozol (12%), others (12%). When asked about the most frequently purchased over-the-counter LRS-based preparations, respondents answered: Escusan (25%), Angionorm (25%), Detralex (20%), Angiorus (10%), others (10%). On the question about body weight and height indicators, it was revealed: more than 10 kilograms - 50% of respondents are overweight, from 5 to 10 kilograms - 30% of respondents, up to 5 kilograms - 15% of respondents, do not have problems with weight - 5% of respondents.

Based on the data of the sociological survey, we analyzed the drugs of pharmacy assortment for internal use: Angionorm (100mg), Angiorus (1000mg), Venarus (1000mg), Detralex (1000mg), Phlebofa (600mg), Escuzan (solution 20ml); for external use: Venozol (gel 50ml), Venokorset (gel 50ml). According to the data analysis it was revealed that preparations for internal use most often contain purified microgenerated flavonoid fraction - diosmin and hesperedin, as well as saponins; preparations for external use contain in their composition extracts of medicinal plants that have a favorable effect on the tone of veins of the lower limbs, relieve fatigue and reduce capillary stasis

(licorice root, rowan berries, rose hips, hawthorn, horse chestnut) [4,5]. Description and properties of medicinal plant raw materials are given in accordance with Volume I of the State Pharmacopoeia of the Russian Federation XIV edition.

The cost of ingredients for the infusion for 100 grams: licorice root - 72 rubles, hawthorn fruit - 91 rubles, rose hips - 63 rubles, horse chestnut fruit - 123 rubles, albedo - 50 rubles. Total for the ingredients - 399 rubles. The cost price of 150 ml. infusion for internal use amounted to about 45 rubles. When taking 60 ml. a day for a month the cost of infusion will be approximately 540 rubles. This collection is much cheaper than Detralex (2080 rubles for a month) and much more useful due to its composition. From the fruits of horse chestnut, the most rational medical form - extraction is ointment. In the manufacture of ointment pig fat, lanolin, horse chestnut and infusion are used. Pig fat is the closest in properties to human fat, so ointments on pig fat are well absorbed by human skin, easily releases medicinal substances, perfectly covers the skin (easily smeared), does not interfere with skin breathing, does not have an irritating effect and easily removed with soapy water. Anhydrous lanolin easily penetrates the skin, is an excellent emollient, provides an active drug delivery system, increases thermostability and viscosity of the dosage form. Prepared ointment has anti-inflammatory action, relieves swelling, pain, heaviness in the legs. Due to the lanolin and fat in the composition, the ointment is quickly absorbed into the dermis and does not create a surface film. The cost of ingredients for the ointment for 100 grams: pork fat - 10 rubles, anhydrous lanolin - 273 rubles, horse chestnut fruit - 123 rubles. Total for the ingredients - 406 rubles. The cost price of 120 g of ointment was about 93 rubles. Manufactured ointment is much cheaper than Venozol (50 g. - 243 rubles).



Fig. 1 Effect after 6 months of application

DISCUSSION

When analyzing herbal remedies, it was found that diosmin is obtained mainly from the white part of the peel (albedo) of oranges. So, by adjusting the diet and including regular consumption of unsweetened citrus fruits - you can avoid the development of varicose veins and thrombosis. Since most of the respondents have problems with overweight and diet, a number of recommendations for prevention and treatment have been developed: 1. It is necessary to regulate diet, have physical activity, avoid tight clothing, as well as to carry out preventive measures to strengthen blood vessels and prevent the development of the disease. 2. To relieve pain and heaviness in the leg's ointment based on horse chestnut and infusion of rose hips, hawthorn and licorice roots 4 tbsp. per liter during the day. 3. Use for rubbing feet infusion of citrus peels (unripe oranges), dried at a temperature of 30-40 ° C and alcohol is added.

As a result of the study of the efficacy of the manufactured medicines in volunteers using the obtained medicines and adhering to the recommendations on physical activity and diet, a visual improvement in the condition of the veins of the lower extremities was revealed, which indicates an efficacy comparable to the drugs available in the assortment of the pharmacy figure (fig. 1).

The analysis of preparations also revealed the most frequently used medicinal plants used for flavonoids extraction (fruits of horse chestnut, citrus albedo, licorice roots, rosehip fruits and hawthorn fruits). By investigating the composition and physicochemical properties of plants, the optimal mode of extraction - infusion was determined from rosehip, hawthorn and licorice root fruits.

This infusion has anti-inflammatory, tonic effect on veins and capillaries, rosehip contains a large amount of vitamin C, which has a favorable effect on the walls of blood vessels and increases immunity [6]. Home remedies are effective and can be used as an alternative to pharmacy preparations, relieve the main symptoms and contribute to the prevention of the disease. When asking patients for varicose vein products, pharmacists should inform customers about prophylactic measures to prevent venous disease and how to use herbal medicines, as the products are not always available to the public. When treating patients with symptoms of chronic varicose veins, physicians should take into account the beneficial properties of medicinal plants and the possibility of their use by patients at home.

CONCLUSION

Active substances of preparations for treatment and prevention of varicose veins of the lower limbs are determined theoretically and experimentally.

1. The most effective preparations from the pharmacy assortment were identified. When analyzing the composition of preparations, the main active substances were determined, as well as plants containing these substances in their composition.

2. Rational ways of using medicinal plant raw materials for the prevention and treatment of varicose veins of the lower extremities - making infusions and ointments to relieve pain and heaviness in the legs from plant raw materials containing flavonoids in their composition were determined.

3. Prospective variants of manufacturing of medicinal forms from available and economically advantageous raw materials are offered, recipes for preparing at home and variants for manufacturing in the conditions of production pharmacy - infusion of rose hips, hawthorn and licorice root for oral intake, ointments based on horse chestnut and alcoholic infusion of citrus peel to relieve pain and heaviness in the legs are considered.

4. It was found that the effectiveness of treatment with these drugs also depends on the patient's compliance with recommendations on diet, exercise and preventive measures to strengthen blood vessels.

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ИНТЕРНЕТ-МЕМЫ И ИХ ВЛИЯНИЕ НА ПСИХОЭМОЦИОНАЛЬНОЕ СОСТОЯНИЕ ЧЕЛОВЕКА В БОРЬБЕ СО СТРЕССОМ НА ПРИМЕРЕ СТУДЕНТОВ МЕДИЦИНСКОГО УНИВЕРСИТЕТА

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