THE STUDY OF BAS CONTENT OF A CORN SILK LIQUID EXTRACT

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Abnormal uterine bleeding is a generalization concept for any deviation of the menstrual cycle from the norm, which includes changes in the regularity and frequency of menstruation, the duration of bleeding or the amount of lost blood.

According to the latest unified clinical protocol, severe menstrual bleeding is defined as "excessive menstrual blood loss that violates the physical condition, social, emotional and/or material conditions of a woman's life."

Abnormal bleeding is the standard of treatment for tranexamic acid in the most cases. According to the analysis of the range of hemostatic drugs in Ukraine, the drugs of tranexamic acid occupy the maximum share of the total range. Hemostatic agents of plant origin, occupy only 12.5% of the total range of B02 Antihemorrhagic drugs. However, according to the volume of sales of drugs, this segment, in natural terms, means of plant origin, occupy the first place.

Therefore, the development and research of herbal drugs with hemostatic action for use in uterine bleeding is an urgent issue. We have developed a technology for obtaining a liquid extract of corn silk, the novelty of which is confirmed by the patent of Ukraine No. 103779. The aim of this work was to conduct a phytochemical study of corn silk liquid extract.

Materials and methods. The phytochemical study of the qualitative composition of the biologically active substances of the liquid extract of corn silk was carried out by qualitative reactions.

The content of the sum of phenolic compounds was determined by the titrimetric method according to the methodology of the USSR SPh XI edition, which is based on the use of solutions of permanganates to determine the content of compounds having reducing properties. Today, this method is not pharmacopeia for the quantitative determination of tannins in plant material, since it is not selective. But potassium permanganate has the ability to oxidize a wide range of natural organic compounds of phenolic nature (tannins, flavonoids, hydroxycinnamic acids, etc.), thus, the method is used to determine the sum of oxidizing phenols.

The content of tannins was determined by spectrophotometric method as described in SPhU "Methods of Pharmacognosy". It's based on the adsorption of polyphenols extracted from raw material by powder of skin (tannins) and on the determining the sum of polyphenols. Polyphenols are determined by using well known reaction with Folin's reagent (in versions - reagent Folin-Chiokalteu) consisting of salts of phosphotungstic and phosphomolybdic acids. These salts, when interacting with phenols and polyphenols, are reduced to the formation of lower metal oxides, complexes of which are stained in blue. The color intensity for wavelength of 760 nm gives an indication of the amount of phenolic compounds in raw materials. Pyrogalol is used as a standard.

The content of the sum of organic acids was determined by the titrimetric method in terms of malic acid in absolutely dry raw materials.

The content of flavonoids was determined by the absorption spectrophotometry method in terms of luteotin at 410 nm wavelengths by the SPhU method. We have used a unified method based on spectrophotometric determination of flavonoids after reaction with a mixture of boric oxalic acid in a medium of formic-acetic acid. It is used in several monographs of the SPhU to determine the flavonoid compounds of raw material, which are represented predominantly by flavones, which is appropriate in the case of corn silk.

The content of hydroxycinnamic acids was determined by the spectrophotometric method in terms of chlorogenic acid at a wavelength of 525 nm according to a modified

method described in SPhU. The method is based on the reaction of complex formation with a solution of sodium salts of molybdate and sodium nitrite. As a result in the alkaline environment formed pink-orange solution. The color of solution depends on the ratio of derivatives of cinnamon acid in the raw material. The wavelength of measurement depends on the maximum absorption of a complex of a standard substance, in the calculation of which the determination of the quantitative content of hydroxycinnamic acids is carried out.

Results and Discussions. Sugars, glycosides, tannins, flavonoids, coumarins, saponins were identified in the liquid extract of corn silk by known qualitative reactions.

It was determined that the sum of polyphenols in the liquid extract of corn silk is 8.0 ± 0.51%, tannins - 1.4 ± 0.03%, flavonoids - 2.35 ± 0.07%, hydroxycinnamic acids - 3.3 ± 0.23%, organic acids - 3.23 ± 0.46% by the quantitative methods of investigation.

As a result of prophylactic administration of a liquid extract of corn silk to female rats, the duration of capillary bleeding from the cut cervical wound was significantly reduced. The haemostatic activity of the reference preparation was somewhat lower.

Conclusions. The conducted researches give grounds to assert about the prospects and the need for further research of the hemostatic effect of the liquid extract of corn silk.