Determination Of Acute Poisoning Properties Of Vitis L. Plant Condensed Water-Syrup (Molasses).

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ABSTRACT

This article presents information on medicinal properties, chemical activity, and results of pharmacological examination of water-syrup with condensed grape juice.

Keywords: Vitis L., brand, grape fruit, LD_{50}, pharmacology, fructose, glucose, sucrose, raffinose, xylose, etc.

INTRODUCTION

The Vitis L. plant's medicinal properties are incomparable today, and in this regard, it is distinguished by the healing and useful properties of its whole body and fruit. That is why it is important to increase the productive varieties of such a natural plant and to develop the production of many ready-made products (goods) obtained from it, thereby increasing the number of jobs, reducing the number of unemployed, and providing employment to the citizens of our nation. This is considered one of the current topics. Therefore, in order to expand the range of medicinal plants, to know how to use them in their natural state, and to increase their value, the study of the chemical composition of the condensed water-syrup of the fruit of the Vitis L. plant, which belongs to the group of medicinal plants in the local language, is called vine. This represents the content of the main work

MATERIAL AND METHODS

The plant Vitis L. has been known for a long time, and its leaves, stem, fruit juice, and even vinegar have been used effectively as a medicinal plant in Eastern medicine. [1] Its name, which is called vine in folk medicine, and its fruit, called grape, are very famous, and many varieties of it are grown in our country. Abu Rayhan Beruni said that the water that flows when cutting the stem of a grape has many healing properties.[2] In addition, essential oil is extracted from its stem. Also, in the literature, there is information that raisins are considered useful for the kidneys and bladder. [3] Vine is an ancient flowering or closed-seeded plant belonging to the genus Vitis of the family Vitaceae Juss, which includes species closely related to the vine family. Depending on the type of grape, it contains all the vitamins of the B group, as well as vitamins E, A, PP, K, C, and D. In addition, grapes also contain micro- and macro-elements such as iron, copper, potassium, calcium, magnesium, zinc, boron, vanadium, aluminum molybdenum, selenium, titanium, cobalt, radium, chlorine,

silicon, and sulfur. Grapes contain water, glucose, pectin, protein, carbohydrates, saturated and unsaturated fatty acids, essential oils, and dyes. [3-4] At the same time, treatment with grape juice helps curb anorexia. . It is an effective remedy against insomnia, anemia, kidney diseases, neurosis, and metabolic disorders. Among its varieties, the black currant variety is the most nutritious, and it is mainly recommended for people with anemia and shortness of breath. Even cancer patients are prescribed black grapes or raisins as an immune booster. The chemical composition of grape juice increases strength due to the presence of useful substances such as fructose, glucose, sucrose, raffinose, and xylose. In addition, it is recommended to eat grapes in cases of gastrointestinal tract disease, acute and chronic nephritis, and neurosis. In addition, due to its anti-inflammatory properties, it is useful to drink grape juice against respiratory tract infections and asthma. [4]

RESULTS AND DISCUSSION

Nowadays, it is very difficult to find foods without various chemical additives, and in this regard, water-syrup (hinni) with condensed grape fruit is of great importance. Molasses is also prepared by boiling the juice of wet fruits such as mulberries, melon, watermelon, and raspberry. The word shinni, when translated from French, means a dark brown color, a kind of sour liquid or sour liquid, and it is considered nutritious. Even in foreign countries, it is used in cooking, and in some other countries, the use of grape juice in the form of syrup is very popular.[5] At the same time, color pigments, antioxidant properties, and many flavonoids contained in grapes have been studied by European scientists. [8] Molasses is very rich in carbohydrates, and the composition of grape juice is more than 60% carbohydrate and 20-25% water. Grape molasses gives energy, stimulates appetite, increases blood pressure, and is very useful in pregnancy. Especially two spoonfuls of molasses consumed in the morning satisfy the body's daily need for calcium, iron, magnesium, and other vitamins and give good results in anemia. contains vitamins, appropriate carbohydrates, flavonoids, and micro and macro elements. [10-11] Molasses is a condensed water-syrup of grape juice, made from white and mixed grape varieties. Condensed water syrup is mainly prepared from Buwaki, Bayan Shirey, Toypa, Soyaki, Nimrang, and other high-yielding varieties. [11-12]

The conducted experiments studied the pharmacological properties of the natural product in the animal organism as a sample. In this case, special pharmacologists conduct experiments together, and all analyses are conducted on the basis of pharmacological comparison and research. [13-15]

RESULTS AND DISCUSSION

The fruit of the Vitis L. plant and its condensed water syrup (molasses) are rich in carbohydrates and vitamins and serve as a source of energy and hemoglobin for the human body. In fact, even though these chemical elements are found in small amounts in food products, their importance is high and affects the processes of such cells. Grape molasses is dark red in color. Fruits and molasses of various varieties of Vitis L. plant have the following appearance (Fig. 1).

Figure 1. Appearance of fruit and molasses of Vitis L. plant varieties.

The fact that medicinal plants harmlessly participate in metabolism and treatment of various diseases is considered the basis of folk medicine, and special pharmacological tests of the product are of great importance in this

regard. Therefore, the purpose of the performed work is to study the general effect and acute toxicity of Vitis L. plant condensed water-syrup (molasses) samples on the animal organism. The experiments were performed on male white laboratory mice with a body weight of 20±2.0 g. Research was carried out in a generally accepted way; six mice were taken for each group, and the total number of these animals for each dose was 18. All pharmacological tests were carried out on healthy, sexually mature mice kept in quarantine for 10-14 days. The sorbent was introduced into the stomachs of mice in doses of 5000 mg/kg in different concentrations using a special probe. At the end of the experiment, the average lethal dose (LD_{50}) and toxicity class of the tested drug were determined.

CONCLUSION

In animal experiments, it was found that preparations of concentrated water syrup (molasses) from the Vitis L. plant once injected into the stomachs of mice have a mean lethal dose (LD_{50}) of >5000 mg/kg, are non-toxic compounds of group VI. They were found to belong to the class

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