



STUDY AND ANALYSIS OF THE PHARMACOLOGICAL PROPERTIES OF MEDICINAL PLANTS, WHICH ARE CARDIAC GLYCOSIDES USED IN CLINICAL PRACTICE

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ABSTRACT

In modern clinical practice, various preparations are used from plants containing cardiac glycosides (Car GLY). The relevance of the use of (Car GLY) is explained by their selective effect on the heart, ensuring the most economical, effective activity and increasing the efficiency of the heart muscle. In this regard, (Car GLY) is a heart with different etiology in adults and children it is used to treat patients with deficiency. In developed countries, heart failure occurs in 1-2% of the adult population and more than 10% of those over 70[3].

Materials and research methods. Analysis of literature data dedicated to the study of the main approaches to the use of (Car GLY). Research results and their discussion. The ancient Egyptians used sea urchins, the Romans and Greeks used erizimum for heart disease and as a pedestal drive. In 11th-century England, angishvonagul was known as a medicine in folk medicine. (Car GLY)-catching plants are found in the form of shrubs, lianas, grasses. About 45 species of (Car GLY)-preserving plants have been identified, 9 of which grow on the territory of the Republic of Uzbekistan [1,2]. They are Cowherd, Cowherd, tulips, bearherd, chickadows, tutors, etc. Currently digoxin, selanide, lanthoside from angishvonagul leaves; strophanthine K from strophanth seeds; adonis, adonis brom from the ground canopy of the adonis plant; drugs such as corglycone, convaflavin have been obtained from Pearl Earths, which are widely used in modern medicine in the treatment of heart diseases (heart porok and due to it, blood circulation disorders II and III, cardiac asthma, cardiac edema), as a forehead drive, etc. A number of (Car GLY)s also have a calming property. Glycoside molecules consist of two parts: the main, non-sugar part, called aglicon or genin, while the sugar part, which is a steroid, is called Glycon. The pharmacokinetic parameters of (Car GLY) of different plants differ significantly [3,4]. In the blood and tissues, glycosides bind to proteins [5,7]. The inactivation of (Car GLY) is by enzymatic hydrolysis in the liver, after which aglycone with bile can be excreted through the intestine as well as reabsorbed. Most glycosides are excreted through the kidneys and gastrointestinal tract. The rate of release depends on the duration of fixation in the tissue. Pharmacodynamic effects of (Car GLY) are related to their effects on cardiovascular, nervous systems, kidneys, and other organs. The mechanism of cardiotonic



action is related to the effect of (Car GLY) on metabolic processes in the myocardium. They interact with the Na⁺, K⁺-ATPase-carrying sulfhydryl groups of cardiomyocyte membranes to decrease enzyme activity. The ion balance in the myocardium changes: the intracellular reduction of potassium ions and the concentration of sodium ions in myofibrils increases. This contributes to an increase in the content of free calcium ions in the myocardium due to separation from the sarcoplasmic reticulum and increased sodium ion exchange with extracellular calcium ions. An increase in the amount of free calcium ions in myofibrils contributes to the formation of contractile protein (actomyosin), which is essential for cardiac contraction. (Car GLY) normalizes metabolic processes and energy metabolism in the heart muscle, increases the conjugation of oxidative phosphorylation.

As a result, systole increases significantly. An important feature of (Car GLY) is their ability to prolong the diastole - it is longer, creating conditions for resting and feeding the myocardium, restoring energy consumption. In large doses, glycosides increase the automatism of the heart, can lead to the formation of heterotopic excitability and arrhythmia foci. (Car GLY) normalizes hemodynamic indicators that characterize heart failure, while eliminating dimming: tachycardia, shortness of breath disappear, cyanosis and edema decrease, diuresis increases. The diuretic effects of (Car GLY) are mainly related to improving heart function, but their direct effect on kidney function is also important [1,2,3]. The main indications for the appointment of (Car GLY) are acute and chronic heart failure, bladder fibrillation, and paroxysmal tachycardia. In clinical practice, the activity of (Car GLY) is assessed based on the exposure to the surface when administered intravenously. (Car GLY) latent varies depending on the duration of the period and the rate of exposure. When injected through a vein, strophanthine and convallotoxin begin to affect the heart after 5-10 minutes, and selanide after 5-30 minutes. When digoxin enteral is taken, the effect develops after 30 minutes, and when digitoxin is ingested after about 2 hours, the (Car GLY) is often prescribed for drinking (angishvonagul, adonis preparations), intravenous (strophanthine, digoxin, selanide, corglycone), bazida – between the muscles and is also administered rectally. It is not advisable to inject under the skin, since they are caused by various reactions – redness, pain and abscesses in the included area mumin. Contraindications to the use of (Car GLY) include: incomplete atrioventricular (calf-ventricular) blockade, severe bradycardia, acute infectious myocarditis. (Car GLY) should be used with calcium preparations and with caution in the case of hypokalemia. This is caused by increased sensitivity of the myocardium to (Car GLY) when serum calcium ion levels are high, and consequently the toxic effects of these drugs increase. In a similar way, the effect of (Car GLY) changes even when the amount of potassium ions decreases (a group of saluretics is observed when urinating agents are used, in diarrhea, in the postoperative period). Toxic manifestations are associated with an increase in the dose of (Car GLY)s. In most cases this is observed when angishvonagul drugs with high cumulative properties are used. Poisoning with Angishvonagul drugs is accompanied by cardiac and extracardial disorders. In this, various arrhythmias (e.g. extrasystole), partial or complete atrioventricular blockade, develop. Most often, the cause of death from poisoning is the flutter of the ventricles. In other organs, such as decreased vision (including color separation), weakness, muscle relaxation, desepptic changes (nausea, vomiting¹, diarrhea), psychic disorders (agitation, hallucinations), headaches, skin rashes are observed. The use of a



number of physiological antagonists is required, along with the cancellation or reduction of the dose of the drug. Taking into account the fact that (Car GLY) reduces the amount of potassium ions in cardiomyocytes, potassium preservatives (potassium chloride, potassium normin and b.) it is recommended to apply [7,8]. Potassium preparations are used to prevent the toxic effects of glycosides on the heart, mainly with good effect in disorders of the rhythm of heart contractions. For the same purpose, magnesium preparations (magnesium orotate), panangin (contains potassium asparaginate and magnesium asparaginate) and 2 tablets "Asparkam" are prescribed, which are similar in composition to it. Panangin and asparkam are also produced in ampoules for intravenous administration. In arrhythmias, drugs with anti-arrhythmic effects such as diphenine, lidocaine, amiodarone are used. In atrioventricular blockade, atropine is prescribed to eliminate the effects of a lost nerve on the heart. Monoclonal antibodies are also used in jugular poisoning. The drug Digoxin immune fab (Digibind), an antidote to digoxin, is also a masnub to this group.

Conclusion. Having studied this material, we found out that medicinal plants were the source of (Car GLY) to this day. (Car GLY) and their preparations are powerful acting agents and require special rules for storage and application. Knowing the pharmacological properties of medicinal plants that contain (Car GLY), their rational use is necessary for specialists.

References:

1. Dzhanaev G. Y. et al. Pharmacotherapy of gastropathy(literature review
2. Texas Journal of Medical Sciences. – 2023. - T. 17. - S. 67-76.
3. Dzhanaev, G. Yu, O. O. Asqarov and S. A. Sultanov. "Phytotherapy of the stomach ulcer (review of the literature)."Texas Journal of Medical Sciences 15 (2022): 51-59.
4. Hakimov, Z. Z., G. Yu Zhanaev and O. O. Asqarov. "To study the effect of a mixture of extracts of medicinal plants on the condition of the gastric mucosa in Gastropathy triggered by indomethacin."Eurasian Medical Research Periodical 19 (2023): 90-95.
5. Isakovna, I. R. (2023). LITERARI THE ROLE OF IMAGE ENHANCEMENT TECHNIQUES IN THE PROGRESS. International Journal Of Literature And Languages, 3(07), 48-52.
6. Хамроев, С. Б. (2023). Особенности Течения Шизофрении В Зависимости От Когнитивных Нарушений. AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI, 2(4), 190-193.
7. Ашурова, О. Ю., & Кодирова, Г. Р. (2020). ПРИМЕНЕНИЕ ЭНТЕРАЛЬНОЙ ОКСИГЕНОТЕРАПИИ (КИСЛОРОДНОГО КОКТЕЙЛЯ) В КОМПЛЕКСНОМ ВОССТАНОВИТЕЛЬНОМ ЛЕЧЕНИИ ГИПОКСИИ И ХРОНИЧЕСКИХ БОЛЕЗНЕЙ ОРГАНОВ ДЫХАНИЯ. Интернаука, (46-1), 36-37.
8. Хакимов, М. Ш., Маткулиев, У. И., Ашуров, Ш. Э., & Кодирова, Г. Р. (2022). Новый взгляд на оценку тяжести кровотечения из варикозно расширенных вен пищевода (Doctoral dissertation, Узбекистан).
9. Жураева, Г. (2021). Изучение клинико-морфологических особенностей разных форм эндометриоза. Збірник наукових праць SCIENTIA.
10. Boboeva, R. R., & Juraeva, G. B. (2020). FREQUENCY OF IDENTIFICATION AND REASONS FOR SYNDROME OF DRY EYES AND RED EYES AMONG STUDENTS. In ИННОВАЦИОННЫЕ ПОДХОДЫ В СОВРЕМЕННОЙ НАУКЕ (pp. 8-12).



11. Shadmanov Compiled A. K. I Dr. // Re Health journal. – 2021. – №. 2 (10). - S. 122-129.
12. Khakimov Z. Z., Dzhanaev G. Y., Asqarov O. O. a study of the effect of a mixture of extracts of medicinal plants on the condition of the gastric mucosa in Indomethacin-induced Gastropathy // Eurasian medical research periodical. – 2023. - Т. 19. - S. 90-95.
13. Одилова, Г. Р., & Нуритов, А. И. (2018). Анализ инвалидности по зрению среди детей Бухарской области. Достижения науки и образования, (11 (33)), 52-54.
14. Одилова, Г. Р., & Икромова, С. Б. (2022). РАННИЕ МОРФОМЕТРИЧЕСКИЕ ИЗМЕНЕНИЯ МАКУЛЯРНОЙ ЗОНЫ СЕТЧАТКИ У БОЛЬНЫХ С САХАРНЫМ ДИАБЕТОМ. Results of National Scientific Research International Journal, 1(9), 58-60.
15. Одилова, Г. Р., & Рамазонова, Ш. Ш. (2022). СОВЕРШЕНСТВОВАНИЕ ЛЕЧЕНИЕ АНИЗОМЕТРОПИЧЕСКОЙ АМБЛИОПИИ СРЕДНЕЙ СТЕПЕНИ У ДЕТЕЙ. Oriental renaissance: Innovative, educational, natural and social sciences, 2(2), 315-320.
16. Янченко, С. В., Малышев, А. В., Одилова, Г. Р., Петросян, Л. М., & Одилов, М. Ю. (2023). Новые возможности терапии гипосекреторного синдрома сухого глаза. Офтальмология, 20(3), 542-548.
17. Olimdjanović, A. O., Isakovich, K. K., Allayarovich, S. S. And Abdikhomovich, K. J. (2023). Study the activity of reducing sugar in the preparation of dry extract of chicory. Texas Journal of multidisciplinary research, 17, 1-5.
18. Мо'минjonovna, В. М. (2023). REPRODUCTIVE CHANGES IN WOMEN WITH PREMATURE OVARIAN FAILURE. European Journal of Medical Genetics and Clinical Biology, 1(5), 53-56.
19. Мо'минjonovna, В. М. (2023). THE ROLE OF OVARIAN RESERVE IN THE FORMATION OF INSUFFICIENT OVARIAN RESPONSE IN IN VITRO FERTILIZATION CYCLES. Best Journal of Innovation in Science, Research and Development, 2(11), 614-617.