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SELECTION OF DRUGS AND ITS PHARMACOLOGICAL EFFECTS IN THE TREATMENT OF HEART FAILURE

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Abstract: Heart failure - a syndrome caused by decompensated myocardial dysfunction, is manifested by an increase in the volume of cellular fluid and a decrease in the perfusion of organs and tissues. The main pharmacotherapeutic effect of cardiac glycosides occurs with an increase in systole, "positive inotropic effect". related to the direct effect of medicinal substances on the heart: deuritics are also used in a complex way to reduce the side effects of glycosides and improve their effect.

Key words: heart failure, heart perfusion, cumulative proximal tachycardia, myocardial infarction, inotropic effect

Main part: Nowadays, as a result of statistics and experiences, we can see that; Heart failure is one of the most common diseases and the leading cause of death in the world. Heart failure is a surgical procedure resulting from decompensated myocardial dysfunction. In this process, the ability of the heart to supply blood to the organs decreases. Heart failure itself is not considered a single disease but can appear on the basis of several diseases. In some cases, it occurs due to respiratory (respiratory system diseases; hypoxia) diseases. This is because hypoxia causes a violation of the ability of the heart to contract due to a change in the metabolism of cardiomyocytes. can come

One of the causes of myocardial relaxation and diastolic dysfunction is observed due to changes in intracellular calcium in cardiomyocytes as a result of hypoxia (high accumulation of calcium). As a result of examinations conducted at the cardiology center, the most common causes of heart failure are myocardial infarction and acute myocardial infarction (65% of patients), rheumatic heart disease (14%), dilated cardiomyopathy (11%), with age over 60. in others, it occurs as a result of hypertensive diseases (4%) and other unknown causes (6%).Apparently, one of the most common causes of heart failure is myocardial infarction. Myocardial infarction is caused by the loss of blood supply to the heart muscles as a result of a foreign body or thrombus (atherosclerosis) in the coronary arteries that supply the heart itself with blood. led to a decrease.

In the treatment of heart failure

The effects of cardiac glycosides and the complex use of diuretics have been investigated. Cardiac glycosides herbal medicines have a cardiotonic <Inotropic effect> antiarrhythmic effect on the heart in therapeutic doses. The main properties of cardiac glycosides pharmacodynamic properties include increasing the contraction force and contraction speed of the heart muscles (positive inotropic effect). As a result of the effect of the drug, due to the increase in the force of heart

contraction, the amount of blood pumped during one contraction of the heart and the amount of blood pumped during one minute increase. The volume of blood after systole and diastole decreases, diuresis increases, swelling, ascites decreases, pressure in venous vessels decreases, symptoms of bruising and shortness of breath, swelling in the liver decreases, the general condition of the patient improves. A healthy heart is not affected by glycosides in this way (due to compensatory reactions). The biggest advantage is that, unlike other cardiotonic drugs, cardiac glycosides increase the force of contraction of the heart without increasing the oxygen demand of the myocardium.

Glycosides according to water solubility:

- ✓ Polar (strophanthin, corglucon.)
- ✓ Non-polar (digitoxin)
- ✓ Relative (digoxin) is divided.

Polar cardiac glycosides are water-loving (hydrophilic) and are not well absorbed from the gastrointestinal tract, because of the presence of a biphosphate lipid layer in the intestinal layer. secretion occurs and the duration of effect is short (3 days). Up to 40% is combined with protein, it is not metabolized, it is excreted through the kidneys. 40% is eliminated per day. Non-polar (lipophilic) glycosides are well soluble in oils, but almost insoluble in water. Therefore, they are easily absorbed in the gastrointestinal tract, combine 98% with proteins in the blood, are completely broken down in the liver, are excreted through the gall bladder and reabsorbed. It is excreted unchanged by the kidneys in very small quantities. Mainly metabolites are excreted. It is eliminated up to 7% per day. The effect of non-polar and relative cardiac glycosides is slow, but the duration of action is long (14-21 days).

Cardiac glycosides are also used in ventricular arrhythmias, where the inhibitory effect on the conducting part of the heart has a stimulating effect on the parasympathetic system, and the channels of the excitatory and conducting part are blocked. Impulse formation and the transition rate decreases, but it is not included in the main drug used in artemia, because the therapeutic window is small. Cardiac glycosides have been found to have a high side effect and a high cumulative property (accumulation) of YG. In heart failure, diuretics have a good effect when they are used together, because in heart failure, the pumping function decreases and it becomes difficult to get blood from the veins, therefore, it reduces the swellings that have occurred, in addition, the concentration of Na+ ions in cardiomyocytes increases as a result of the inhibition of Na+/K+-ATF-ase by cardiac glycosides. An increase in the concentration of Na+ in cells, a decrease in the release of Sa2+ from cardiomyocytes, and the absence of potassium from outside the cell, and a state of hyperkalemia, ensures the release of deuric potassium through urine.

Discussion and experimental results: 10 patients who came to the cardiology center with heart failure were examined and cardiac glycosides were prescribed to increase the force of heart contraction. High accumulation was observed in 3 patients who used continuous glycosides. Intoxication was observed in 1 patient with kidney failure.

№	Cardiac glycosides	Exposure to the surface	Duration of effect	Cumulative feature

1.	Polar glycosides. (Strophanthine)	Quick	Short	+
2.	Nonpolar glycosides (digitoxin)	slowly	Continuous	+
3.	Relatively polar glycosides (digoxin)	Quick	Continuous	+

Summary: Current evidence shows that one of the main causes of heart failure is myocardial infarction and ischemic heart disease. When using cardiac glycosides, attention should be paid to the effect of the drug and the cumulative nature of the drug. Cardiac glycosides have adverse effects on the heart and other organs. The use of glycosides with deuritics gives a good effect.

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