Global Scientific Review
A Peer Reviewed, Open Access, International Journal
www.scienticreview.com
Volume 10, December 2022 ISSN (E): 2795-4951

Medicines Used in Heart Failure

Egamberdiyev Jasurbek Jumanazar o'g'li
Andijan State Medical Institute, Uzbekistan

Annotation: Dear reader, this article provides information about the drugs used in heart failure, one of the diseases that are currently common ingangj . For most people, Heart Failure is a long-term condition that cannot be treated. But treatment can help keep symptoms under control, possibly for many years. The main treatment options are: healthy lifestyle changes, medications, devices installed on your chest to control heart rhythm, surgery. In most cases, a combination of treatment is required.

Keywords: surgary , drug , digoxin , heart failure , nitrate , pacemakers

Treatment should usually last a lifetime.Care plan . If you have heart failure, you and everyone involved in your care will be given a care plan. This should include: plans for managing your heart failure, including follow-up care, rehabilitation and access to social care, symptoms to look out for in case your condition worsens, details of how to contact your care team or specialist, the care plan should be reviewed at least every 6 months by your GP.

Lifestyle changes . Having a healthy lifestyle, including eating a balanced diet, doing exercise and not smoking, can help with your symptoms and reduce your risk of becoming seriously ill.You should be offered an exercise-based cardiac rehabilitation programme.

Hydralazine with nitrate . Hydralazine in combination with nitrate can help relax and open up the blood vessels. These medicines are sometimes prescribed by heart specialists (cardiologists) for people who are unable to take an ACE inhibitor or ARB. Side effects can include headaches, a fast heartbeat and a pounding, fluttering or irregular heartbeat (palpitations).

Digoxin . Digoxin can improve your symptoms by strengthening your heart muscle contractions and slowing down your heart rate. It's normally only recommended for people who have symptoms despite treatment with ACE inhibitors, ARBs, beta blockers and diuretics. Possible side effects include dizziness, blurred vision, feeling and being sick, diarrhoea and an irregular heartbeat.

SGLT2 inhibitors . SGLT2 inhibitors are tablets that can help lower your blood sugar levels. Empagliflozin and dapagliflozin are types of SGLT2 inhibitor. They can be used to treat some types of heart failure, as an add-on to other medicines. Possible side effects include thrush, peeing more than usual, a mild skin rash and back pain.

Take your medication . It's very important that you take any prescribed medication, even if you begin to feel better.nCheck with your care team if: other medicines might interfere with your medication , you experience any side effects

Devices for heart failure . Some people with heart failure will need to have a procedure to implant a small device in their chest that can help control or monitor their heart's rhythm.

The most commonly used devices are:

- pacemakers

- cardiac resynchronisation therapy (CRT) devices
- implantable cardioverter defibrillators (ICDs)
- CRT-Ds

Pacemakers . You may need to have a pacemaker fitted if your heart beats too slowly. A pacemaker monitors your heart rate continuously, and sends electrical pulses to your heart to keep it beating regularly and at the right speed. The pacemaker is implanted under the skin by a cardiologist, usually under local anaesthetic. You'll usually need to stay in hospital overnight to check it's working properly. Serious complications are unusual. Pacemakers need to be checked regularly by specialist technicians at a pacemaker clinic. You'll also need to be careful about things that can affect how your pacemaker works, such as hospital equipment and security systems in shops or at airports. Read more about pacemaker implantation. You can also find out more about pacemakers on the British Heart Foundation website.

Cardiac resynchronisation therapy . In some people with heart failure, the walls of the main pumping chamber (the left ventricle) don't work together and contract out of sync with each other. Cardiac resynchronisation therapy (CRT) is a special type of pacemaker that can correct the problem by making the walls of the left ventricle all contract at the same time. This makes the heart pump more efficiently. Most pacemakers only have 1 or 2 wires to the heart, but CRT requires an extra wire.

Implantable cardioverter defibrillators (ICDs) . People who have, or are at high risk of developing, an abnormal heart rhythm may need to have a device known as an implantable cardioverter defibrillator (ICD) fitted.

An ICD constantly monitors the heart rhythm. If the heart starts beating dangerously fast, the ICD will try to bring it back to normal by giving it a small, controlled electrical shock (defibrillation)[1]. If this fails, the ICD will deliver a larger shock. As with pacemakers, ICDs are implanted in hospital, usually under local anaesthetic. Like pacemakers, you'll need to avoid things that can interfere with the way the ICD works, such as airport security systems. Read more about ICDs on the British Heart Foundation website.

[1]Histone Deacetylase 6 Inhibitor JS28 Prevents Pathological Gene Expression in Cardiac Myocytes. Ngo V, Fleischmann BK, Jung M, Hein L, Lother A.J Am Heart Assoc. 2022 Jun 21;11(12):e025857. doi: 10.1161/JAHA.122.025857. Epub 2022 Jun 14.PMID: 35699165 **Free PMC article.**

CRT-Ds . Devices that combine cardiac resynchronisation and defibrillation are implanted into patients who need both. These combination devices are usually called CRT-Ds.

Pulmonary artery pressure sensors . Some people with chronic heart failure may need to have a device known as a pulmonary artery pressure sensor fitted. It's implanted into your artery in hospital, under local anaesthetic.

The sensor sends blood pressure measurements to a monitor in your home. The monitor sends the measurements to your care team, to help them decide whether your treatment needs to be changed. This should help to manage your treatment and reduce the chance of you being admitted to hospital. This is a new procedure that might not yet be available to everyone.

Improving muscle strength . If you are having a bad flare-up and are unable to exercise, you may be offered electrical stimulation to make your muscles stronger.
This is where electrodes are placed on your skin and small electrical impulses are sent to weak muscles, usually in your arms or legs.
Surgery . Medicines are the main treatment for heart failure, but for some people surgery may help. Operations that can help with heart failure include: heart valve surgery , a coronary angioplasty or bypass , left ventricular assist devices , heart transplant
Heart valve surgery . If the valves of your heart are damaged or diseased, your doctor may suggest valve surgery. There are 2 types of valve surgery: valve replacement and valve repair. The type of surgery you have will depend on what's wrong with the valve and how serious the problem is. Your doctor will discuss this with you. Read about aortic valve replacement and surgery for mitral valve problems.
Angioplasty or bypass . If your heart failure is related to coronary heart disease, your doctor may recommend a: coronary angioplasty – where a tiny balloon is used to stretch open a narrowed or blocked artery , coronary artery bypass graft (CABG) – where a blood vessel from another part of the body is used to divert blood around narrowed or clogged parts of an artery
These procedures will help make it easier for your heart to pump blood around your body.
Left ventricular assist devices . Left ventricular assist devices (LVADs) are mechanical pumps that can help if your left ventricle isn't working properly and medication alone isn't helping. They may be used as a permanent treatment if you can't have a heart transplant, or as a temporary measure while you wait for a transplant. In addition to the pump, LVADs also include an external battery. A wire connecting this to the pump will need to be placed under your skin during the operation.

Literature :

1. Histone Deacetylase 6 Inhibitor JS28 Prevents Pathological Gene Expression in Cardiac Myocytes. Ngo V, Fleischmann BK, Jung M, Hein L, Lother A.J Am Heart Assoc. 2022 Jun 21;11(12):e025857. doi: 10.1161/JAHA.122.025857. Epub 2022 Jun 14.PMID: 35699165 **Free PMC article.**
2. Mineralocorticoid receptor activation and antagonism in cardiovascular disease: cellular and molecular mechanisms. Bauersachs J, Lother A.Kidney Int Suppl (2011). 2022 Apr;12(1):19-26. doi: 10.1016/j.kisu.2021.11.001. Epub 2022 Mar 18.PMID: 35529088 **Free PMC article.** Review.
3. Integrated network pharmacology and molecular docking approaches to reveal the synergistic mechanism of multiple components in *Venenum Bufonis* for ameliorating heart failure.Ren W, Luo Z, Pan F, Liu J, Sun Q, Luo G, Wang R, Zhao H, Bian B, Xiao X, Pu Q, Yang S, Yu G.PeerJ. 2020 Oct 30;8:e10107. doi: 10.7717/peerj.10107. eCollection 2020.PMID: 33194384 **Free PMC article.**
4. Pharmacological interventions for heart failure in people with chronic kidney disease.Lunney M, Ruospo M, Natale P, Quinn RR, Ronksley PE, Konstantinidis I, Palmer SC, Tonelli M, Strippoli GF, Ravani P.Cochrane Database Syst Rev. 2020 Feb 27;2(2):CD012466. doi: 10.1002/14651858.CD012466.pub2.PMID: 32103487 **Free PMC article.**

Volume 10, December 2022 ISSN (E): 2795-4951

5. Management of Heart Failure with Reduced Ejection Fraction after ESC 2016 Heart Failure Guidelines: The Linx Registry. de Frutos F, Mirabet S, Ortega-Paz L, Buera I, Darnés S, Farré N, Perez B, Adeliño R, Bascompte R, Pérez-Rodón J, Aparicio X, Sutil-Vega M, Soto A, Faraudo M, Cainzos-Achirica M, Manito N.ESC Heart Fail. 2020 Feb;7(1):25-35. doi: 10.1002/ehf2.12567. Epub 2020 Jan 9.PMID: 31916413