

An Overview on Antihypertensive Drugs and Cardiac Glycosides

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DESCRIPTION

Drugs acting on the cardiovascular system are used to treat various cardiovascular diseases and disorders, such as hypertension, heart failure, arrhythmias, and angina. These drugs work by different mechanisms to lower blood pressure, restore normal heart rhythm, increase blood flow to the heart, dissolve blood clots, and prevent the formation of blood clots. The different classes of drugs include antihypertensive drugs, anti-arrhythmic drugs, cardiac glycosides, anti-anginal drugs, thrombolytic drugs, and antiplatelet drugs. It is important to use these drugs under the guidance of a healthcare professional and monitor their use to avoid any potential side effects.

Antihypertensive drugs

Antihypertensive drugs are medications that are used to treat hypertension, or high blood pressure. High blood pressure is a common cardiovascular disorder that affects millions of people worldwide and can lead to serious health complications, such as heart attack, stroke, and kidney disease. Antihypertensive drugs work by lowering blood pressure and reducing the workload on the heart and blood vessels. Antihypertensive drugs are generally safe and effective, but they can cause side effects in some people, such as dizziness, fatigue, and sexual dysfunction. It is important to work closely with a healthcare professional to monitor blood pressure and adjust medication dosages as needed.

They do this by targeting different mechanisms in the body that regulate blood pressure. The different classes of antihypertensive drugs include:

Diuretics: Diuretics, also known as water pills, are drugs that increase urine output and help reduce the volume of fluid in the blood vessels. This, in turn, lowers blood pressure. The most commonly used diuretics include thiazide diuretics, loop diuretics, and potassium-sparing diuretics.

Angiotensin-Converting Enzyme (ACE) inhibitors: ACE inhibitors work by blocking the conversion of angiotensin I to angiotensin II, a hormone that causes blood vessels to constrict.

This, in turn, lowers blood pressure and improves blood flow. The most commonly used ACE inhibitors include enalapril, lisinopril, and ramipril.

Beta-blockers: Beta-blockers work by blocking the effects of adrenaline on the heart and blood vessels, which reduces heart rate and blood pressure. The most commonly used beta-blockers include metoprolol, atenolol, and propranolol.

Calcium channel blockers: Calcium channel blockers work by blocking the entry of calcium into smooth muscle cells in the blood vessels, which relaxes the vessels and lowers blood pressure. The most commonly used calcium channel blockers include amlodipine, verapamil, and diltiazem.

Angiotensin Receptor Blockers (ARBs): Angiotensin receptor blockers work by blocking the effects of angiotensin II on the blood vessels, which relaxes the vessels and lowers blood pressure. The most commonly used ARBs include losartan, valsartan, and candesartan.

Cardiac glycosides

These are a class of drugs used to treat heart failure and certain arrhythmias. They work by increasing the strength and efficiency of the heart muscle contractions and slowing down the heart rate. The most commonly used cardiac glycoside is digoxin. Digoxin works by inhibiting the sodium-potassium pump in the heart cells, which increases the concentration of calcium ions in the cells. This, in turn, increases the strength of the heart muscle contractions and improves the heart's ability to pump blood. Cardiac glycosides are also used to treat certain types of arrhythmias, such as atrial fibrillation. They work by slowing down the electrical impulses that cause the heart to beat irregularly. While cardiac glycosides can be effective in treating heart failure and arrhythmias, they can also have significant side effects. These include nausea, vomiting, diarrhea, loss of appetite, visual disturbances, and cardiac arrhythmias. It is important to work closely with a healthcare professional to monitor medication dosages and adjust them as needed to minimize the risk of side effects.

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CONCLUSION

Drugs acting on the cardiovascular system are used to treat various cardiovascular diseases and disorders. These drugs work by different mechanisms to lower blood pressure, restore normal

heart rhythm, increase blood flow to the heart, dissolve blood clots, and prevent the formation of blood clots. It is important to note that these drugs should be used under the guidance of a healthcare professional, and their use should be closely monitored to avoid any potential side effects.