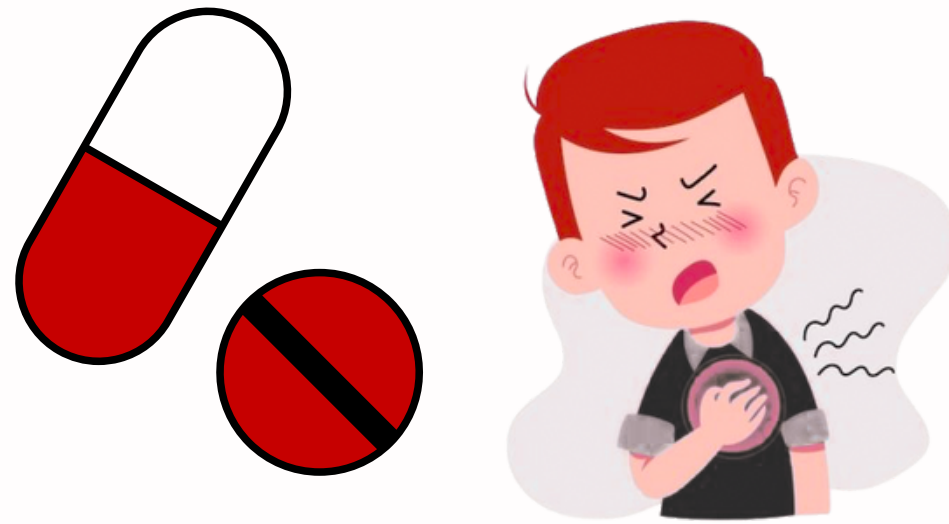
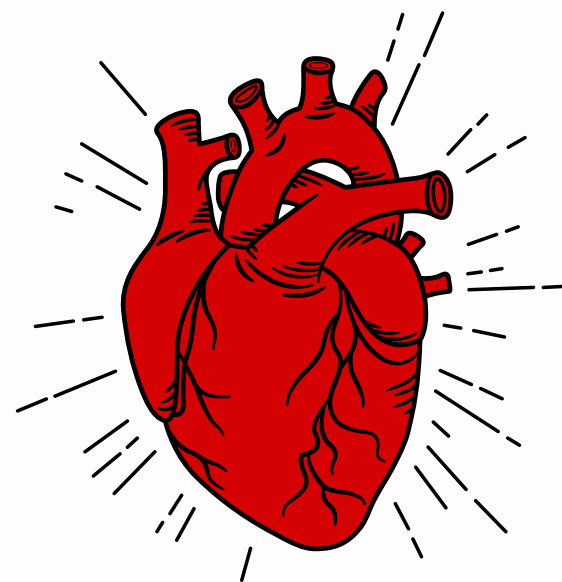




ISCHEMIC HEART DISEASE

DRUGS

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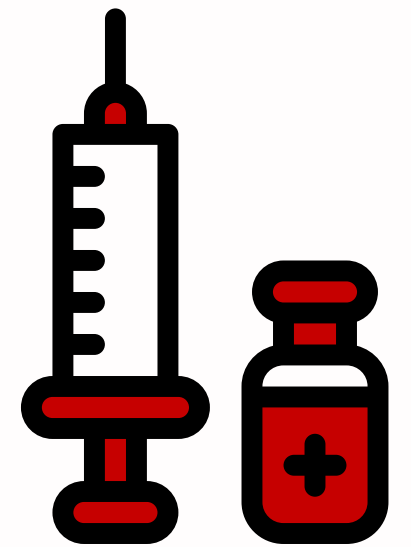
Before we start:

This file **doesn't** include all the study material !
It's just a simple summary with the drug names, their main mechanisms, side effects, and a few important notes. It's meant to make the information easier to memorize or review, and to help you organize the topic more clearly.

Good luck! 

Drug Treatment of Ischemic Heart Disease:

- Organic nitrates
- Beta Adrenergic Blockers
- Calcium Channel Blockers
- Dipyridamole



ORGANIC NITRATES

Drug Name	MOA	Side effects	Notes	Duration
-Isosorbide dinitrate - isosorbide mononitrate -Pentaerythritol tetranitrate -Amyl nitrite	- Decrease in coronary spasm or vasoconstriction . - Increase in perfusion of the myocardium by relaxing the coronary arteries.	-Headache (the patient develops tolerance). - High doses can cause postural hypotension, syncope can result and tachycardia	-Isosorbide mononitrate has a long duration of action due to its ability to avoid the first-pass effect -Co-administration of organic nitrates and sildenafil can be dangerous	Isosorbide mononitrate, oral (40-6 hours).
Nitroglycerine (GTN)		-Withdrawal -Hypotension & Tachycardia - Increased intraocular& intracranial pressures -Methemoglobinemia -Tolerance: only for the arteriolar effects	- Usually administered sublingually or transdermally (patch). - Reductase enzyme in the liver will break down it.	-Fast onset of actio(1-3 min) -Short duration (15-30minutes).

OLD DRUG

Drug Name	MOA	Toxicity	Notes
Dipyridamole	-Previously used for the treatment of angina, works by inhibiting the uptake of adenosine and adenosine deaminase enzyme.	-increases blood flow to normal coronary areas rather than dilating vessels in ischemic or spastic regions. -Therefore, it is no longer used for angina treatment because it can cause the “coronary steal phenomenon.”	-Still used as an antiplatelet drug (in TIAs), but not better than aspirin.

CALCIUM CHANNEL BLOCKERS

Category	Drug Name	MOA (same as antihypertensive drugs)	Side effects	Notes
Dihydropyridines	Nifedipine	-Block Calcium in vascular smooth muscle -Decrease PVR - No effect on AV node conduction	-<u>Reflex tachycardia</u> -Hypotension -Headache -Flushing -Constipation -<u>Edema</u>	-arterioles vasodilation effect with minimal effect on the heart, and is useful in the treatment of angina caused by spontaneous coronary spasm (Variant angina).
Non-dihydropyridines	Verapamil	Direct negative inotropic and chronotropic action (cardiodepressive)	-<u>Cardiac depression</u> -Hypotension -Headache -Flushing - Constipation	-Verapamil slows cardiac conduction directly, and thus decreases oxygen demand, so it should be avoided in patients with congestive heart failure due to its negative inotropic effect on the heart.
	Diltiazem	-Decreases AV conduction and heart rate -Weaker negative inotrope than verapamil		

BETA-BLOCKERS

Drug Name	MOA	Notes	Contraindications
Acebut <u>olol</u> Aten <u>olol</u> Metoprol <u>ol</u>	-They suppress the heart by blocking B1 receptors, and so reduce the work of the heart by decreasing the cardiac output and blood pressure.	-Prevent actions of catecholamines, so more effective during exercise. - Do not dilate coronary arteries. - Do not increase collateral blood flow. -Improvement: decreased number of anginal episodes, nitroglycerine consumption, enhanced exercise tolerance, and improved ECG.	-variant angina -bradycardia -asthma - Not contraindicated: -stable or unstable angina. -MI

NEWER DRUGS

Category	Drug Name	MOA	Notes
Metabolic modulators	Ranolazine	-Reducing a late inward sodium current . -Reduces calcium entry .	----
	Trimetazidine	- Inhibit the fatty acid oxidation pathway in the myocardium	pFOX inhibitors
	Allopurinol	-inhibits xanthine oxidase, an enzyme that contributes to oxidative stress and endothelial dysfunction.	high-dose allopurinol prolongs exercise time
Direct bradycardic agents	Ivabradine	- selective I f sodium channel the hyperpolarization - activated sodium channel in the sinoatrial reported (inhibition of pace maker current)	-Patients with CAD,it improve performance in stress tests.
Rho-kinase inhibitors	Fasudil	- inhibitor of smooth muscle Rho kinase and reduces coronary vasospasm in experimental animals.	Rho kinases : enzymes that inhibit vascular relaxation

May your path be steady, your work rewarded,
and your heart always strong.

Please remember us in your prayers <3

With our warmest regards and best wishes! 