Antianginal drugs

Angina pectoris is the severe chest pain that occurs when coronary blood flow is inadequate to supply the oxygen required by the heart. The primary cause of angina pectoris is an imbalance between the oxygen requirement of the heart and the oxygen supplied to it.

Backgrounds of angina pectoris

Classification: stable; unstable; variant Mechanism: Methods for treatment: To improve perfusion: To reduce metabolic demand Drugs organic nitrates; calcium antagonists -Receptor blockers

Organic nitrates

Pharmacological effects and mechanism: dilate peripheral vein preload dilate peripheral artery afterload Dilate coronary artery perfusion of ischemic myocardium

Mechanism of action in VSM NO (EDRF) activate GC increase c-GMP activate cGMP- dependent kinase decrease Ca induce de-phosphorylation of the myosin light chain relaxation Pharmacokinetics: very low bioavailability per os Subligual Rapid onset(2~5min) Acute adverse effects: postural hypotensiom, throbbing headache Tolerance : because of depletion of free SH groups Clinic use: to treat and prevent all of the angina

-Receptor blockers

Pharmacological effects: Myocardial constriction Heart rate Clinic use : stable and unstable angina Propranolol not for variant angina because of coronary artery contraction due to its -receptor blocked and -receptor relatively activated. Propranolol + nitroglycerin

Calcium channel blockers Pharmacological effects :

Cardiac contractility, heart rate Peripheral vessels dilation ,afterload dilate coronary artery, release its spasm Ca2+ overload apoptosis,necrosis Clinic use : variant angina Nifedipine not for unstable angina,+   -Receptor blockers   u   櫃

Other drugs for angina†   Anti-platelet drugs: aspirin, persantin Chinese medicine: salvia miltiorrhiza,panax notogenseng ATP sensitive potassium channel openers

Oxygen consumption

Oxygen consumption

Oxygen consumption

Myocardial oxygen consumption

抗心绞痛药和降血脂药

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