

DRUGS ACTING ON CVS

ANTI-ARRHYTHMIC DRUGS

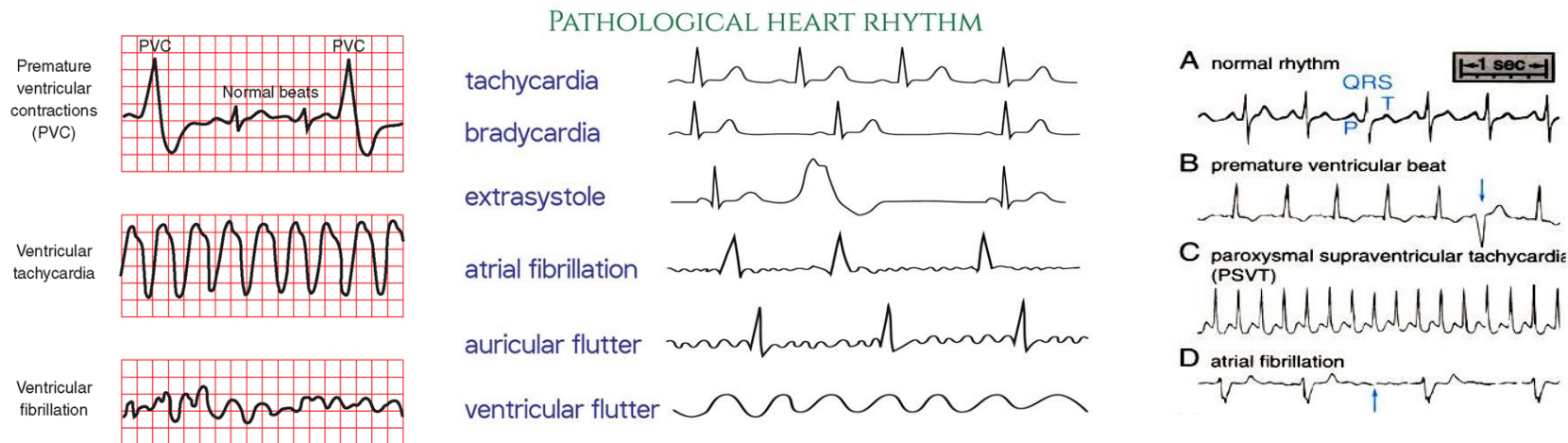
(ANTI-DYSRHYTHMIC OR ANTI-FIBRILLATORY DRUGS)

The rhythm and normal heart rate may be affected by some diseases and drugs. This condition is termed cardiac arrhythmia in which certain disorders affect the normal mechanical activity of heart.

Drugs which have the ability to revert any irregular cardiac rhythm or rate to normal are known as anti-arrhythmic or anti-dysrhythmic or anti-fibrillatory drugs.

CLASSIFICATION:

CLASS	ACTION	DRUGS
Class I	Membrane stabilising agents (Na ⁺ Channel blockers)	<ul style="list-style-type: none"> • Quinidine • Procainamide • Lignocaine • Phenytoin • Lidocaine • Lorcaïnide.
Class II	Antiadrenergic agents	<ul style="list-style-type: none"> • Sotalol • Propranolol • Esmolol
Class III	Agents widening action potential	<ul style="list-style-type: none"> • Amiodarone • Dofetilide
Class IV	Calcium channel blockers	<ul style="list-style-type: none"> • Verapamil • Diltiazem



DRUGS	MOA	USES	STABILITY & STORAGE CONDITIONS	TYPES OF FORMULATIONS	POPULAR BRAND NAMES
QUINIDINE <ul style="list-style-type: none"> • Class I drug • Na⁺ Channel blocker • Alkaloid. 	<ul style="list-style-type: none"> • Depresses the flow of Na⁺ ions into the cells during phase 0 of cardiac AP. 	<ul style="list-style-type: none"> • Ventricular arrhythmia • Plasmodium falciparum malaria. 	Kept in well closed container and away from light.	<ul style="list-style-type: none"> • Tablet • Capsule 	<ul style="list-style-type: none"> • Quinora • Cardioquin
PROCAINAMIDE <ul style="list-style-type: none"> • Class I drug • Na⁺ Channel blocker 	<ul style="list-style-type: none"> • Inhibits the influx of Na⁺ ions into the cells during phase 0 of cardiac AP. • Increases ERP & APD 	<ul style="list-style-type: none"> • Ventricular arrhythmia • ventricular ectopy • Tachycardia • Supraventricular arrhythmia • Atrial fibrillation. 	Kept in tightly closed container	<ul style="list-style-type: none"> • Capsule • Injection 	<ul style="list-style-type: none"> • Pronestyl • ProcanSR • Procanbid • Pronestyl-SR

<p>VERAPAMIL</p> <ul style="list-style-type: none"> • Class IV drug • Calcium channel blockers 	<ul style="list-style-type: none"> • Blocks voltage dependent calcium channel • Decreases ionotropy and chronotropy of heart 	<ul style="list-style-type: none"> • Hypertension • Supraventricular tachyarrhythmia • Cluster headache • Angina pectoris. 	<p>Cool, dry place and should be kept away from light.</p>	<ul style="list-style-type: none"> • Tablet • Capsule • Solution 	<ul style="list-style-type: none"> • Calan • Isoptin • Tarka • Verelan
<p>PHENYTOIN</p> <ul style="list-style-type: none"> • Class I drug • Membrane stabilising agent • Hydantoin derivative 	<ul style="list-style-type: none"> • Promotes Na⁺ efflux • Inhibits synaptic transmission of nerve impulses and repetitive firing of AP 	<ul style="list-style-type: none"> • Prophylactic for tonic-clonic seizure • Ventricular tachycardia • Atrial tachycardia. 	<p>Stored at room temperature, away from light and moisture. It should not be freeze and should not stored in the bathroom.</p>	<ul style="list-style-type: none"> • Capsule • Injection 	<ul style="list-style-type: none"> • Dilantin • Phenytek
<p>LIDOCAINE</p> <ul style="list-style-type: none"> • Class I drug • Na⁺ Channel blocker 	<ul style="list-style-type: none"> • Inhibits the influx of Na⁺ ions into the cells during phase 0 of cardiac AP. 	<ul style="list-style-type: none"> • Produces local or regional anaesthesia. 	<p>Store at controlled room temperature 15-30°C</p>	<ul style="list-style-type: none"> • Solution 	<ul style="list-style-type: none"> • Xylocaine viscous.
<p>LORCAINIDE</p> <ul style="list-style-type: none"> • Class I drug • Na⁺ Channel blocker 	<ul style="list-style-type: none"> • Inhibits the influx of Na⁺ ions into the cells during phase 0 of cardiac AP. 	<ul style="list-style-type: none"> • Premature ventricular contractions • Ventricular tachycardia • Wolff Parkinson White Syndrome 	<p>Room temperature for up to 1 year.</p>	<ul style="list-style-type: none"> • Tablet 	<ul style="list-style-type: none"> • Lerka • Aristo Larpin • Larpin • Landip

<p>AMIODARONE</p> <ul style="list-style-type: none"> • Class III • Agents widening action potential 	<ul style="list-style-type: none"> • Non-competitive α and β adrenergic inhibitor. • Prolongs phase 3 APD and RP 	<ul style="list-style-type: none"> • Intravenously for treatment & prophylaxis of recurring ventricular fibrillation, • Orally for Treatment of life threatening recurrent ventricular arrhythmia. 	<p>Amiodarone diluted in 5% dextrose injection is stable for 2 hrs in PVC and for 24 hrs in polyolefin / glass bottles at room temperature.</p>	<ul style="list-style-type: none"> • Tablet 	<ul style="list-style-type: none"> • Pacerone • Cordarone • Nexterone
<p>SOTALOL</p> <ul style="list-style-type: none"> • Class III • Agents widening action potential 	<ul style="list-style-type: none"> • Non selective β adrenergic receptor and potassium channel antagonist. • Prolongs APD 	<ul style="list-style-type: none"> • Treatment of life threatening recurrent ventricular arrhythmia • Atrial fibrillation and • Atrial flutter. 	<p>25°C</p>	<ul style="list-style-type: none"> • Tablet • Solution 	<ul style="list-style-type: none"> • Betapace • Betapaceb AF • Sorine

ANTI-HYPERTENSIVE AGENTS

A condition in which the blood pressure of systemic artery increases beyond the normal pressure is known as hypertension.

Anti-hypertensives are a class of drugs that are used to treat hypertension (high blood pressure).

S.NO.	CLASSIFICATION	DRUGS
1	Diuretics	<ul style="list-style-type: none"> • Furosemide, • Bumetanide • Spironolactone • Chlorthalidone
2	Angiotensin Converting Enzyme Inhibitors (ACE Inhibitors)	<ul style="list-style-type: none"> • Captopril • Ramipril • Lisinopril • Enalapril
3	Angiotensin II Receptor Antagonists	<ul style="list-style-type: none"> • Losartan • Valsartan
4	Adrenergic drugs	<ul style="list-style-type: none"> • Clonidine • Methy dopa • Propranolol • Atenolol • Prazosin • Phentolamine • Carvedilol
5	Calcium channel blockers	<ul style="list-style-type: none"> • Nifedipine • Verapamil
6	Vasodilators	<ul style="list-style-type: none"> • Hydralazine • Sodium nitroprusside

DRUGS	MOA	USES	STABILITY & STORAGE CONDITIONS	TYPES OF FORMULATIONS	POPULAR BRAND NAMES
Propranolol <ul style="list-style-type: none"> • β-blocker • Naphthyl ring 	<ul style="list-style-type: none"> • Blocks β_1 adrenergic receptors. • Reduces resting heart rate, cardiac output, systolic & diastolic BP. 	<ul style="list-style-type: none"> • Angina • Hypertension • Arrhythmia 	Store in tightly closed container Room temperature 15-30°C	<ul style="list-style-type: none"> • Capsule • Solution • Tablet 	<ul style="list-style-type: none"> • Hemangeol • Hemangioliol • Inderal • Innopran
Captopril <ul style="list-style-type: none"> • ACE Inhibitors • Pyrrolidine ring 	<ul style="list-style-type: none"> • Inhibits ACE • Decreases BP 	<ul style="list-style-type: none"> • Renovascular Hypertension • Congestive heart failure • Neuropathy 	Room temperature Moisture proof bag- stable for 24 weeks Paper bag- stable for 12 weeks	<ul style="list-style-type: none"> • Tablets 	<ul style="list-style-type: none"> • Capoten
Ramipril <ul style="list-style-type: none"> • ACE Inhibitors 	<ul style="list-style-type: none"> • Inhibits ACE • Decreases sodium and water reabsorption from kidneys • Relaxes smooth muscles from arterioles • Decreases BP 	<ul style="list-style-type: none"> • Hypertension • Congestive heart failure 	Stored at room temperature, away from light and moisture.	<ul style="list-style-type: none"> • Capsule • Tablet 	<ul style="list-style-type: none"> • Altace
Methyldopa <ul style="list-style-type: none"> • Centrally acting • Adrenergic agent 	<ul style="list-style-type: none"> • Stimulates central inhibitory α-adrenergic receptors. • Reduces PR, HR and BP. 	<ul style="list-style-type: none"> • Hypertension • Gestational Hypertension 	15-30°C	<ul style="list-style-type: none"> • Tablet 	<ul style="list-style-type: none"> • Aldoril

<p>Clonidine</p> <ul style="list-style-type: none"> Centrally acting α-Adrenergic agent Imidazoline derivative 	<ul style="list-style-type: none"> Stimulates central α_2-adrenergic receptors. Reduces PR, HR and BP. 	<ul style="list-style-type: none"> Hypertension Prophylaxis for vascular migraine headaches, dysmenorrhoea. Reduce Intra ocular pressure in glaucoma. 	-20°C	<ul style="list-style-type: none"> Tablet 	<ul style="list-style-type: none"> Catapres Kapvay Nexiclon XR
<p>Hydralazine</p> <ul style="list-style-type: none"> Arteriolar vasodilator Phthalazine derivative 	<ul style="list-style-type: none"> Relaxation of arterial smooth muscles by altering calcium metabolism 	<ul style="list-style-type: none"> Adjunct for treating Hypertension Congestive heart failure 	20-25°C	<ul style="list-style-type: none"> Solution Tablet 	<ul style="list-style-type: none"> Apresoline Bidil
<p>Nifedipine</p> <ul style="list-style-type: none"> Calcium channel blockers 	<ul style="list-style-type: none"> Blocks calcium channel and causes dilation of arteries. Reduces PR, HR and BP. 	<ul style="list-style-type: none"> Angina Hypertension Rarnaud's syndrome 	Room temperature. Tightly closed container.	<ul style="list-style-type: none"> Capsule Tablet 	<ul style="list-style-type: none"> Nifediac Nifediacal