WELCOME

TO

This is an Education Platform

We provide Free PDF Notes and Videos Classes for Pharmacy Students

Web Site http://www.fdspharmacy.in/

You tube https://www.youtube.com/channel/UC77iEsiuZolU4pB8WAJIR5Q

What app https://chat.whatsapp.com/IzSgXtFEvhS4LN5xhUgq5z

Telegram https://t.me/+cvxm17xSloA4MjVl

Face book https://www.facebook.com/Fdspharmacy-1057643119944440/

E-mail fdspharmacyinfo@gmail.com

Diploma in Pharmacy 1st Year
Pharmaceutical Chemistry
Important Questions
Chapter 7 : Drugs Acting on Cardiovascular System

Chapter 7
Drugs Acting on Cardiovascular System
IMPORTANT Questions

Q1. Explain the Anti Arrhythmic drugs with example phenytoin sodium.

Ans.

Anti Arrhythmic 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

properties of an ideal antiarrhythmic drug are:

1. It should be highly efficient in controlling symptoms and improving survival in both supraventricular and ventricular arrhythmias.
2. It should have no negative effect.
3. It should produce a favourable effect on myocardial Oxygen consumption.
4. It should produce both oral and intravenous activity

Examples

The Following anti-arrhythmic drugs are discussed below.

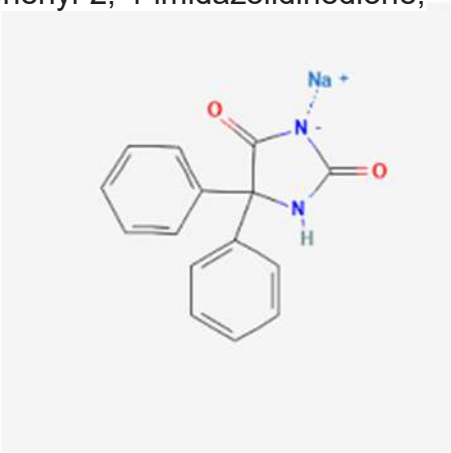
1) Quinidine sulphate,
2) Procainamide hydrochloride,
3) Verapmil
4) Phenytoin sodium,

Phenytoin Sodium

→ Phenytoin Sodium is the sodium salt of phenytoin, which is a hydantoin derivate and a non-sedative antiepileptic Having anticonvulsant activity.

Chemical Name And Structure

sodium 5,5-diphenyl-2, 4-imidazolidinedione,



Mechanism of Action

- Phenytoin is **believed to protect against seizures by causing voltage-dependent block of voltage gated sodium channels**. This blocks sustained high frequency repetitive firing of action potentials.

Uses

1. It is used in the prophylactic management of tonic- clonic seizures with complex symptomatology.
2. It provides protection against the development of focal seizures with complex symptomatology.
3. It is used for treating ventricular tachycardia and sudden episodes of atrial tachycardia when the patients do not respond to other antiarrhythmic medications or cardioversion.

Stability and Storage Conditions

- It should be stored at room temperature and away from light and moisture.

Types of Formulations

- Capsue, Injection

Popular Brand Name

- Dilantin , Phenytek

Q2. Write the note on Antihypertensive Agent with example captopril.

Ans.

ANTI-HYPERTENSIVE AGENTS

→ A condition in which the blood pressure of systemic artery increases beyond the normal pressure is known as hypertension. Therefore to deliver blood to tissues, the heart works harder to overcome the increased systemic pressure. This increased systemic arterial pressure puts

→ Strain on heart and other arteries thus Resulting in high blood pressure

Examples

The following anti-hypertensive agents are- below

1. Propranolol,
2. Captopril,

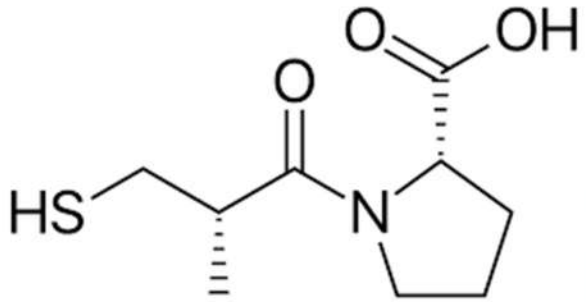
Captopril

→ Captopril is a potent competitive inhibitor of Angiotensin-Converting Enzyme (ACE), which is responsible for converting Angiotensin I (ATI) to Angiotensin II (ATII). ATII controls the

blood pressure and is a major component of the Renin-Angiotensin- Aldosterone System (RAAS).

Chemical name And Structure

(2S)-1-[(2S)-2-methyl-3-sulfanylpropanoyl]pyrrolidine-2-carboxylic acid



Mechanism of Action

- Captopril **blocks the conversion of angiotensin I to angiotensin II and prevents the degradation of vasodilatory prostaglandins, thereby inhibiting vasoconstriction and promoting systemic vasodilation**.

Uses

- Captopril is used alone or together with other medicines **to treat high blood pressure (hypertension)**.

Stability and Storage Conditions

- ★ It should be stored at room temperature and away from light and moisture

Types of Formulations

- Tablet

Popular Brand Name

- ♠ Capoten

Q3. Write about antionginal Agent explain Isosorbide Dinitrate.

Ans.

ANTI-ANGINAL AGENTS

→ Angina pectoris, usually referred to as angina, denotes severe chest pain which may be caused by ischemia (lack of blood, and hence lack of oxygen supply) of heart muscle. This ischemia is the result of obstruction or spasm of coronary artery (vessels supplying blood to heart).Thus, the main cause of angina is coronary artery disease which results from atherosclerosis of the cardiac arteries.

Example

- Isosorbide Dinitratef

Isosorbide dinitrate

→ Isosorbide dinitrate is a vasodilator. It is used for treating angina pectoris. It has actions similar to nitroglycerine, however it has a slower onset of action.

Mechanism of Action

➲ Isosorbide Dinitrate is a moderate to long acting oral organic nitrate used for the relief and prophylactic management of angina pectoris. It **relaxes the vascular smooth muscle and consequent dilatation of peripheral arteries and veins**, especially the latter.

Used

- It is used for treating angina, congestive heart failure and oesophageal spasms.
- It is also used for treating or preventing the angina attacks.
- It dilates the blood vessels so that the blood flow easily through them and the heart also pumps blood easily.

Stability and Storage Conditions

- It should be stored at room temperature.

Types of Formulations

- Tablets, Capsules.

Popular Brand Names

➢ Bidil, Dilatrate, Isordil