

JLFL University

Classification

Cardiovascular Drugs

What are the main classes of drugs, which act on the heart?

Two major groups used clinically for treatment of cardiac conditions are?

Action

Ant arrhythmic drugs: Cardiac depressant, slow excitability of correct heart rate and rhythm

Ex: Quinidine, Pronestyl (procainamide)

Route and Dosage:

Quinidine: P.o Grit q 4 h

Pronestil: P.O. I.V. I.M. 250 mg

Side effects:

Quinidine: Central nervous system, G.I. slow pulse

Pronestyl: Central nervous system, G.I slow pulse, except cinchonism.

Nursing Implications:

Quinidine: check apical pulse before giving. Withhold chart and circle duty time and notify doctor if marked changes in rate, quality or rhythm of heartbeat.

Rationale:

An anti arrhythmic drug such as quinidine may dislodge thrombi by promoting vigorous atrial contraction. The thrombus or thrombi may enter the circulation and cause: pulmonary, cerebral, or multiple embolism.

To reduce the likelihood of embolic phenomena, an anticoagulant such as heparin may be administered before and during quinidine therapy to patients with a long history of atrial fibrillation. In addition, it can cause thrombocytopenia as a result of platelet agglutination and lysing.

Nurses should carefully observe patients on quinidine therapy for bleeding tendencies such as petechiae, ecchymosis or purpura, epistaxis, etc.

Nursing Implications

Prone style: Check apical pulse for 1 minute. If marked change in rate, report to the Doctor. If given IV, the nurse should monitor the patient's blood pressure and EKG for the same changes as quinidine.

Watch for: hypo tension and systemic lipoid reaction.

Cardio tonic Drugs:

- a) Digitalis
- b) Digoxin, Lanoxin
- c) Digitoxin

Action: Excitatory or stimulating effect on the heart. Increase the contraction power of cardiac muscle. Treat heart pump failure

Route & Dosage: P.O. I.M 0.1 Gm daily

Side Effects:

Nausea, vomiting, diarrhea, bradycardia, constipation, tinnitus

Action: Digoxin, Lanoxin

Slows and strengthens heart

Route & Dosage: P.O.I.M I.V 0.25 TO 0.5mg

Side Effects: Same as Digitalis

Action C Digitoxin: Slows and strengthens heart

Route & Dosage: P.O. 0.1 to 1.25

Side effects: nausea, vomiting, diarrhea, bradycardia, constipation, and tinnitus

Nursing Implications

Check Apical pulse before giving. Do not giving medication if pulse below 60.

Potassium level circle on drug sheet, notify physician.

Rationale

It should be noted that these two classes of drugs are no mutually exclusive. Ant arrhythmic drugs can have a card tonic effect, and cardiotonic drugs can correct an abnormal heart rhythm.

The following are also ant arrhythmic drugs

Propranolol (Enteral) Beta adrenergic blocking agent:

Decrease rise of blood sugar

Prevents rise of free fatty acids

Induce Hypoglycemia

Potentiate action of Insulin and oral hypoglycemic drugs

Lidocaine (xylocaine)

Quinidine like action on the heart.

Used to control PVC

Effect with short duration of action 10 to 20 minutes.

On CNS: convulsions, Hypotension, cardiac arrest

Dilantin (Diphenylhydantoin)

Useful treating arrhythmias, particularly if digitalis induced.

Central Nervous

Stimulants

Classification

Amphetamines

Benzedrine

Dexedrine

Caffeine

Action

Exact mechanism amphetamines act is unknown.

Central nervous system stimulation (anorexia, control appetite)

Stimulating reticular activating system.

Route and Dosage

Amphetamines... PO, IV

Benzedrine... PO, IM 5 to 10 mg

Dexedrine PO, 2 to 5 mg

Side effects

Euphoria, restless

Perspire freely

Dilated pupils

Can produce convulsions, coma and death in large doses.

Nursing Implications

If giving PO, watch for gastric irritation, and gastric ulcer, as caffeine stimulates gastric secretion of HCL.

Coagulants

Classification

Vitamin K

Synkavite

Aqua Mephyton

Gel foam

Action: Vitamin K Synkavite Aqua Mephyton

Essential for liver synthesis of prothrombin and blood clotting and also for synthesis of proconvertin (Factor VII)

Gel foam: Good surface area for blood and aids in clot formation.

Route and Dosage

**Vitamin K: PO, IM, and IV, Sub Q
5 to 10 mg daily**

**Aqua Mephyton: PO, IM, and IV
5 TO 10 mg**

Gel foam: Local, nasal packing

Side Effects

Minimal

Nursing Implications

Vitamin K; Aquamephyton

Rotate injection sites

Dosage determined by Prothrombine time

Observe for excessive blood clotting

Gel foam: Observe nasal orifices and blood vessels

