

Antihypertension drugs classification

diuretics

sympathoplegics

direct vasodilators

angiotensin II inhibitors

Diuretics

carbonic anhydrase inhibitors

osmotic agents

loop/high ceiling diuretics

thiazide diuretics

potassium sparing

carbonic anhydrase inhibitors +amide

acetazolamide, dichlorphenamide, methazolamide, dorzolamide

primary site of action; proximal tubule

secondary site of action; collecting duct

administer; orally

eliminated; via kidney

Adverse effects; Drowsiness, Skin toxicity, bone marrow toxicity, Metabolic acidosis, urinary alkalinization.

Therapeutic uses; Rarely used as diuretics, Glaucoma, epilepsy, Altitude sickness, to correct metabolic alkalosis

osmotic diuretics

Mannitol, Urea, Glycerin, Isosorbide

Site of action -Nephron segments permeable to water

Pharmacologically inert

oral administration; Glycerin & Isosorbide

IV administration; Mannitol & urea

renal elimination; Isosorbide, urea, Mannitol

metabolism; glycerin, Mannitol (- 10%)

Adverse effects; Headache, nausea, vomiting, Dehydration, Pain (urea), Hyperglycemia (glycerin)

Therapeutic uses; acute glaucoma & Cerebral edema (increased ICP)

Loop/high ceiling diuretics

Furosemide, Torsemide, Ethacrynic acid

inhibit Na⁺-K⁺-2Cl⁻ symport

Some carbonic anhydrase inhibition activity

Site of action; thick ascending limb (ThAL)

administer; orally

Elimination: metabolism and renal unchanged

Adverse effects; Ototoxicity, Hyperuricemia+Lipidemia, hypo-K⁺/Mg⁺/Ca⁺

Therapeutic use; Acute pulmonary edema, Chronic CHF, HTN, edema of nephrotic syn., cure toxemia

