Alpha Agonists

α agonists include norepinephrine, phenylephrine, ephedrine, and epinephrine. These drugs can be remembered by ending with the suffix, "rine." They all have different effects on α receptors and have varied indications. Norepinephrine is a catecholamine used to treat hypotension, which also has effects in treating attention disorders and depression. Phenylephrine is a drug used to treat hypotension without chronotropic or inotropic effects, which can also be used for rhinitis. Ephedrine is a drug which can treat urinary incontinence, and has use as a decongestant and vasopressor. Epinephrine is a catecholamine which is helpful in anaphylaxis and asthma, which is also used to increase blood pressure.

PLAY PICMONIC

-RINE suffix

Watermelon Rind

These drugs can be recalled by their nomenclature, which has a "rine" suffix: epinephrine, norepinephrine, ephedrine, pseudoephedrine and phenylphrine.

Norepinephrine

North-epi-pen

Norepinephrine is a catecholamine and an α1 and α2 agonist, which also has activity at β1 receptors. It is indicated in use for hypotension, and also has roles in depression and ADHD.

Hypotension

Hippo-BP

This drug is indicated in hypotension, as it quickly raises blood pressure, but does so at the cost of decreased renal perfusion.

Phenylephrine

Phoenix-apron

Phenylephrine is a selective α1 agonist that is indicated for use as a decongestant, vasopressor and mydriatic.

Hypotension

Hippo-BP

This drug works to increase blood pressure in unstable patients with hypotension, especially those with septic shock. Phenylephrine is not chronotropic or inotropic, and increases blood pressure without effecting heart rate or contractility.

Congestion

Stuffed-nose

This medication can be used as an oral drug or intranasal spray to treat congestion.

Ephedrine

F-head

Ephedrine is an indirect agonist which releases stored catecholamines, and is categorized as a sympathomimetic. It is used to treat urinary incontinence, rhinitis and hypotension.

Congestion

Stuffed-nose

Ephedrine is often used as a decongestant.

Urinary Incontinence

Urine In-continents

This drug treats urinary incontinence, as it causes vasoconstriction of the renal arteries.

Hypotension

Hippo-BP

Ephedrine is commonly used to treat hypotension, and administration is often seen in surgical or obstetric procedures.

Epinephrine

Epi-pen

Epinephrine is a catecholamine α agonist (at α1 and α2 receptors), which has β1 and β2 adrenergic activity, as well. It is used for treatment in anaphylaxis, asthma and hypotension.

Anaphylaxis and Asthma

Anvil-ax and Asthma-inhaler

This drug is helpful in anaphylaxis due to its vasoconstrictive effects. In asthma treatment, epinephrine works as a bronchodilator when specific β2 agonist medications are unavailable or unhelpful.

Hypotension

Hippo-BP

Because of its action at numerous adrenergic receptors, this drug is helpful in treating hypotension. Blood pressure is increased in two ways: peripheral resistance increases because of actions at α receptors, while cardiac output is greatly increased due to β adrenergic activity.