Nonselective Alpha-Blockers

Phentolamine and phenoxybenzamine are drugs which lower blood pressure by inhibiting vasoconstriction through their action at α_1, while also having action at α_2 receptors. Phentolamine is a reversible drug which is useful in treating hypertensive crisis and is indicated for diagnosing pheochromocytomas. Phenoxybenzamine is indicated for treating pheochromocytomas, due to its slow onset and long duration of effects.Both of these medications vasodilate because of their action at αreceptors, and can lead to the side effect of orthostatic hypotension. Blockade at these receptors also leads to increased sympathetic tone, which can lead to reflex tachycardia.

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Indications

Phentolamine

Phantom-toe

Phentolamine is a reversible drug with action at both αreceptors, which is used to treat hypertensive emergencies and in cases of pheochromocytoma.

Reversible

Reversed-hat

Phentolamine is reversible and dissociates from adrenergic receptors.

Pheochromocytoma (Diagnosis)

Fiat-chrome

This drug is reversible, and thus is indicated making it ideal for the diagnosis of a pheochromocytoma.

Hypertensive Crisis

Hiker-BP Crying

Phentolamine is indicated for patients on MAO inhibitors who eat tyramine-containing food, in order to treat hypertensive crisis. This drug also has use in cocaine-induced hypertension, as this drug is helpful in avoiding the unopposed alpha effects of other drugs that may be used to treat cocaine intoxication.

Phenoxybenzamine

Phantom-ox

Phenoxybenzamine is a non-selective αblocker which is non-reversible. It is often used to treat pheochromocytomas and has a slower onset and longer effect than other αblockers.

Pheochromocytoma (Treatment)

Fiat-chrome

Phenoxybenzamine is indicated for the treatment of symptoms from pheochromocytomas, which effect the adrenal gland, as this is drug has a longer effect than other αblockers.

Side Effects

Orthostatic Hypotension

Oar Hippo-BP

As these medications inhibit α1 and α2 adrenergic receptors, they decrease vasoconstriction and vessel tone. This leads to orthostatic hypotension in patients taking these drugs.

Reflex Tachycardia

Reflex-hammer Tac-heart-card

Patients taking this medication may experience reflex tachycardia. This occurs because the hypotension and added α2 inhibition are countered physiologically by increased sympathetic tone.