Adrenergic Antagonists

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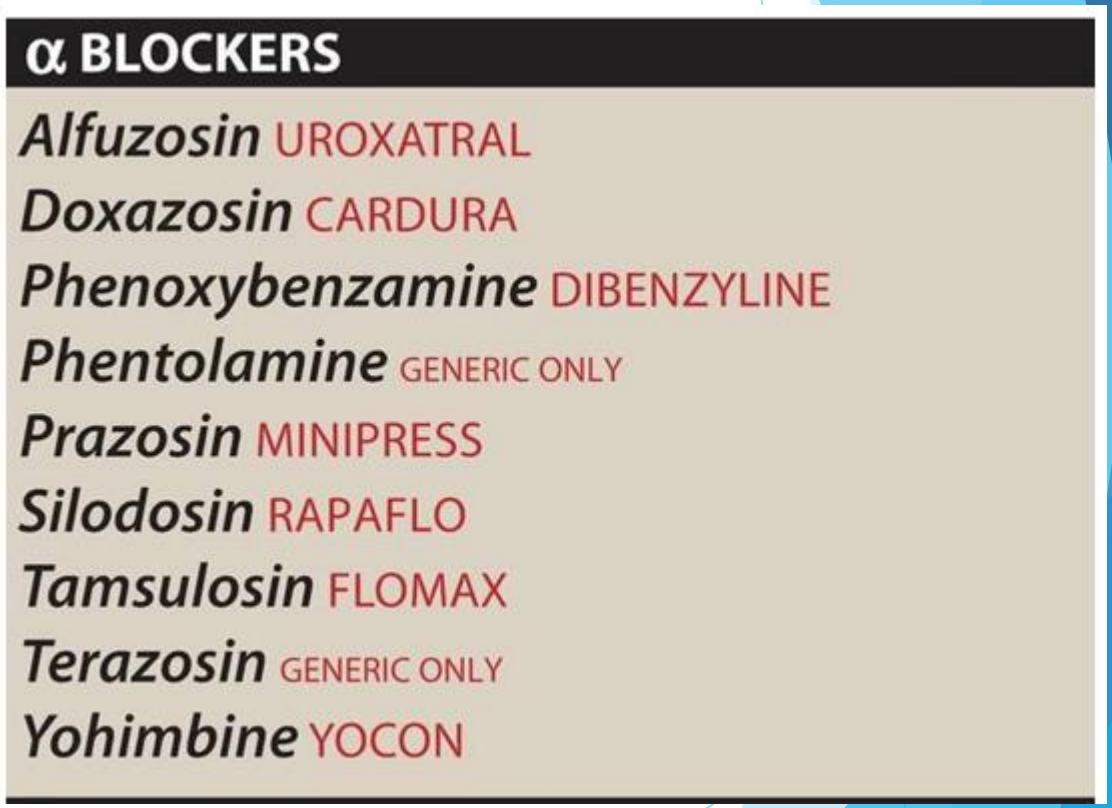
α-Adrenergic Blocking Agent

- A. Phenoxybenzamine: noncompetitive blocker of α1- and α2-adrenergic receptors.
- Therapeutic uses Phenoxybenzamine is used in the treatment of sweating and hypertension associated with pheochromocytoma,
- Adverse effects Phenoxybenzamine can cause postural hypotension, nasal stuffiness, nausea, and vomiting. It may inhibit ejaculation. It may also induce reflex tachycardia.
- B. Phentolamine: produces a competitive block of α1 and α2 receptors.
- It is used for the diagnosis and short-term management of pheochromocytoma.



C. Prazosin, terazosin, and doxazosin

- selective competitive blockers of the α1 receptor.
- they are useful in the treatment of hypertension
- **** Tamsulosin , alfuzosin , and silodosin are examples of other selective α1 antagonists indicated for the treatment of benign prostatic hyperplasia
- Adverse effects : α1-Blockers such as prazosin and doxazosin may cause dizziness, a lack of energy, nasal congestion, headache, drowsiness, and orthostatic hypotension

β-Adrenergic Blocking Agents

- A. Propranolol: a nonselective β antagonist:
- Therapeutic uses: Hypertension, Angina pectoris , Myocardial infarction , Migraine and Hyperthyroidism .
- Adverse effects :Bronchoconstriction , Arrhythmias , Sexual impairment , Metabolic disturbances

B. Nadolol and timolol: nonselective β antagonists

Treatment of glaucoma

C. Acebutolol, atenolol, betaxolol, bisoprolol, esmolol, metoprolol, and nebivolol: selective β1 antagonists

Therapeutic uses The cardioselective β-blockers are useful in hypertensive patients with impaired pulmonary function.

E. Labetalol and carvedilol: antagonists of both α- and β adrenoceptors

Labetalol is used as an alternative to methyldopa in the treatment of pregnancy-induced hypertension.

carvedilol as well as metoprolol and bisoprolol are beneficial in patients with stable chronic heart failure.

β BLOCKERS

Acebutolol GENERIC ONLY
Atenolol TENORMIN
Betaxolol BETOPTIC-S
Bisoprolol GENERIC ONLY
Carteolol GENERIC ONLY
Carvedilol COREG, COREG CR
Esmolol BREVIBLOC
Labetalol GENERIC ONLY
Levobunolol BETAGAN
Metipranolol GENERIC ONLY
Metoprolol LOPRESSOR, TOPROL-XL
Nadolol CORGARD
Nebivolol BYSTOLIC
Pindolol GENERIC ONLY
Propranolol INDERAL LA, INNOPRAN XL
Timolol BETIMOL, ISTALOL, TIMOPTIC

DRUG	RECEPTOR SPECIFICITY	THERAPEUTIC USES
Propranolol	β_1, β_2	Hypertension Migraine Hyperthyroidism Angina pectoris Myocardial infarction
Nadolol *Pindolol*[1]	β_1, β_2	Hypertension
Timolol	β_1, β_2	Glaucoma, hypertension
Atenolol *Bisoprolol*[2] *Esmolol* *Metoprolol*[2]	β_1	Hypertension Angina Myocardial infarction Atrial fibrillation
Acebutolol[1]	β_1	Hypertension
Nebivolol	β_1, NO ↑	Hypertension
Carvedilol[2] *Labetalol*	$\alpha_1, \beta_1, \beta_2$	Hypertension