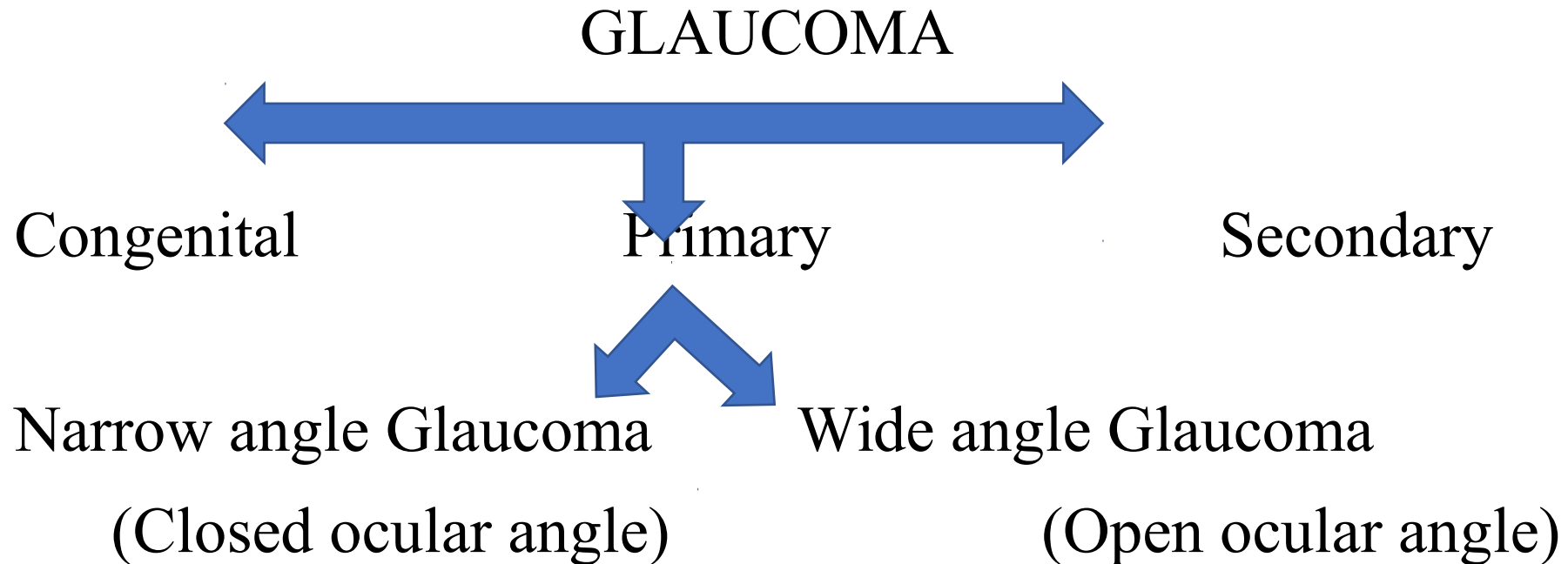


GLAUCOMA

Increased Intraocular pressure (>21 mm/Hg) characterized by progressive optic neuropathy by death of Retinal Ganglionic Cells (Inadequate Neurotrophins from brain)



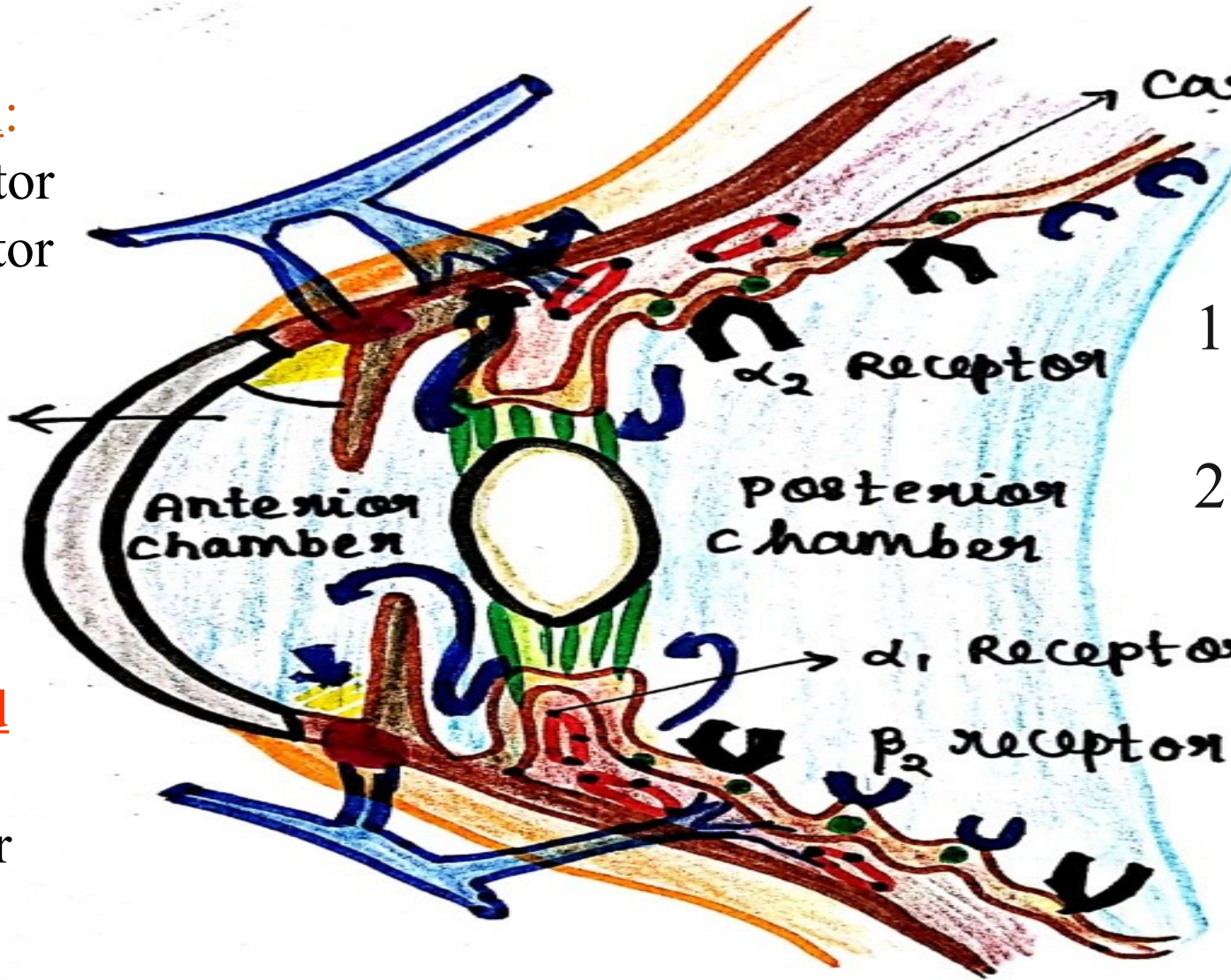
AUTONOMIC RECEPTORS IN EYE AND AQUEOUS HUMOUR DYNAMICS

Ciliary

Epithelium:

1. α_2 receptor
2. β_2 receptor

ocular angle



Carbonic anhydrase

Iris

1. Circular muscles -
M3 receptor
2. Radial Muscles -
 α_1 receptor

Ciliary Blood Vessels:

α_1 receptor

α_1 Receptor on ciliary blood vessel

β_2 receptor



Advanced glaucoma

Anti glaucoma drugs work by either increasing aqueous outflow or decreasing aqueous secretion

INCREASING THE AQUEOUS OUTFLOW DRAINAGE

DECREASING THE AQUEOUS SECRETION

TRABECULAR OUTFLOW

UVEO-SCLERAL OUTFLOW

- 1. Cholinomimetics / Parasympathomimetics
 - (i) Directly acting
 - (ii) Indirectly acting

- 2. Non Selective α agonist
- 3. Prostaglandins Analogues

- 1. Beta Blockers
- 2. Selective $\alpha 2$ agonist

- 3. Carbonic Anhydrase inhibitors
- 4. Hypertonic solutions

DRUGS FOR OPEN ANGLE GLAUCOMA :

1. **Beta blockers** - Timolol, Betaxolol

2. **Alpha adrenergic agonist-**

Adrenaline, Dipiveridine, Brimonidine

3. **Carbonic anhydrase inhibitors-**

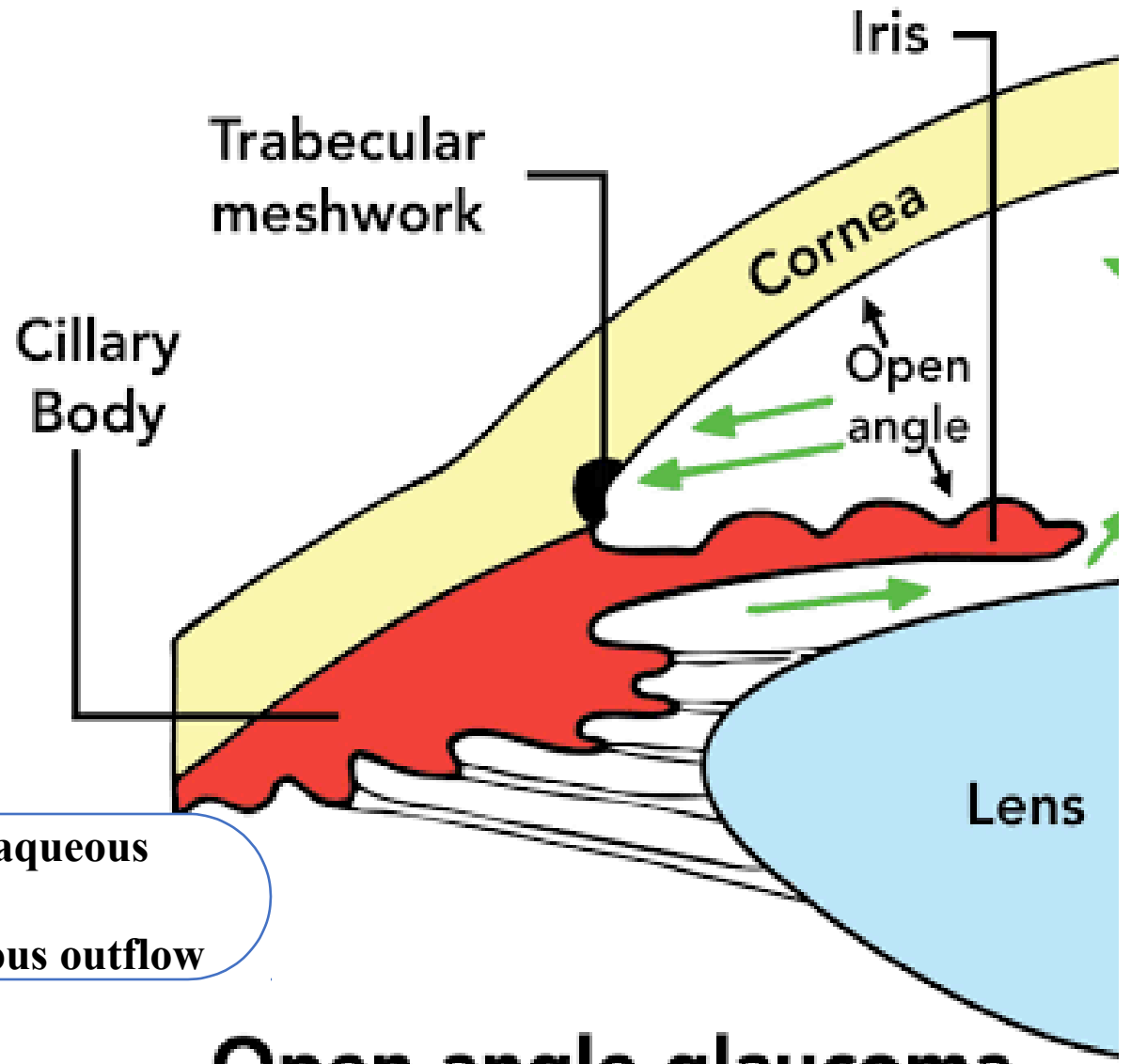
Acetazolamide, Dorzolamide

4. **Prostaglandins analogue-**

Latanoprost

5. **Miotic-** Pilocarpine

1,2,3 : Decrease aqueous secretion
4,5 : Increase aqueous outflow



Open-angle glaucoma

DRUGS FOR CLOSED ANGLE GLAUCOMA :

1. **Beta blockers** - Timolol eye drops

2. **Selective α_2 agonist-**

Apraclonidine eye drop

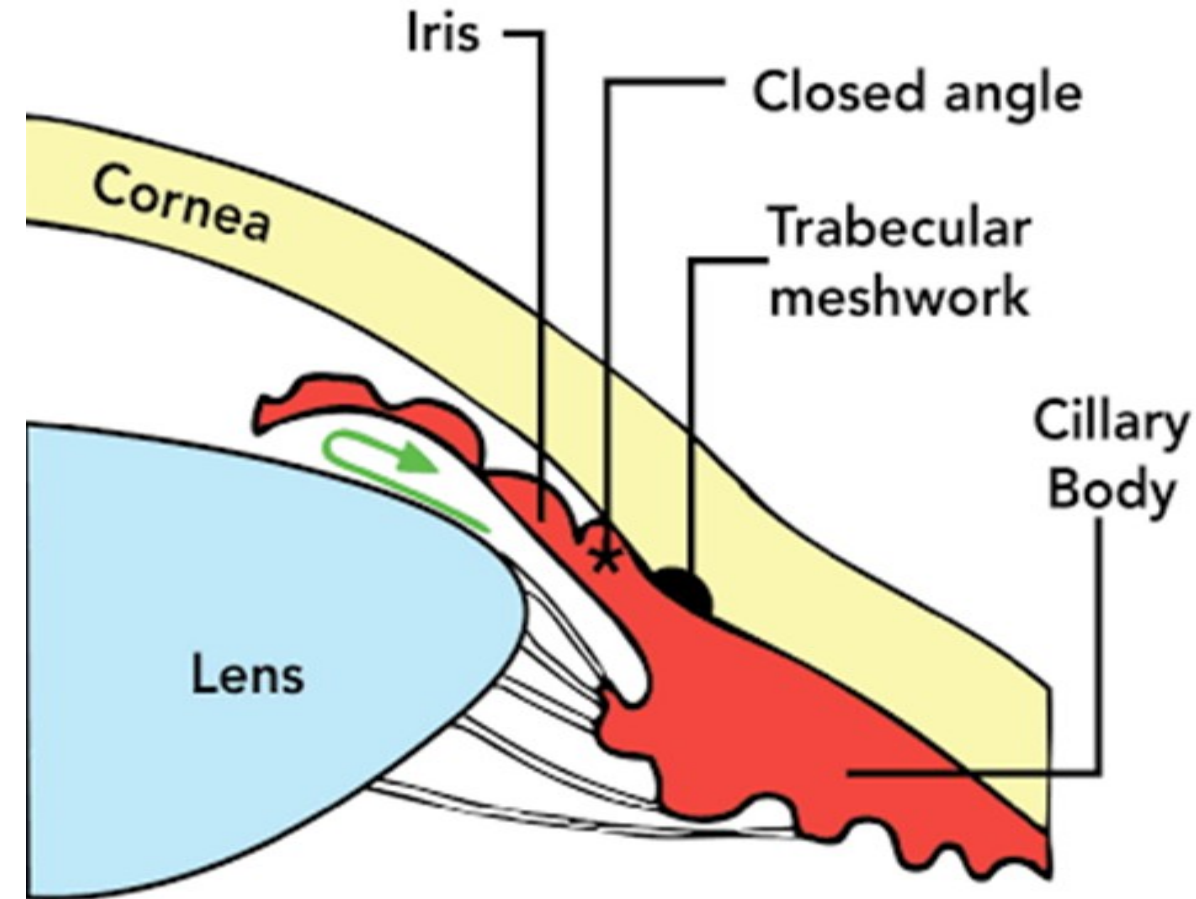
3. **Carbonic Anhydrase inhibitors-**

Acetazolamide orally

4. **Hypertonic solutions-** Mannitol injection

5. **Miotic-** Pilocarpine

1,2,3 : Decrease aqueous secretion
5 : Increase aqueous outflow



Closed-angle glaucoma