



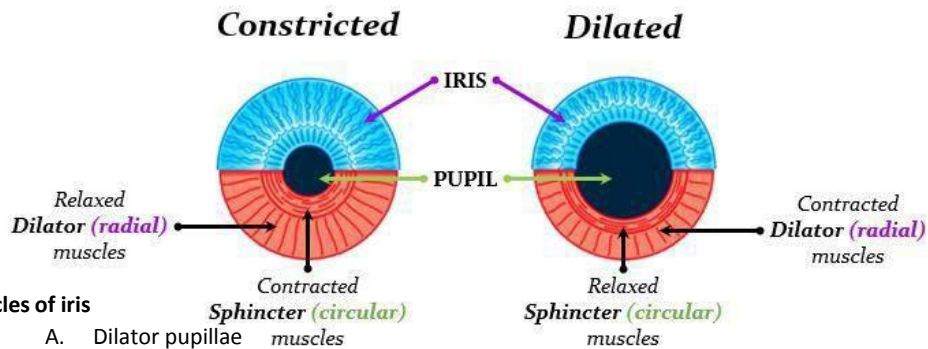
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MYDRIATICS

1. Definition

- Mydriatics are the agents who dilates the pupil and cycloplegics are agents which cause paralysis of the ciliary body.

Working of Iris



➤ **Muscles of iris**

- A. Dilator pupillae
 - Dual nerve supply
 - Sympathetic adrenergic are stimulatory while parasympathetic are inhibitory
- B. Sphincter pupillae
 - Dual nerve supply
 - Parasympathetic muscarinic are stimulatory while sympathetic are inhibitory
 - Out of five muscarinic receptor M3 is present in the ciliary muscles and the iris.
 - Stimulation of M3 receptor cause constriction of the pupil

2. Classification

- Two classes of mydriatics are available
- Adrenergic agonist:- adrenaline, cocaine, phenylephrine, hydroxyamphetamine
- Cholinergic antagonist:- tropicamide, atropine, cyclopentolate

3. Pharmacological action

- Pehylephrine raises BP, and cause bradycardia
- Adrenaline- Increases smooth muscle contraction and increase heart rate
- Hydroxyamphetamine stimulate α and β adrenergic receptors □ Pupillary sphincter muscle relaxation

4. Dose

- Cyclopentolate:- 0.5-1%
- Phenylephrine:- 2.5 % □ Tropicamide:- 0.5-1 %

2. Indication

- To dilate the pupil for ocular examination
- To differentiate post ganglionic Horner’s syndrome from pre ganglionic Horner’s syndrome, post ganglionic lesions fail to dilate

6. Contraindication

- Hypertensives
- Type-1 diabetes mellitus
- Cardiac disease
- Old debilitated patients
- Patient on reserpine
- infants

GLAUCOMA

1. Definition

- Glaucoma is a group of eye diseases that can cause vision loss and blindness by damaging a nerve in the back of your eye called the optic nerve.
- It is also defined as progressive optic neuropathy which damages optics nerve



➤ Types of glaucoma

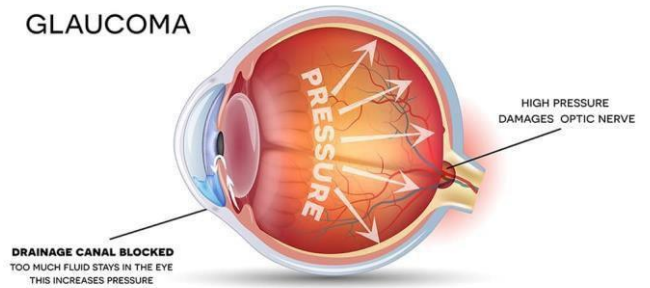
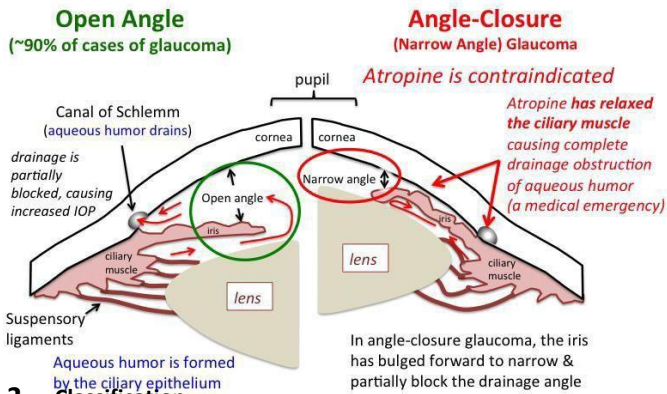
i) Congenital glaucoma ii) Primary glaucoma

- Open angle
- Closed angle

iii) Secondary glaucoma

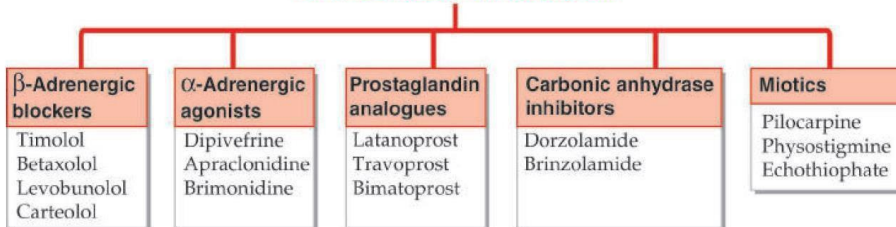
- lens induced, traumatic or steroid induced

iv) Absolute glaucoma



2. Classification

TOPICAL DRUGS FOR GLAUCOMA



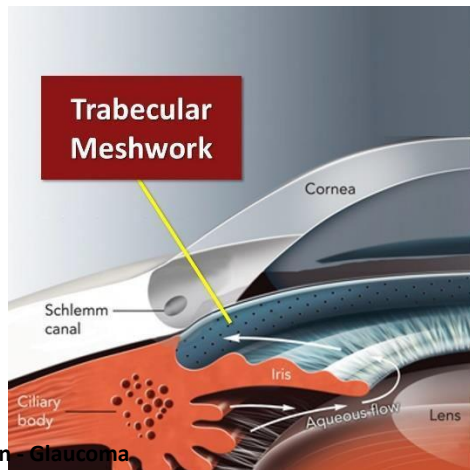
3. Dose:-

- Timolol:- 0.25-0.5% one drop BD
- Betaxolol:- 0.5% One drop BD
- Levobunolol:- once daily dosing
- Dipivefrine:- 0.1 % one drop every 12 hour
- Apraclonidine:- 0.5-1%

- Brimonidine:- 0.2%
- Lantoprost:- 0.005 %
- Dorzolamide:-2%

4. Pharmacological action

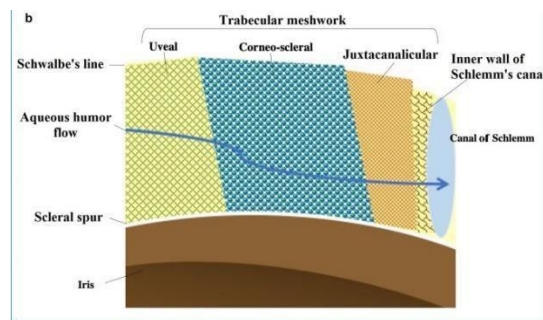
- When administered in the tablet form, it reduces blood pressure, heart rate, and cardiac output, and decreases sympathetic activity
- reduced production of aqueous humor from the ciliary body,
- increased evacuation of the aqueous humor through the trabecular meshwork and through the uveoscleral way.



Indication: Glaucoma.

6. Contraindication

- post-operative inflammation,
- spastic gastrointestinal disturbances,
- uveitis,
- neovascular glaucoma,
- patient at risk for retinal detachment,
- peptic ulcer,
- bradycardia,
- hypotension,
- recent myocardial infarction,
- epilepsy,
- Parkinsonism



5.

