GLAUCOMA

DEFINITION: Glaucoma is an Ocular condition characterized by:-

- Optic neuropathy (Death of retinal ganglion cells) ie optic atrophy
- Characteristic visual field loss
- Elevated IOP as a primary risk factor.
- It is one of the leading causes of blindness worldwide

PHYSIOLOGY OF AQUEOUS HUMOUR

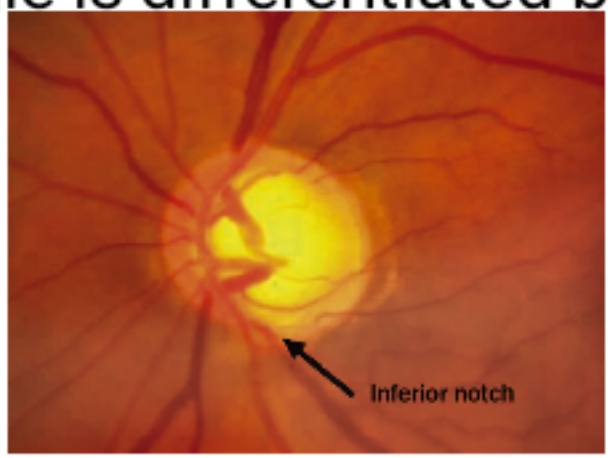
- Aqueous humour is produced by the ciliary epithelium of the ciliary body (processes) at a rate of 2.5 ul/minute. AC volume is 250ul.

- It flows into posterior chamber to enter the anterior chamber through the pupil and proceeds to the angle where it enters the trabecular meshwork and flows to enter the schlemm's canal. It finally escapes into the episcleral vessels. 10% of aqueous leaves the eye through uveal scleral Normal IOP is from 10 – 21 mmHg.

CLASSIFICATION

- Primary open Angle Glaucoma
- Primary closed Angle Glaucoma
- Secondary open Angle Glaucoma
- Secondary closed angle glaucoma
- Congenital Glaucoma
- Acute Angle closure Glaucoma
- Normal tension Glaucoma.

Open and Closed angle is differentiated by gonioscopy.



RISK FACTORS

- Elevated IOP
- Family history of glaucoma
- Systemic hypertension or hypotension
- Myopia
- Migraine headache (Normal tension Glaucoma)

- Female
- Race
- Black people – P.O.A.G
- Whites (Asians) Acute Angle Closure Glaucoma
- Age i.e after 40 years

CLINICAL PRESENTATION

- P.O.A.G
- Initially Asymptomatic until the disease has advanced.
- Insidious, slow progressive loss of vision with no pain felt.

SIGNS

- Increased IOP
- Defective visual fields (loss of peripheral visual field).
- Cupped optic disc and atrophy
- Nasal displacement of retinal vessels.

DIAGNOSTIC TEST

- Tonometry
- Funduscopy
- Perimetry
- Visual Acuity test (useful in advanced cases)

MANAGEMENT

- Overall goal is to effectively reduce the rate of loss of retinal ganglion cells and preserve the remaining vision.

MEDICAL THERAPY

- To reduce IOP by increasing rate of outflow or reduce production of aqueous humour.

- Pilocarpine eye drop 1– 4%
- Timolo maleate eye drops 0.25 – 0.5%
- Betaxolol eye drop 0.25 – 0.5%
- Latanoprost (xalatan) 0.005%
- Travoprost (Travatan) 0.004%
- Bimatoprost (Lumigan) 0.03%
- Acetazolomide tablets etc.

SURGICAL

Surgical Trabeculectomy

Yag laser Trabeculoplasty

PRIMARY ANGLE CLOSURE AND ACUTE ANGLE CLOSURE GLAUCOMA

MECHANISM

- Angle block by Peripheral Iridocorneal contact causes sudden rise of IOP.

- First there is a relative Pupillary block which initiates displacement of peripheral iris to establish contact with cornea and cause angle block.

CLINICAL PRESENTATION
SYMPTOMS

- Red eye
- Pain
- Blurred vision
- Sometimes patients can present with headache or vomiting.

SIGNS

- Visual Acuity is diminished
- Hyperaemia of conjunctiva
- Oedematous Cornea (Haze Cornea)
- Mid – dilated pupil which is fixed
- Elevated IOP

Acute angle closure glaucoma is an ocular emergency because if not diagnosed early progressive permanent damage occurs in a few hours or days.

MANAGEMENT
MEDICAL

- Therapy directed at breaking Pupillary block by lowering the IOP and reopening the angle.

- IV manitol

- Pilocarpine eye drops every 15 minutes first hour, then hourly until IOP is lowered.

SURGICAL

- Peripheral iridectomy or laser iridotomy

- Prophylaxis peripheral iridectomy or laser iridotomy is recommended for the fellow eye if angle is shallow.

SECONDARY GLAUCOMA

Definition: A group of disorders in which rise of IOP is associated with some Primary Ocular or Systemic disease.

TYPES

- Lens Induced (Phacogenic)
- Inflammatory e.g uveitis
- Pigmentary e.g in pigment dispersion syndrome
- Neovascular glaucoma e.g new vescular in Diabetic patients.
- Pseudo – exfoliative
- Steroid induced due to prolonged use of steroids
- Glaucoma in aphakia – due to hyphaema, cortical matter, inflammation and vitreous in AC Post operatively.

PHACOGENIC GLAUCOMA

- Phacomorphic :- due to intumescent lens or anterior dislocation of lens which push iris forward and close angle.

- Phacolytic :- due to hyper mature cataract which leaks lens proteins and these ate phagocytised by macrophages leading to blockage of trabecular meshwork.

- Lens particle present after surgery/Injury can block trabecular meshwork.

CILIARY BLOCK

GLAUCOMA (MALIGNANT GLAUCOMA)

- Very high IOP with shallow AC due to rotation of ciliary process forward pressing against lens leading to blockage of forward flow of aqueous humor which is then diverted posterior into vitreous.

CLINICAL FEATURES

- Severe pain
- Blurred vision
- Flat anterior chamber
- Increased IOP
- Negative seidels test

TREATMENT

- Atropine eye drop
- Acetezolomide IV/Oral
- I.V manitol
- Surgery

THE END

THANK YOU FOR LISTENING!!!!!!!!!!!!