OSPE BLOCK M2 '24

MUST MENTION **STATION NO.**
AT EACH STATION, EYE DEPT.
SERIOUSLY MINDS IT

(ALSO, THE CLERK WAS SAYING THAT SOMEONE WAS TAKING PICS DURING THE PREPROFF OSPE (held on 13 Nov 2024) , SO WE WILL CHANGE THE STATIONS IN FINAL EXAM, THOUGH SOME STATIONS LIKE CATARCT ETC ARE ALWAYS REPEATED. SO JUST IN CASE, DON'T RELY SOLELY ON THIS OSPE)

- MECHANISM OF ACTION → Anti Cholinergic So mydriasis and cycloplegia
- ADVERSE EFFECTS
- USES

Uses of Cyclopentolate in Ophthalmology

Cyclopentolate is a **topical anticholinergic (parasympatholytic) drug** used for:

1. **Cycloplegic Refraction** – Temporary paralysis of the ciliary muscle to determine refractive errors, especially in children.
2. **Mydriasis (Pupil Dilation)** – Used for **fundus examination** and retinal evaluation.
3. **Uveitis Treatment** – Helps **prevent posterior synechiae formation** and relieves ciliary spasm, reducing pain.

Adverse Effects of Cyclopentolate

Ocular Side Effects:

- **Transient Stinging & Irritation**
- **Blurred Vision** (due to cycloplegia)
- **Photophobia** (due to prolonged mydriasis)
- **Increased Intraocular Pressure (IOP)** – Can **precipitate acute angle-closure glaucoma** in susceptible individuals.

- HISTORY TAKING; RED EYE.

- CONFRONTATION TEST

STATION NO: _____

1. Identify the lenses given (1.5)

2. In which conditions are these lenses used? (1.5)

3. What are different methods of lenses identification? (3)

Ways to identify

- Feeling the lens (tactile identification)
- Looking for presence or absence of distortion
- Looking for movement of image through lens
- Looking for image size through lens

Tactile identification

- Convex lens is thicker at center and thinner at periphery
- Concave lens is thin at center and thick at periphery
- This method might not work for lower power of lens

Looking for distortion

- Make a cross and identify lens based on movement of image of the cross
- Spherical lens cause no distortion of cross
- Astigmatic lens (cylindrical lens) cause distortion of cross unless their axes coincide with the cross lines

Looking for movement of image

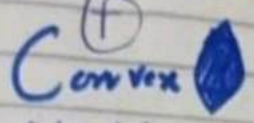
- when lens is moved from side to side and up and down along the arms of cross, the movement of cross is observed (seen in Spherical lens i.e. Convex and concave lens)
- Convex lens - against movement
- Concave lens - with movement
- Cylindrical lens - no movement along the axis of cylinder; movement is seen only across the meridian with power

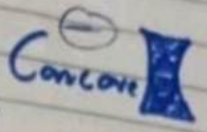
Scissoring reflex - seen in cylindrical lens

Image size

- Magnification - convex lens
- Minification - concave lens

Identification of Convex & Concave lens.





Tactile Identification (More high power)

- Thicker at then Centre
  Thinner at the edges
- Thinner at the Center
  Thicker Edges

Distortion of Image + look at cross... through lens / Linear object

→ Spherical lens No Distortion

→ Astigmatic lenses causes distortion when axis not align

Direction of Image Movement

Convex.

- Against movement
- Lens down image upward

Concave.

- With movement
- Lens down image down

Cylindrical → No movement along axis
Movement only seen across the meridians

Magnified image

+ Marking

Black colour

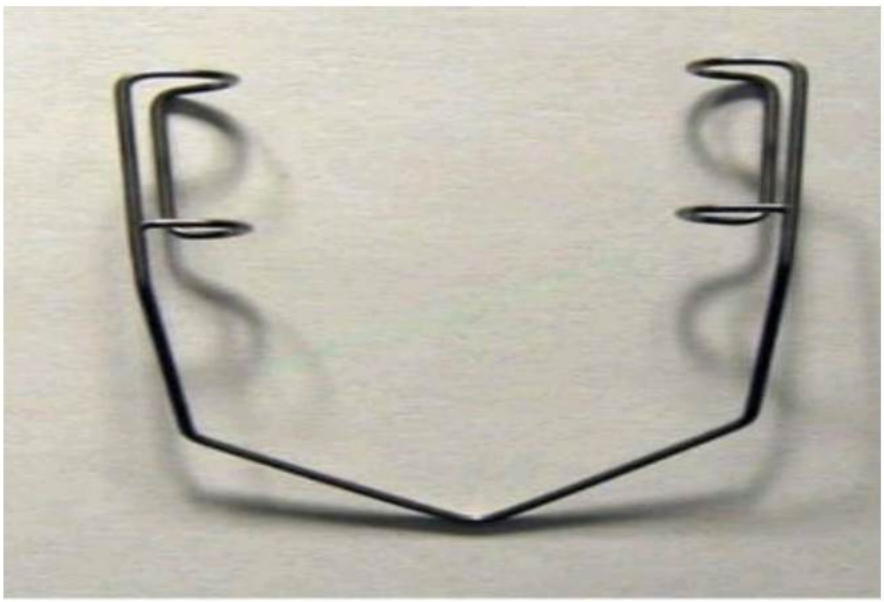
Minified image

- Marking

Red colour

INSTRUMENTS

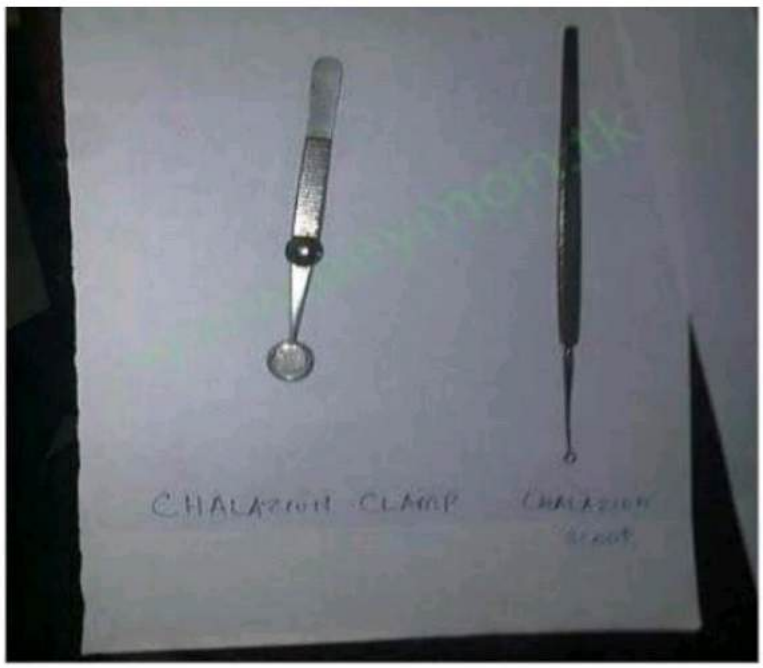
(IDENTIFY AND MAIN USE)



Wire Speculum
Use: to keep lids apart

Squint hook
Use: to engage extra-ocular muscles during squint surgery and also used as lens expressor

Chalazion Clamp
Use: Fix chalazion, achieve haemostasis during incision and drainage



Chalazion Scoop (Right)
Use: Scoop out content of chalazion during surgery and curettage
Chalazion Clamp (Left)
Use: Fix chalazion, achieve haemostasis during incision and drainage

Irrigation and aspiration cannula (both above)
Use: Irrigation and suction of lens

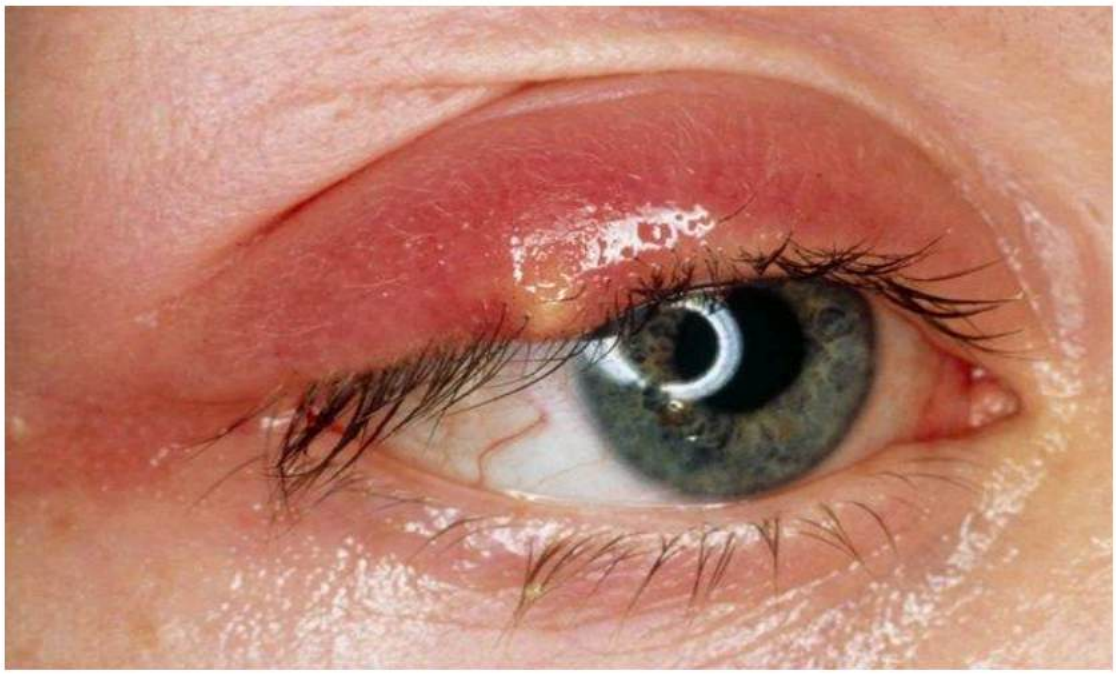
4. Bone Punch

It has a spring handle with two blades.

Use: To enlarge the boney opening during DCR operation.

STYE

PAINFUL SWELLING ON UPPER EYELID
SINCE 3 DAYS



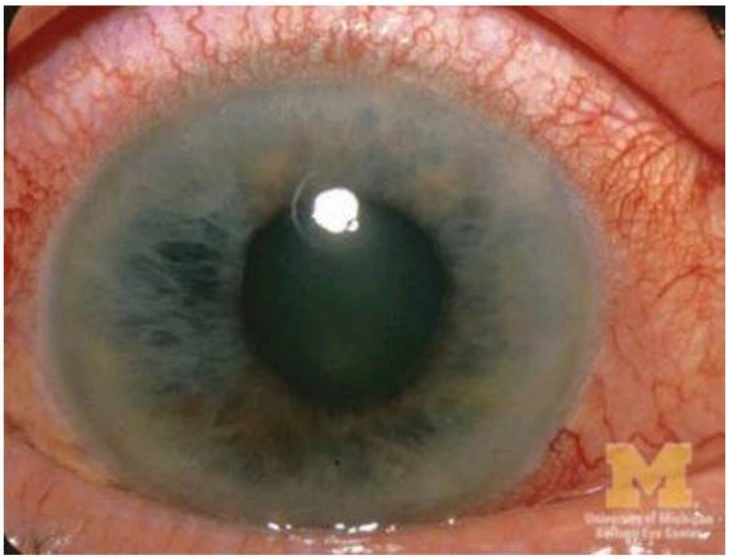
- DIAGNOSIS → Hordoleum externum (stye)
- DIFFERENTIAL DIAGNOSIS → Hordoleum internum
  ↳ Secondary infected chalazion
- TREATMENT ↘

Hordoleum Externum (stye) /

- Analgesics → Relief of pain
- Systemic antibiotics
- Topical antibiotics
- Warm compresses
- Evacuation of pus

ACUTE ANGLE CLOSURE GLAUCOMA

A 35 years old female presented with **sudden, severe, painful loss of vision** after watching TV in the **dark.**



- FINDINGS IN THE PIC
- DIAGNOSIS
- IMPORTANT INVESTIGATIONS
  - ↳ Tonometry
  - Gonioscopy
  - Fundoscopy
  - Perimetry

BLEPHARITIS

Ulcerative Blepharitis

- inflamed swollen lid margin
- Dried pus (crust)
- matted lashes

- FINDINGS IN THE PIC

- D/Ds → - eyelid margin tumor
  - Contact dermatitis

- TREATMENT

Eyelid Hygeine
Antibiotic ointment
Topical steroids
Artificial Tears
Oral Antibiotics

Cataract Extraction
- ECCE - ICCE
- Pars plana Lensectomy

Station

A 60 year old male presents with the eye picture given above

1. What are the findings given in the picture above? (1)
2. Name 3 types of surgical interventions done for this condition? (2)
3. Enumerate 3 corneal complications of the surgery done for this condition? (2)

Finding in picture

- Opacification of lens of an Eye (Cataract)

Types of Surgical Interventions:

→ Intracapsular cataract Extraction (ICCE)
→ Extracapsular cataract Extraction
  1. Manual small incision cataract Surgery
  2. phacoemulsification
  3. Femtosecond laser assisted cataract Surgery.

Corneal Complications:

→ Epithelial abrasions (filamentary keratitis)
→ Corneal Burn
→ Infectious Keratitis
→ Stripped Descemet membrane
→ Endothelial damage.

- Acute infections
- Corneal edema
- Opacification of posterior capsule

CRVO → Sudden painless

Diabetic → gradual + pain

CRVO → Tomato Splashed Appearance

STATION NO: _____

A 70 years old man presented with sudden painless loss of vision in the left eye only. Right eye is normal. He is hypertensive only.

→ OCT

1. What is your diagnosis? (1)
2. What are the causes of this ocular pathology? (2)
3. What is the name of investigation shown in the figure 2? (1)
4. What are the treatment options for this pathology? (2)

Findings:
- Dot, Blot and flame shaped haemorrhages
- Dilated, engorged and tortous Retinal veins
- Cotton wool spots
- optic disc edema

1. Diagnosis:-

Central Retinal Vein occlusion (CRVO)

Causes:-

- Age → More common above 65 years
- External compression
- Systemic Hypertention
- Diabetis mellitus
- Raised intraocular pressure
- Drugs → oral contraceptive
- Hyperviscosity of Blood
- inflammation

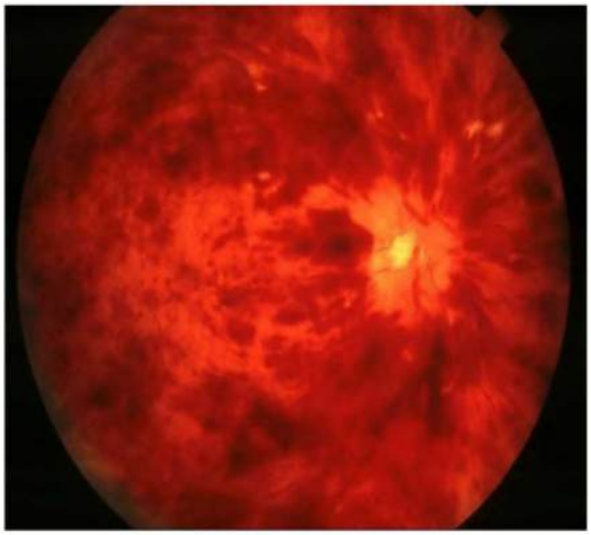
Investigation shown in figure

Optic coherent tomography (OCT)

Treatment:-

- Anti Vascular Endothelial growth (Anti VEGF)
- Laser photocoagulation
- Intravitreal Steroid
- Systemic steroid
- Optic Nerve sheathotomy

CENTRAL RENTINAL VEIN OCCLUSION
Ischemic



- Less common
- Severe visual loss (usually < 6/60)
- Sudden – painless

- **SIGNS:** All are Severe

Findings :-
- Dot : Blot and flame shaped haemorrhages
- Dilated, engorged and tortous Retinal veins
- Cotton wool spots
- Optic disc edema

SYSTEMIC:

Age: Increasing age – {6th –7th decades }

Diabetes / B.P

Blood dyscrasia: Hyper viscosity – chronic leukemia, Polycythemia, Changes in plasma proteins – macroglobulinaemia , Sickle cells disease –BRVO

❖If bilateral CRVO – check for blood dyscrasia

Drugs – Oral contraceptives

OCULAR:

Raised IOP

Hyperopia

Congenital anomaly of CRV – usually young pts

Periphlebitis – Sarcoidosis, Behcet's disease, retinal vasculitis

Trauma

Investigation shown in figure

Optic coherent tomography (OCT).

Treatment :-
- Anti Vascular Endothelial growth (Anti VEGF)
- Laser photocoagulation
- Intravitreal Steriod
- Systemic steroid.
- Optic Nerve sheathotomy.

STATION:

A 56yrs old lady presented with decreased VA in her right eye 2 months ago, she is both diabetic as well as hypertensive and taking medication for these conditions, her HBA1c is 8.0%, VA in Right eye is 6/12 , while it is 6/9 in her left eye.

1) What findings are there in this fundus photograph? (1)
2) What is your most probable diagnosis? (1)
3) What ocular investigations can be helpful? (2)
4) What options do we have to treat this patient? (2)

X **Findings in Fundus Autograph:-**

- Dot & Blot haemorrhages
- Hard exudates.

Diagnosis:-

Diabetic Retinopathy.

Ocular Investigations:-

→ Fundus examination with direct and indirect opthalmoscopy
→ Fundus flourescein angiography. (FFA)
→ optical coherent tomography (OCT).

Treatment:-

→ Control
→ Anti vascula
→ Laser photo
→ Pars plana

* Diabetic Retinopathy
  - Patient education
  - Good control of diabetes
  - Control of Risk Factors
  - Discontinue Smoking

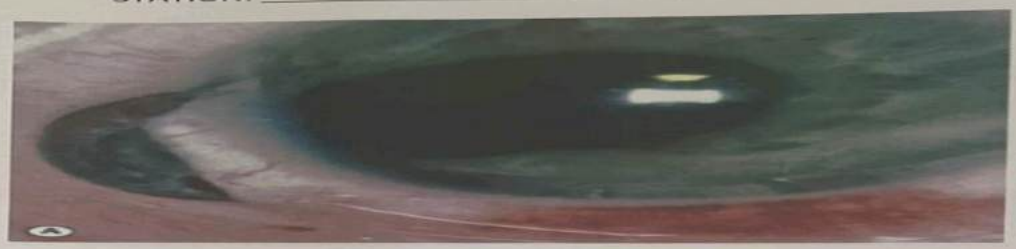
Tx of Retinopathy

Medical
- Anti VEGF → Bevacizumab, Ranibizumab, Afilibercept
- Steroids
  - Intravitreal
  - Suprachoroidal

Laser Photocoagulation
- Focal laser
- Grid patter laser
- Pan retinal photocoagulation

Surgical
- Pars plana vitrectomy

STATION: _____



A young boy presents following trauma to his eyes with knife.

1) What findings do you see in this photograph? (1)
2) What are your primary concerns in this eye? (2)
3) Is there any risk to the fellow eye? (1)
4) How are you going to treat this eye? (2)

Findings:-

Open Globe injury with corneal rupture and iris prolapse.

Primary Concern in this Eye:-

→ Permanent visual loss
→ Development of anterior uveitis
→ Endophthalmitis
→ Retinal detachment.

Risk to the fellow Eye:-

Yes there is a risk of developing anterior uveitis in the fellow eye ie sympathetic ophthalmitis.

- Traumatized Eye is called Exciting Eye.
- Fellow Eye which develops uveitis is called Sympathizing Eye.

Treatment:-

Open globe injury is a medical emergency and Surgical Repair of the eye should be done immediately.

Other → Bed Rest.
→ Systemic, topical and intravitreal Antibiotics (to prevent infections)
→ Topical Steroids
→ Cycloplegics
→ Analgesics

1. What findings do you see in this photograph?
2. What are your primary concerns in this eye?
3. Is there any risk to the fellow eye?
4. How are you going to treat this eye?

STATION: OGI WITH UVEAL PROLAPSE

Key

1.OGI (Scleral laceration with uveal tissue prolapse and distorted pupil)----------1.5

2.

a) Reduce pain----------0.5/each (Max 1.5)
b) Reduce inflammation
c) Prevent infection
d) Exclude IOFBs and so its related complications.
e) Restore anatomical integrity (globe repair)

3. Sympathetic ophthalmia---------- 1.0
4. Prepare for GA, Antibiotics, Anti inflammatory ----- drugs, Globe repair after excluding IOFBs -------- 1.0

STATION NO: _____

A 30 year young patient presents with painless mass in lower lid.

1) What is your diagnosis? (2)

2) What are your differential diagnosis? (2)

3) What treatment options we have? (2)

Diagnosis :-
Chalazoin

DDs :-
* → Hordeolum
* → Sabecous gland adenoma (2 Marks so only 2 enough)
→ Sarcoid granuloma
→ Fungal infection
→ Foreign body granuloma.

Treatment :-

Conservative
- Expression - compression
- Warm Compresses
- Topical Steroid - Antibiotic Combination Drops
- Topical Anti Inflammatory Drops

Medical
- Steroid injection into the lesion through conjunctiva
- Systemic antibiotics → if chalazion associated with rosacea or blepharitis

Surgical
- Lesion is incised and contents are curetted

STATION NO: _____

35 years old female presents to eye opd suffering from pain and decrease vision in her eye. She gives recent history of fever.

1. What are the findings given in the picture?
2. Which dye is used for staining of this condition? (1)
3. What is the most probable pathogen ? (1)
4. How will you treat this patient? (1).

(3)

1- Finding Given In picture:-

- Dendritic (branching) corneal ulceration.

2- Dye used for staining:-

2% Fluorescein OR Rose Bengal.

3: pathogen:-

Herpes Simplex Virus.

4: Treatment:-

- Topical antiviral drugs (Acyclovir)
- Debridment
- Topical antibiotic (to control secondry infection)
- Cycloplegic (1% atropine for pain relief) drops

Station no

A 50 year old girl presents with bulging of the globes for last 6 months along with sweaty palms, palpitations.

1. What is the abnormality seen? (1)
2. What is the most probable diagnosis? (1)
3. what relevant investigation will you advise? (2)
4. what ocular complications are associated with it? (2)

1. Abnormality Seen

→ Retracted eye lids
→ ~~Exophthalmos~~ (protruding eyeballs)
proptosis

2. Diagnosis:- Exophthalmos.
~~Thyroid Eye Diseases~~ (Graves opthalmopathy)

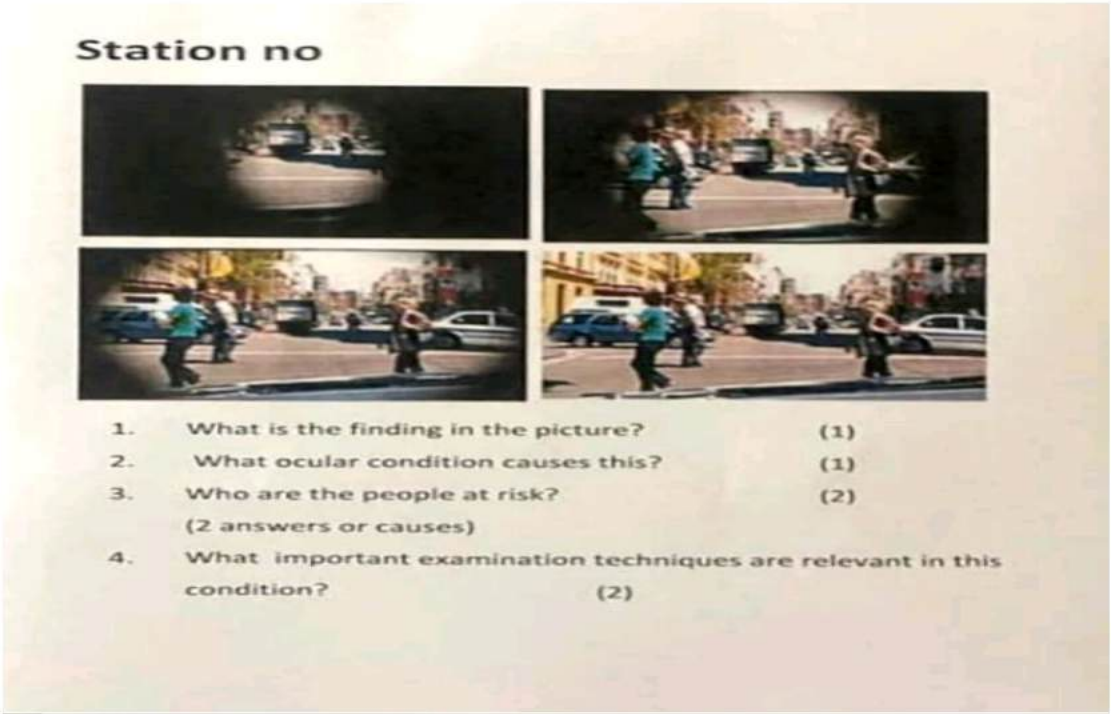
3- Investigations

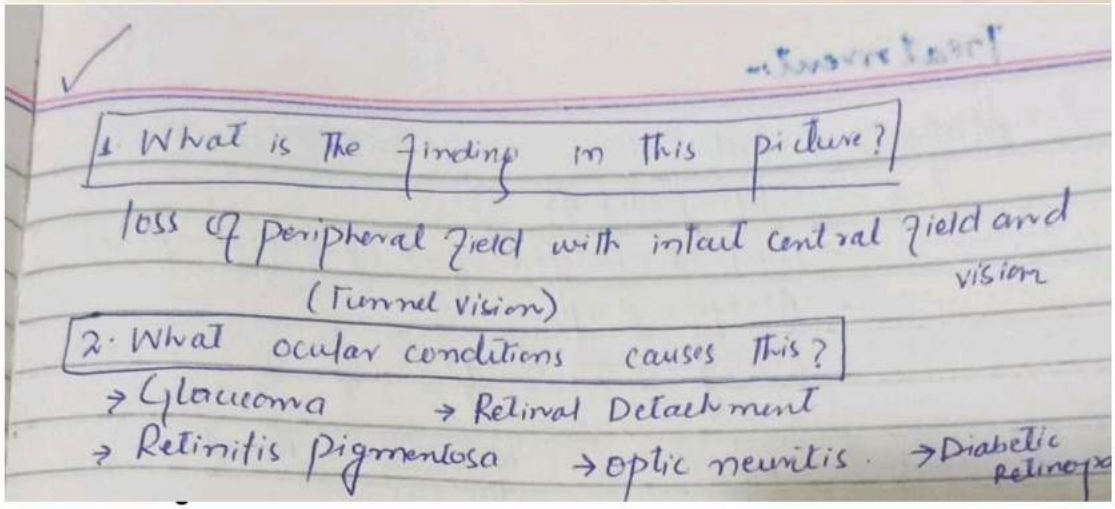
~~Hyperthyroidism~~ :→
Serum TSH, T_3, T_4 Levels

Ocular :-
Ultrasonography
CT scan orbit
MRI

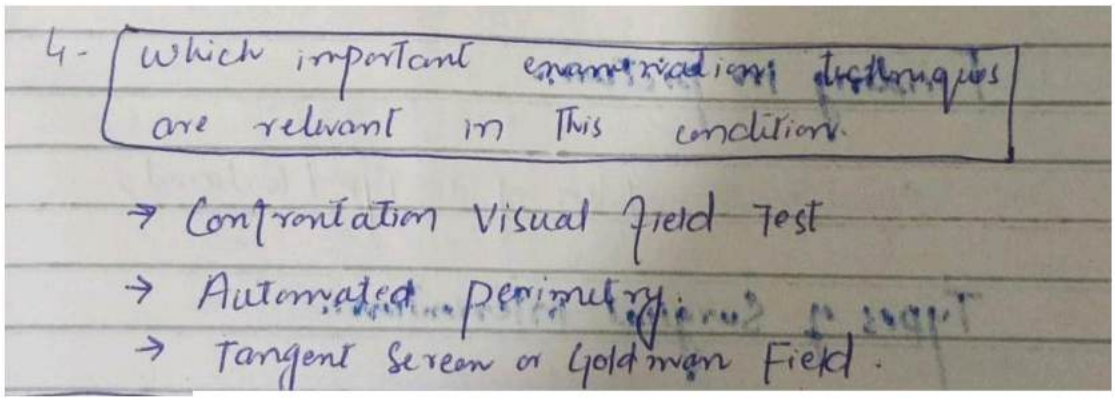
4. Ocular complications:-

→ Exposure Keratopathy and corneal ulcerate
→
→ Restrictive myopathy
→ Diplopia
→ optic Neuropathy.





3. **People at risk**:
   - **Elderly individuals** (as glaucoma is more common with aging).
   - **People with a family history of glaucoma or retinal degenerative diseases**.



4. **Important examination techniques**:
   - **Visual field testing (perimetry)** to assess peripheral vision loss.
   - **Intraocular pressure measurement (tonometry)** to check for increased eye pressure, a key risk factor for glaucoma.

Station

A young patient following trauma presents to eye opd

1. what is the diagnosis? (2)
2. what are the different effects of blunt trauma on retina? (2)

what are the treatment options in this case? (1)

A young patient following trauma to eye opd.

Diagnosis:-

- Hyphaema (Blood in the anterior chamber of Eye)

Effects of Blunt Trauma On Retina:-

- Commotio Retinae (Berlin edema) → Edema of Retina due to Retinal vasoparalysis.
- Retinal haemorrhage
- Retinal breaks.
- Retinal detachment.

Treatment:-

Medical →
- Bed Rest
- Eye patching
- Antifibrinolytic agent (Tranexamic acid)
- Atropine drops.
- Anti glaucoma drugs.

Surgical
- paracentesis of anterior chamber to washout Blood.

STATION NO: _____

A 45 years old diabetic patient presented to your outpatient department with sudden onset of drooping of the lid in the left eye for the last 5 days.

1. What are your findings? (1)
2. what investigations will you perform? (2)
3. what important optic nerve function will you assess in this patient? (1)
4. what are the main causes of this condition? (2)

1. Findings:-

a → Partial ptosis in left eye

a → Downward and outward position of left eye on primary gaze

b → limitation of adduction in left eye on right ga

c → Abduction is normal.

2. Investigations:-

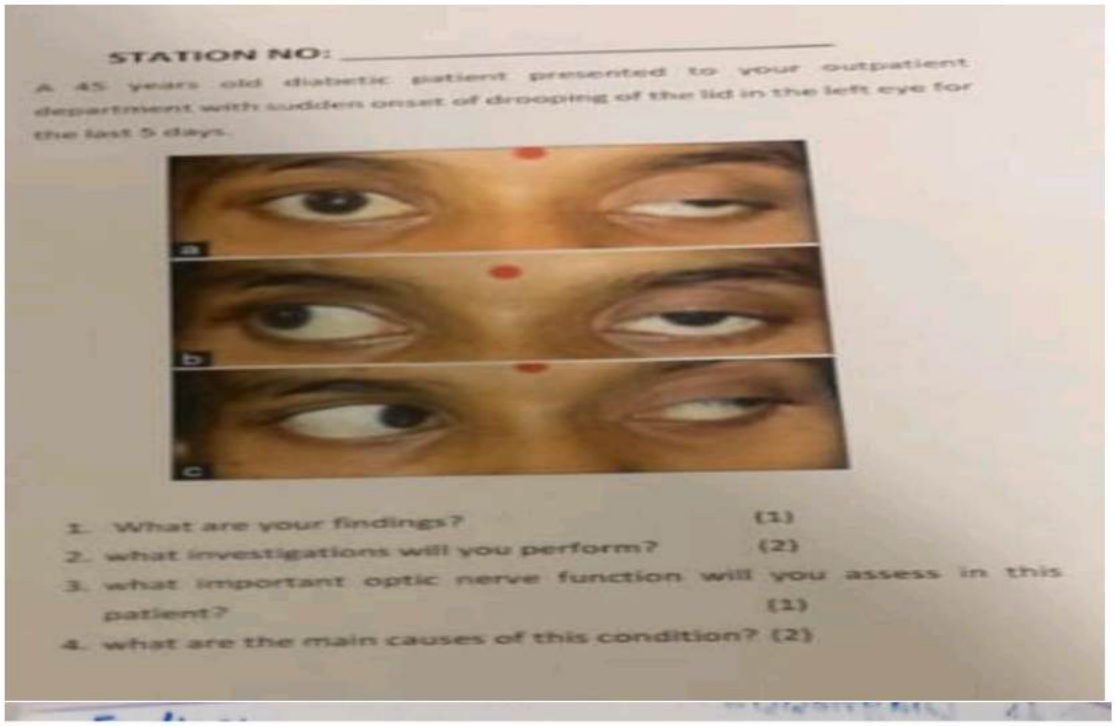
- Blood pressure checkup
- CBC & ESR.
- Blood Sugar
- CT scan . MRI
- Cerebral Angiography.

3- Important Nerve:-

Oculomotor Nerve (CN III)

4- Causes:-

- Vascular → Hypertension, Diabetes, aneurysm.
- Neurological → Congenital CN III palsy, space occupyin
- Trauma.
- Infection/inflammation



STATION NO: _____

A 45 years old diabetic patient presented to your outpatient department with sudden onset of drooping of the lid in the left eye for the last 5 days.

a

b

c

1. What are your findings? (1)
2. what investigations will you perform? (2)
3. what important optic nerve function will you assess in this patient? (1)
4. what are the main causes of this condition? (2)

1. **Findings**:
    - Left-sided **ptosis** (drooping eyelid).
    - Impaired movement of the left eye, with **down and out positioning**.
    - Pupil appears normal or possibly dilated.
    - Suggestive of **left third cranial nerve (oculomotor nerve) palsy**.
2. **Investigations**:
    - **Blood sugar levels & HbA1c** (to assess diabetes control, as the patient is diabetic).
    - **MRI or CT scan of the brain** (to rule out compressive causes like aneurysm, stroke, or tumor).
3. **Important optic nerve function to assess**:
    - **Pupillary reaction** (to light and accommodation). If the pupil is involved (dilated and non-reactive), it suggests a compressive lesion like an aneurysm.
4. **Main causes of this condition**:
    - **Diabetic neuropathy** (common cause of microvascular ischemic cranial nerve palsy in diabetics).
    - **Posterior communicating artery aneurysm** (must be ruled out, as it can cause a life-threatening compressive third nerve palsy).

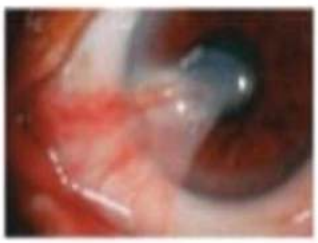
STATION NO: _____

A 30 year old male presents with redness in one eye and complains of the fleshy mass.

1. what is the diagnosis? (1)
2. what are the common problems reported with this condition? (2)
3. what are the treatment options? (3)

Image 26

26. A pt. from Gujrat presented with the condition shown in the image and tell that he got excision of this 2 times in past. What is this condition known as and what is best management?



- Image shows **pterygium** which is a **wing shaped growth** of the conjunctiva over the cornea.
- Very high recurrence rate.
- Occurs in dry dusty desert climate like of Rajasthan, Gujrat .
- Best management is **pterygium excision with conjunctival autograft** (from the opposite eye) least reoccurrence

STATION NO
(3)

1. What clinical finding is seen in this photograph?
2. What is the most probable diagnosis?
3. What will be the complaint of the patient?
4. What will be your treatment plan?

Findings:-
Rosette (Flower) Shaped opacification of lens.

Diagnosis:-
Traumatic Cataract

Complains:-
→ Blurred vision
→ Redness & pain (Acute trauma)
→ Difficulty vision at night
→ Halos around light
→ Light & glare sensitivity

Treatment plans:-
Cataract Surgery → Extraction of cataract

STATION NO: _____

A 60 year old patient presented to your outpatient department with one year history of dimness of vision which was slow in onset and progressive over the time. The anterior segment picture is shown below

1. What is your diagnosis? (1)
2. What are the causes of the above condition? (2)
3. Name two systemic association of this condition? (2)
4. Name the investigation which asses the retinal status? (1)

1: Diagnosis:-

Mature Cataract

Causes:-

- Local → Trauma, Sun Exposure, UV Radiation.
- Drugs Related → long term use of steroids.
- Systemic → Diabetes, hypertension, neurofibromatosis, atopic dermatitis, myotonic Dystrophy
- Senile → Age Related.
- Congenital
- Metabolic

2 Systemic associations:-

- Diabetes mellitus
- Atopic dermatitis
- Neurofibromatosis Type 2.
- Myotonic dystrophy.

Diabetes
Wilson Disease
Marfan Syndrome
Sarcoidosis
Radiation exposure

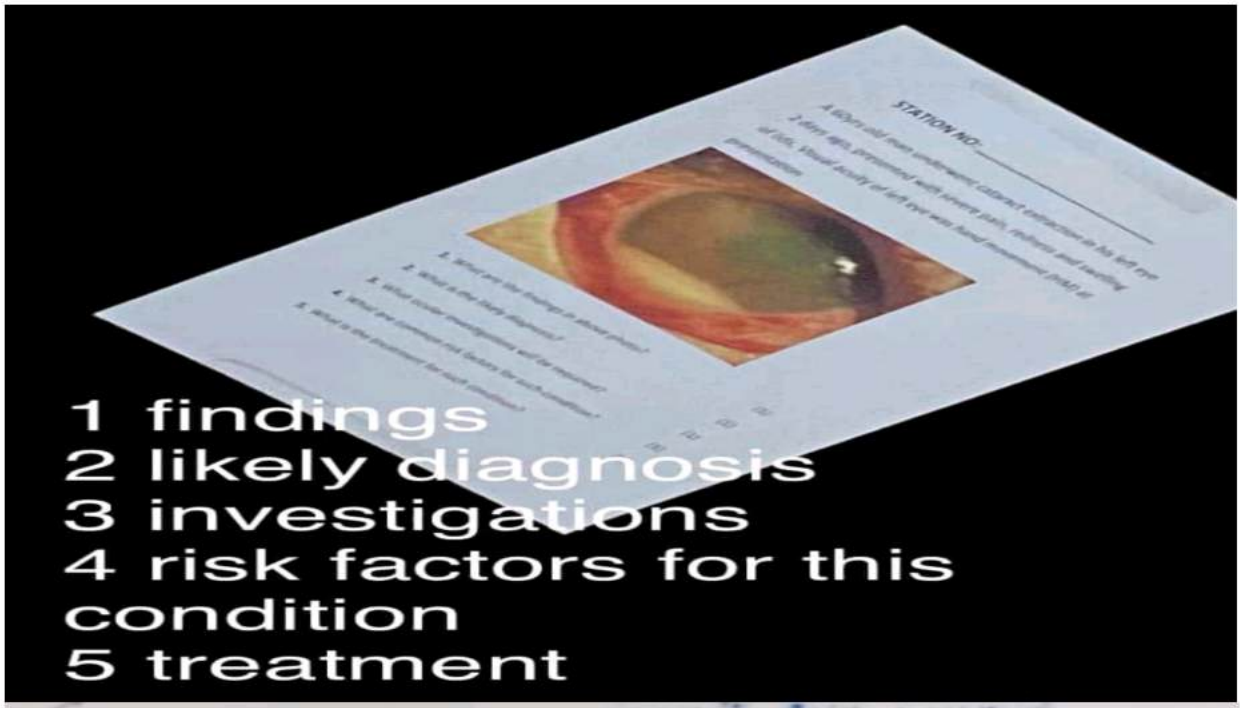
Retinal Status

B. Scan

Yes, **B-scan ultrasonography** can assess the retinal status, especially when direct visualization is difficult due to media opacities such as:

- **Dense cataract**
- **Vitreous hemorrhage** (common in advanced diabetic retinopathy)
- **Retinal detachment**
- **Optic nerve or posterior segment tumors**

While **B-scan** is not the first-line investigation for retinal assessment in a clear media, it is very useful when the **fundus cannot be visualized with ophthalmoscopy or OCT.**



Findings:-
- Conjunctival congestion
- Hypopyon in Anterior chamber
- Hazy cornea

Diagnosis:- Endophthalmitis

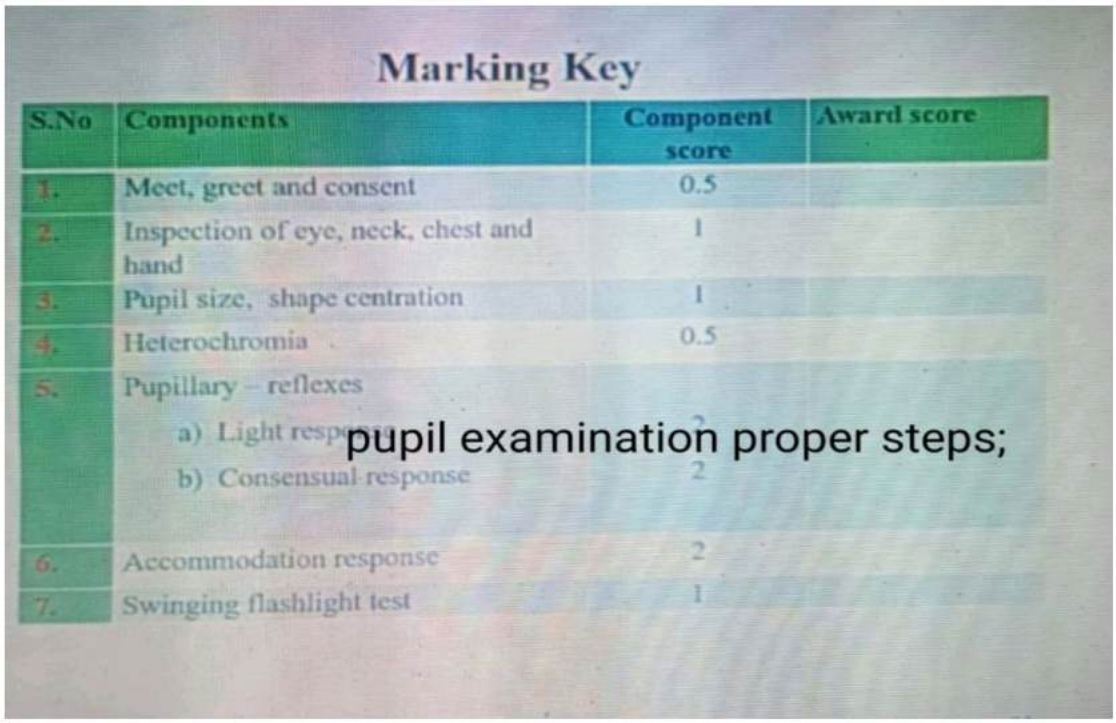
Ocular Investigations:-
- B scan
- OCT
- CBC
- CRP
- Vitreous Tap for Gram stain and culture → Slit lamp examination
→ Aqueous humour aspiration & Culture
→ Diagnostic Vitrectomy.

Common Risk Factors:-
→ Exogenous infections
→ Endogenous infections
→ post operative
- Contamination of Surgical instruments
- Inadequate sterilization of operative field
- Retained lens fragments
- Poor wound integrity.

Treatment:-
- Intravitreal Antibiotics
- Anterior Subtenon antibiotic injections
- Topical Antibiotics
- Topical Steroids
- Cycloplegic (1% Atropine)
- Systemic Antibiotics
- pars plana vitrectomy.

SOME IMPORTANT STUFF:

- Pupil examination
- Extraocular muscle movements
- Cover uncover test
- Hirschberg test
- Testing visual acuity
- DIRECT OPTHALMOSCOPY; parts, procedure



Marking Key

S.No	Components	Component score	Award score
1.	Meet, greet and consent	0.5	
2.	Inspection of eye, neck, chest and hand	1	
3.	Pupil size, shape centration	1	
4.	Heterochromia	0.5	
5.	Pupillary – reflexes		
	a) Light resp	2	
	b) Consensual response	2	
6.	Accommodation response	2	
7.	Swinging flashlight test	1	

pupil examination proper steps;

TOAC

Station Title: EXAMINATION OF THE PUPILS

Roll No	9582	9583	9584	9585	9586	
Introduces himself and asks for patients consent. (Total Marks 0.25)						
Comments on the light and asks for it to be dimmed. (Total Marks 0.25)						
Asks the patient to fix on distant object and Comments on size of pupil without shining the light. (Total Marks 0.5)						
Checks Direct Light Reflex first. (Total Marks 1)						
Checks Consensual Reflex. (Total Marks 1)						
Performs swinging light test. (Total Marks 1)						
Correctly localises the eye with RAPD. (Total Marks 1)						
TOTAL MARKS						

at 15 cm distance

Name of examiner _____ Signature _____