Ophthalmology Mini-OSCE Past Years Questions



تشكر لجنة الطب البشري الزملاء أحمد هديب، سُرى الفارس، نادين طعاني، مرام عنبر، جروب D3 من دفعة أمل. والزميلة غادة عودة من دفعة حياة ولجميع الزملاء من الدفع السابقة لجهدهم الكبير في إعداد هذا الملف والذي يحتوي على جميع أسئلة السنوات الموجودة في السي دي أو على الموقع حيث يحتوي على أسئلة جميع الدفع حتى دفعة سها



Content

- 1. The orbit, eyelid and lacrimal system
- 2. The conjunctivae and sclera
- 3. The cornea
- 4. The refractive errors
- 5. The lens and cataract
- 6. Uveitis
- 7. Glaucoma
- 8. Retina
- 9. Eye movement and their disorders
- 10. Others

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1. The Orbit, Eyelid and Lacrimal system

- 1. what are the structures of the eyeball & what are the components of each?
- 2. what is the length of the optic nerve?

- Fibrous layer: sclera & cornea
 Uvea: choroid & ciliary body & Iris and pupil
 Retina: RPE & neurosensory layer
- 2. 35-40 mm.



- 1. Mention two signs
- 2. What's the most common cause?

- 1. Right eye exopthalmus, Right eye lid retraction.
- 2. Grave's Dis.

The most common cause of unilateral/bilateral exopthalmus is graves disease

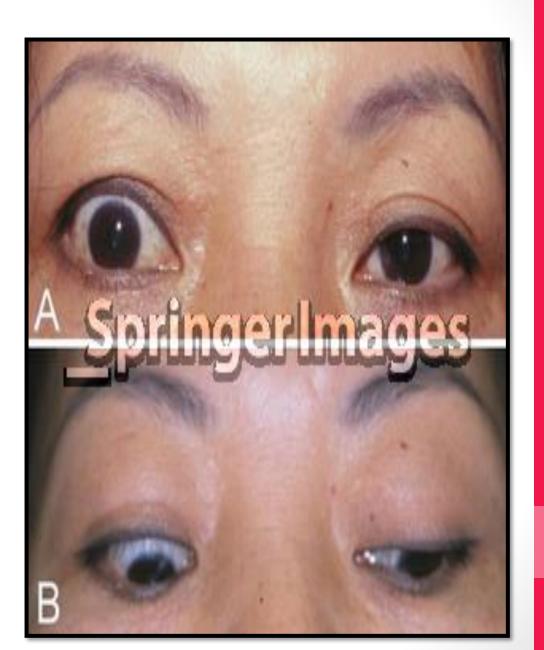
Mention 2 signs.
 What is the most common systemic disease causing this?
 2 complications?
 2 causes for decrease vision?



- 1. Bilateral proptosis (edema & fibrosis), lid retraction
- 2. Grave's disease (Hypo-or Hyper-thyroidism)
- 3. 1- Optic nerve compression2- Eye dryness & corneal ulceration
- 4. 1- optic neuropathy (optic compression)2- exposure keratopathy (dryness & blurred vision)

The patient is looking up & then down.

- 1. What's this sign?
- 2. What's the cause?



- 1. Lid lag (Von Graefe's sign).
- 2. Grave's disease.

Question 125

- >> If its unilateral, what's the most common cause?
- >> what do u expect about thyroid hormones levels?



- >> The most common of unilateral is also graves disease.
- >> May be increased

- 1. What's this tool?
- 2. When do we consider the findings +ve? (2 points)





Explanation ↓

- 1. Hertel's exophthalmometer.
- 2. A) Readings >21 mm (normal range is 12-21 mm)
 - B) A difference of > 2 mm between both eyes

✓ this patient
with history of
blunt trauma on
his right eye
1. What is your
diagnosis?
2. Give two signs
you see to do
surgery?



Fig. 1 Bruising around the eye is a common symptom of a blowout fracture.

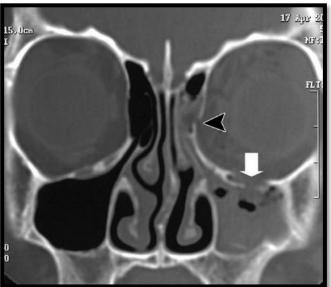
Explanation ↓

- 1. Blow out fracture on right eye
- 2. Enophthalmos greater than 2mm
 - Entrapment of extraocular muscles (restriction of eye movement)

>> Note: in the exam there were no circles or arrows.

- 1. what is your diagnosis?
- 2. what signs you see on the patient by examination?





- 1. Blow-out fracture
- 2. Some clinically observed signs include:
 - Restricted vertical movement of the eye
 - Subconjunctival hemorrhage
 - Swollen lid
 - Loss of sensation over upper cheek area
 - Periorbital (around eye socket) ecchymosis





This female presented with fever, headache & blurred vision:

- 1. what is your DX?
- 2. Mention 2 signs to support your diagnosis?
- 3. Give 2 signs that make you admit the patient to hospital?
- 4. tt?
- 5. Complications?

Explanation ↓

- 1. Orbital cellulites
- reduced eye movement, redness & swelling of the eyelid, General systemic illness (Fever), exophthalmos
- 3. 1. Affect the eye movement2. Fever
- 4. Admission & IV broad spectrum antibiotics, surgical drainage for decompression
- 5. Ocular Cx: optic nerve damage blindness Systemic Cx: brain abscess, meningitis, cavernous thrombosis



- ✓ 6 years old child presented with fever and painful eye movement ,
 elevated ESR and RAPD
- 1. What is the condition?
- 2. Treatment ? (2 points)
- 3. What is the source of the organisms causing this?
- 4. What is the image that must be done?

- 1. Orbital cellulites
- 2. Admission + IV antibiotics
- 3. Air sinuses (ethmoidal air sinus)
- 4. CT orbit and sinus.

- >> There were no loss of vision:
- what is your Dx?
- 2. What is the tt?



- 1. Pre-septal cellulitis
- 2. Oral antibiotics, Warm to hot compressors

- What is the diagnosis?
- Mention 2 possible causes
- 3. In this case why is it important to examine the pupils?



- 1. Right eye ptosis
- 2. Horner syndrome, 3rd CN palsy
- 3. To check for meiosis which is found in Horner, or mydriasis in 3rd CN palsy

- 1. what's the diagnosis?
- 2. mention 2 examinations you will do as a GP
- 3. Which muscle elevates the eye lid? Which muscle closes the eye?

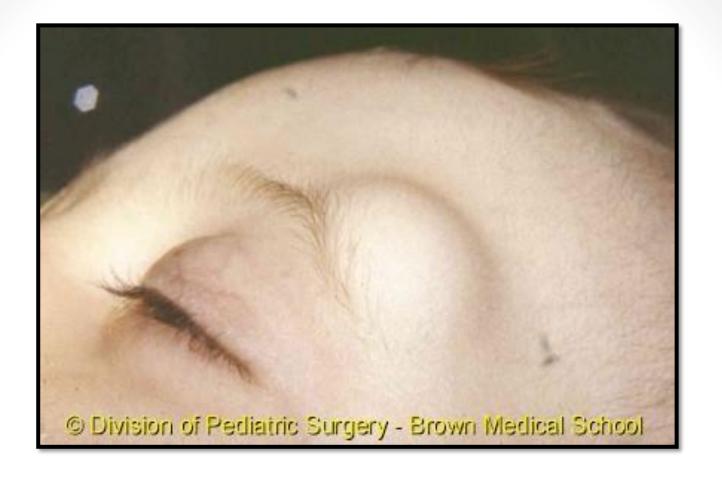


- 1. left eye ptosis
- check extraocular muscles motility,
 Check Pupillary dilatation, Ask about proximal myopathy
- 3. levator palpebrae superioris muscle, Orbicularis oculi.



- >> A patient presented with a Hx of apical lung CA:
- 1. Mention two signs.
- 2. What is the diagnosis?
- 3. What is the muscle that is involved?

- 1. Left eye (Partial) Ptosis, Meiosis
- 2. Horner's Syndrome
- 3. Muller muscle



- 1. What's the Dx.?
- 2. What could be potential complication during tt of this condition?
- 3. choose an investigation to do before surgery?

- 1. Dermoid Cyst
- 2. Paresthesia or numbness on the scalp
- 3. Brain CT



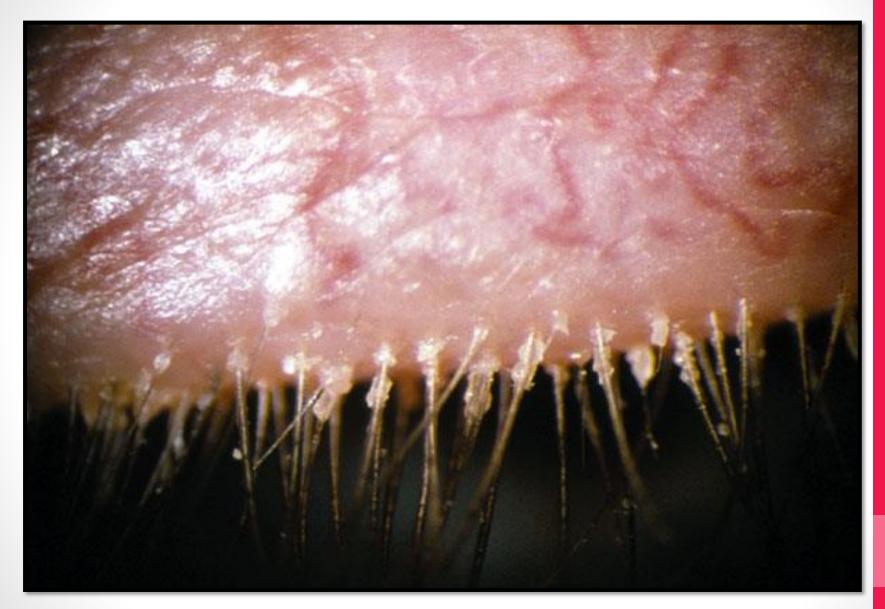
- 1. what is your Dx?
- 2. give 2 causes?
- 3. give 2 complications?
- 4. tt?

- 1. Ectropion
- 2. congenital
 - age related orbicularis muscle laxity
 - facial nerve palsy
 - scarring of periorbital skin
- 3. corneal abrasions & ulcers
 - visual impairment & blindness
- 4. Surgery

- 1. Identify the condition ?
- 2. Give two causes ?
- 3. give one complication?

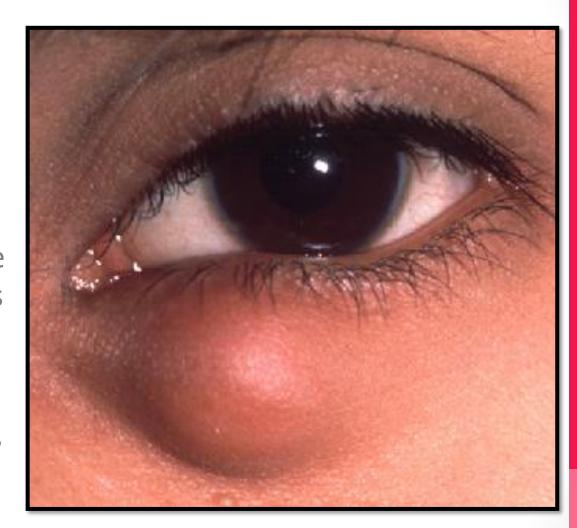


- 1. Entropion
- 2. old age (spasm in orbicularis oculi)
 - fibrous scar of conjuctivita
 - congenital, senile, chemical burns, trachoma
- 3. corneal erosion and ulcer.



Blepharitis

- >> Patient with painless lump:
- 1. What is your Dx.?
- 2. What is the tt?
- 3. At which structure of the lid does this exist?
- 4. What's the histological finding u may see?



- 1. Chalazion
- 2. Self-limiting, we might do massage& hot compressors.
 - Steroid & surgery if not resolving or continue to enlarge
- 3. Meibomian gland
- 4. Granuloma

- 1. What's the diagnosis?
- 2. Mention 2 modalities of treatment.
- 3. What's your plan if this was recurrent many times even post-excision?



- 1. External hordeolum (Stye)
- 2. Warm compressors, antibiotics (fusidic acid) & removal of the infected eyelash, Artificial tear, If not resolve; surgical incision & curettage
- 3. Send for histopathological biopsy (it is sebaceous gland carcinoma until proven otherwise)!

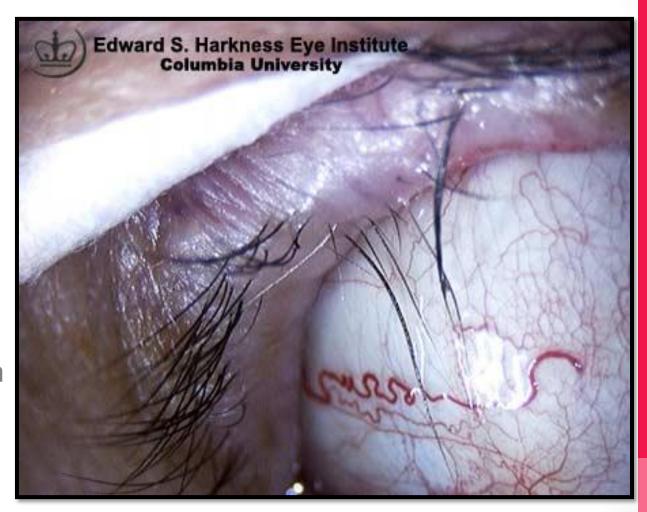


Internal Hordeolum



Xanthelasma

- 1. what is this?
- mention a symptom
- mention a complication
- 4. tt?



Explanation ↓

- Trichiasis
- Foreign body sensation, Watering (tearing), redness
- 3. Corneal Abrasion, pannus
- 4. ablation of the offending lashes
 - Recurrence can be treated by electrolysis or cryotherapy
 - Any underlying abnormality of lid position needs surgical correction

- 1) What's the Dx?
- 2) What's the tt?



- 1. Trachiasis due to trachoma
- 2. Electrolysis, Tear film

- 1. What is your Dx?
- 2. Mention one risk factor.





- basal cell carcinoma (rodent ulcer)
- 2. sun exposure

>> A 1 year old infant with congenital atresia of nasolacrimal duct presented like this with a long Hx. of epiphora.

- What's the diagnosis?
- 2. What's the treatment?



- 1. Dacrocystitis
- 2. 1- antibiotic
 - 2- incision & drainage

- what is your Dx?
- 2. what is the initial tt?
- 3. what is the definitive tt?



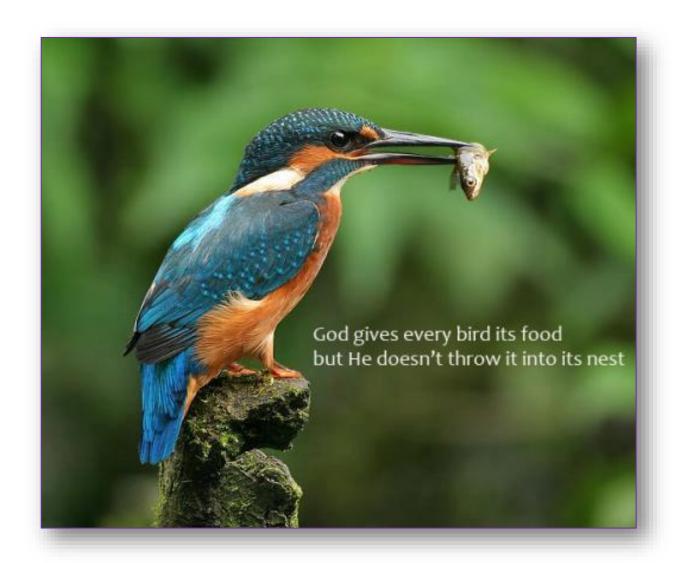
- 1. Dacryocystitis (inf of lacrimal sac)?
- 2. Antibiotics?
- 3. Incision and drainage?

 The treatment of choice is a dacryocystorhinostomy whether the patient is symptomatic or not . source : medscape



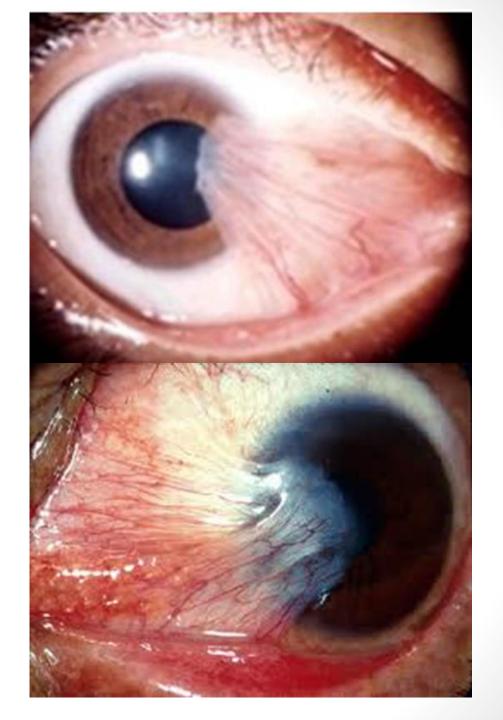
>> This baby is with excessive tearing; Give 2 DDx?

- 1. Congenital nasolacrimal duct obstruction
- 2. Punctal stenosis
- 3. Congenital glaucoma
- 4. Misdirected eyelashes rubbing the cornea



2. The Conjunctivae and Sclera

- 1) Identify the condition.
- 2) Give a reason why it leads to decreased visual acuity.
- 3) Special feature.
- 4) Give two indications for surgery?



- 1. Pterygium.
- 2. Corneal opacity (it covers the cornea) irregular astigmatism.
- 3. triangular in shape, it grows toward visual axis (toward cornea), mostly from medial cantheous (nasal side of eye)
- 4. Indications for surgery:
 - 1- astigmatism
 - 2- cosmetic
 - 3- affects the visual field & involves optical axis
 - 4- recurrent inflammation



- 1) What's this sign?
- 2) 2 Causes.

**Explanation **

Answers:

- 1. 1) ciliary injection (dilated tortuous vessels).
- 2. 2) Causes:
 - 1- COnjunctivitis (less aggressive than scleritis in redness).
 - 2- scleraitis /episcleritis

Scleraitis: Epi-scleritis: -Painful. -Painless. -If add epinephrine; -If add epinephrine; flushing not happen. -tt by Systemic -tt self limited or by steroids + NSAIDs. topical steroid.

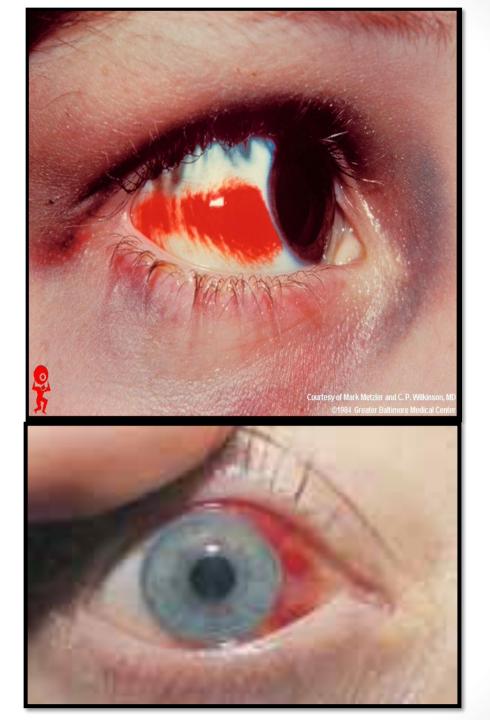
Pt has sensation of foreign body without watering presented like this.

- 1. Most likely Dx?
- 2. Treatment?



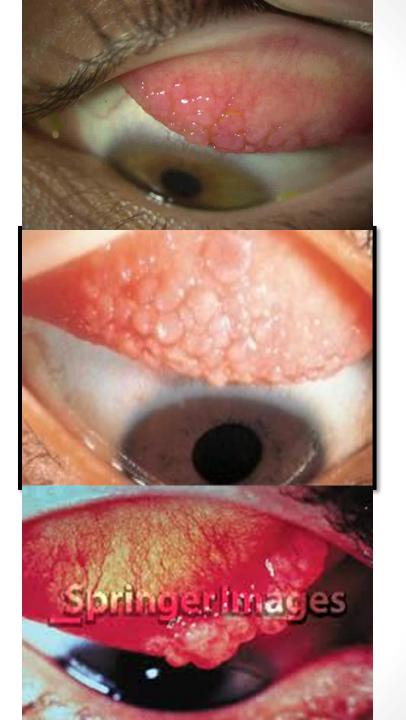
- 1) Episcleritis.
- 2) Steroids.

- 1. What is the Dx?
- 2. What is the most likely cause?
- Mention 3
 important things
 to ask or to
 examine in this
 pt



- 1. Sub-conjunctival hemorrhage.
- 2. Trauma.
- 3. Hx. of trauma
 - Hx of drugs (aspirin, anti-coagulants)
 - HTN
 - valsalva maneuver (chest tightness,...)

- 1. What's this sign?
- 2. Give 2 DDx?
- 3. tt?
- 4. Complication?



- 1. (Giant Papillary reaction "cobble-stone")
- 2. 1) contact lens wear.
 - 2) foreign body irritation.
 - (allergic conjunctivitis) الرمد الربيعي (vernal catarrh
- 3. tt:
 - topical antihistamine (levocabastine) or systemic antihistamine (terfenadine)
 - Mast cell stabilizers (e.g. sodium cromoglycate, nodocromyl, iodoxamide)
 - steroid (only initially).
- 4. keratoconus

- 1) What's the Dx?
- 2) What's the tt?



- 1. Allergic conjunctivitis.
- Cold compression
 Mast cell stabilizers (e.g. sodium cromoglycate)
 If severe = corticosteroid.

Features of Allergic conjunctivitis: itchy, lid swelling, conjunctival injection and oedema (chemosis), lacrimation.

- 1. What is ur Dx when its associated with purulent discharge?
- What is ur Dx when its associated with back pain?



- 1. Bacterial conjunctivitis.
- 2. Anterior uveitis.

- 1. Wht's ur diagnosis?
- 2. Possible MO?
- 3. Treatment?



Explanation

- 1. Neonatorum ophthalmitis
- 2. gonorrhea
 - chlamydia
- Take sample, culture then we use antibiotics (topical + systemic) (erythromycin),
 IV antibiotic are used also to prevent sepsis at this age.

productivity in 11 Words

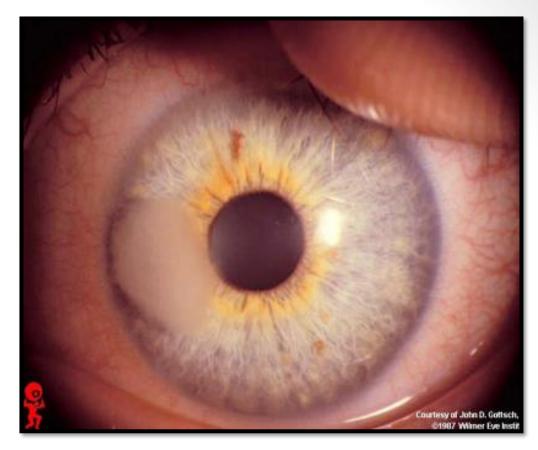
One thing at a time.

Most important thing first.

Start now.

3. The Cornea

- 1. What's the diagnosis?
- 2. Name 2 risk factors.



- Keratitis.
- 2. Contact lens wear, dry eyes, trauma (breach in a corneal epithelium), immunocompromised pts (prolonged use of topical steroids), use of contaminated ocular medications, recent corneal disease (herpetic keratitis, neurotrophic keratopathy) ... etc.

- what's the diagnosis?
- Give 2 risk factors.
- Treatment.



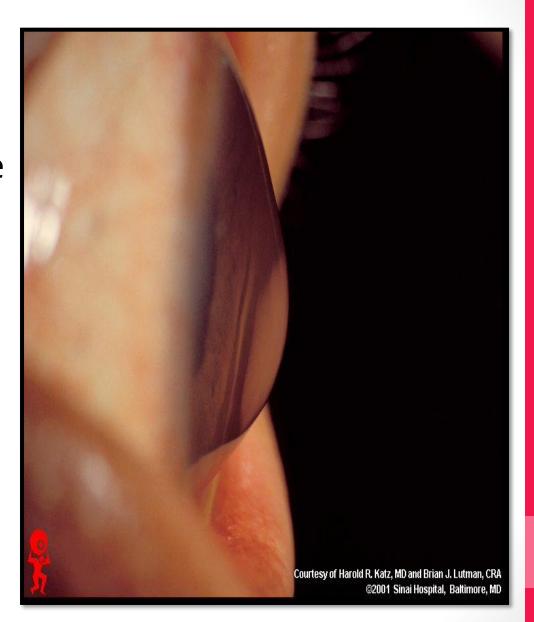
- 1) Keratitis.
- 2) A. Contact lens wearers (dry eyes). C. Trauma.B. Prolonged steroid therapy (immunecompromized).
- 3) Antibiotics.

- 1. What's the Diagnosis?
- 2. Signs seen with slit lamb?
- 3. 2 mode of treatment?



- 1) Keratoconus (Corneal thinning).
- A. Fleischer's ring (an iron colored ring surrounding the cone).
 B. Vogt's striae. C) Prominent corneal nerve D) Apical scar
- 3) collagen cross-linking (the only one that stops progression of disease) Contact lenses, corneal ring, transplant (severe cases)

- what is the commonest cause for this in our area?
- what's tt to improve vision & stop worsening together?



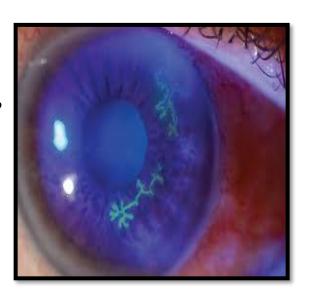
- 1. vernal catarrh.
- 2. ring.

- ** studies shows that Keratoconus was found to be more prevalent in Jordanian with vernal catarrh ..
- ** Corneal ring is a modality of treatment for Keratoconus
 -Intacts corneal rings (placing with the corneal stroma in the periphery of the cornea. The result is a flatter cornea and clearer vision).

- 1. What's this sign?
- 2. What's the causative agent?
- 3. What's the tt?
- 4. What is the contraindicated drug?
- 5. what is the stain used?



- 1) Dendritic ulcer.
- 2) HSV1.
- 3) Topical Acyclovir.
- 4) Steroids. 5) Fluorescein stain.



- 1. What's the diagnosis?
- 2. Name a gross sign.
- Mention a modality of treatment to stop the progression of the disease.



- **1. Keratoconus** (Note: Increase astigmatism & myopia/LASIK surgery is contra-indicated).
- 2. Munsun's sign.
- 3. Collagen cross-linking.

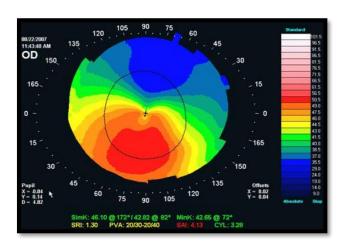
⊕ Question 58

- 1. What is the diagnosis?
- 2. Name an organism that can penetrate an intact epithelium to cause such a condition.



- 1) Keratitis.
- 2) 1. N. Gonorrhoea.
 - 2. H. Influenza.
 - 3. C. Diphtheriae.

- 1. What is the Dx?
- 2. Give 3 lines of management?



- 1. This is corneal topography of keratoconus pt.
- 2. glasses, lenses, rings, corneal transplant.

- 1. Mention the microorganism that is most commonly the cause of Keratitis in contact lens wearers.
- 2. Mention the first line antibiotic that is used as empirical therapy.

- 1. Pseudomonas.
- 2. 4th generation Fluoroquinolones.

- 1. Name of this sign?
- 2. 2 risk factors?
- 3. What's the MO?

- 1. Dendritic ulcer
- 2. -Wear contact lens ,- prolonged steroidtreatment
- 3. HSV1



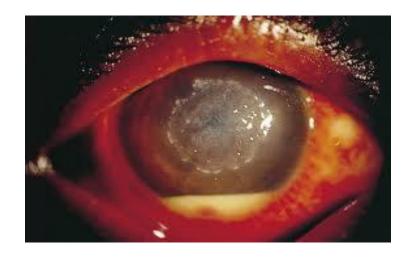
- 1. What's this sign?
- 2. What's the causative agent?
- 3. What's the topical treatment?

- 1. Dentritic ulcer.
- 2. HSV1.
- 3.acyclovir.



- 1. Give 2 risk factors for this condition?
- 2. What are the most common organisms causing this? (in cornea with tear or point of entry)

- 1. Trauma, contact lenses, topical long steroids use.
- 2. Staphylococcus, streptococcus, pseudomonas.





4. The Refractive Errors

- 1. Define Anisometropia.
- 2. What signs/problems associated with anisometropia?
- 3. What is the tt of post-op. Endopthalmitis?

- 1) Condition in which the two eyes have unequal refractive power.
- 2) Amblyobia.
- 3) Intra vitreous antibiotic +\- vitroctomy.

- 1) Give an example of a surface ablation surgery in myopia.
- 2) In case of myopia; what are the characteristics of the image; site? Shape?

- 1) LASIK.
- 2) Site: The image forms in front of the retina. Shape: inverted.

>> Name 2 surgical procedure used to correct myopia?

- 1. Radial Keratotomy (RK)
- 2. Photorefractive Keratectomy (PRK)
- 3. Laser-assisted in-situ Keratomileusis (LASIK)
- 4. LASEK

- 1. Define Presbyopia.
- 2. At what age does it start?
- 3. What's the treatment?

- 1) Presbyopia: loss of accommodation (part of the near reflex) due to age related loss of elasticity of the capsule.
- 2) 40.
- 2) Convex reading glasses.

- >> Mention 3 modalities for treatment of myopia.
- >> Give 3 exacerbating factors of retinopathy in pts with DM.

- >> 1. Spectacle lenses. 2. Contact lenses.
 - 3. Surgery (LASIK, ...).
- >> uncontrolled DM, association with other systemic disease (e.g. HTN), Pregnancy.

- What is the type of laser used in LASIK?
- What's the advantage of LASIK over other methods?

Answers:

- 1) Excimer laser (193 nm).
- 2) Lasik is associated with decreased inflammation & quicker recovery, but at the cost of decreased expression of nerve growth factor (NGF) at the surgical bed. PRK, on the other hand, has longer recovery time with more postoperative discomfort & irritation, but rates of ocular dryness are less.

(wiki.)

- Define Astigmatism & its Management.
- Define Aphakia.
- Define Biometry & mention the inputs used in its determination.

Answers:

 parallel rays come to focus in 2 focal lines ratherthan a single focal point

tt: Laser, Intraocular toric lenses, Limbal relaxing incision. (answer from seminar)

- 1. is the absence of the lens of the eye due to surgical removal a perforating wound or congenital anomaly(wiki)
- 2. The measurement of the various dimensions of the eye and of its components, inpts: axial length, corneal curvature (source internet)

- 1. Define Amblyopia.
- 2. Mention 3 causes.
- 3. Give one treatment modality.

- 1) "Also known as the lazy eye, is a disorder of the visual system that is characterized by a vision deficiency in an eye that is otherwise physically normal, or out of proportion to associated structural abnormalities of the eye" ... Wikipedia.
- Strabismus, Refractive errors, Deprivation of vision since birth (congenial cataract).
- 3) Treat the underlying cause, Patching the normal eye.

- 1- Mention the difference between PRK and LASIK.
- 2- Mention 3 complications of cataract surgery.

- 1) PRK: the corneal epithelium in the area to be ablated is removed to expose Bowman's layer & the underlying corneal stroma, treat low to mod myopia or hyperopia +/- astigmatism. (surface ablation). LASIK: a flap is formed first, little pain, quick recovery of vision, & potential to treat higher levels of myopia. (stromal ablation).*not sure
- 2) Infective endophthalmitis, Uveitis, Retinal detachment, Glaucoma, Posterior capsular opacification, ...

- 1- What is Hypermetropia?
- 2- Give 2 associations of it?
- 3- Give 3 options for tt.

- 1- Refractive eye error in which the eye lens refractive power is too week or the optical axis is too short, either way objects picture lie behind retina, & person have a problem in seeing near object.
- 2- Acute close angle glaucoma, Accommodative esotropia & ambylopia in children.
- 3- spectacles, contact lenses, refractive surgery (Lasik..)

✓ Define myopia and give three treatment modalities?

Answers:

Myopia: near sightedness, refractive error lead to image in front of the retina either due to increase in the eye's axial length or increase lens refractive power.

Treatment: concave glasses, contact lenses, LASIK, PRK.

القلوب ..

لا يصلحها شيء أعظم من كالأم ربها ، فتدبر القرآن السبيل الأول إلى صالاح القلوب ا

الشيخ ، صالح المغامسي

5. The Lens and Cataract

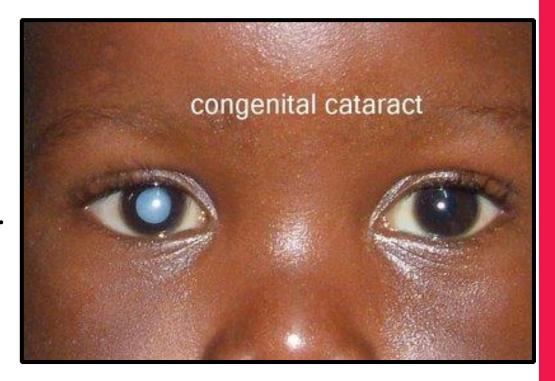
- 1) Mention 3 types of cataract.
- 2) Which one shows the earliest symptoms?
- 3) Give two complications after cataract surgery .

**Explanation **

- 1) A. Nuclear.
 - B. Cortical.
 - C. subcapsular (Anterior & posterior).
- 2) Posterior sub-capsular (at Nodal point).
- 3) A. Posterior capsular opacification
 - B. Infective endophthalmitis

1. What's this sign?

2. Mention 2 causes.



Explanation

- 1) Right Leukocoria.
- 2) A. Congenital cataract.
 - B. Retinoblastoma

- 1) Mention the 3 main types of cataract according to location.
- 2) Give 3 systemic diseases causing cataract.
- 3) Give 3 symptoms of cataract.

Explanation ↓

- 1) Nuclear, Cortical, subcapsular (Anterior & posterior)..
- 2)DM, Galactosemia, Down syndrome...
- 3) Glare, painless gradual loss of vision, change in refraction (myopic shift)..

>> Explain the Second-sight phenomenon that occurs in nuclear cataract.

The Sclerotic changes (hardening) that occur
in the lens nucleus will increase its refractive
power, so the patient will become myopic
(myopic shift) & he'll get rid of his reading
glasses ..

- 1) Mention 3 morphological types of cataract.
- 2) Mention 2 complication of cataract surgery.
- 3) Mention 2 surgical methods of correcting myopia.

- 1) Nuclear, Cortical, Sub-capsular.
- 2) Infective endophthalmitis, Retinal detachment.
- 3) LASIK, LASEK, PRK, Radial Keratotomy (RK).

- 1. Explain the advantage of managing aphakia by intra-ocular lens rather than contact lens.
- 2. Mention 3 postoperative complications of cataract surgery.

- 1. To avoid having difference in magnification between eyes (<u>anisoconia</u>) the most important point. Also a cosmetic issue.
- 2. cystoid macular edema, infective endophthalmitis, retinal detachment...

1- What is the name of this sign?

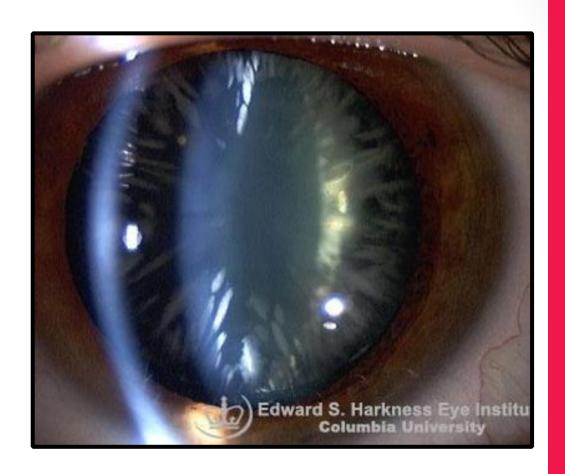
2- Give 2 DDx.



1- Leukocoria.

2- Congenital cataract, Bilateral retinoblastoma.

>> What is the type
 of this cataract?



Explanation

• Cortical cataract.

1- Write down phacoemulsification surgery in 5 steps.

2- Mention 3 complications of the surgery ,, Mention the tt for Each complication, in 2-3 words .

- 1) A. Corneal incision.
 - B. Capsulorhexis: Circular opening of the anterior lens capsule.
 - C. Phacoemulsification: handheld probe is used to break up and emulsify the lens nucleus into liquid using the energy of ultrasound waves, the resulting 'emulsion' is sucked away.
 - D. Irrigation and aspiration.
 - E. Lens Insertion: plastic, foldable lens is inserted into the capsular bag.

- 2) A-Posterior capsular opacification >> laser capsulotomy.
 - B- Infective Endopthalmitis >> intravitrial antibiotic injection, vitrectomy.
 - C- Retinal detachment >> surgery.

1- What is your Dx?

2- mention 2 causes.



Explanation \downarrow

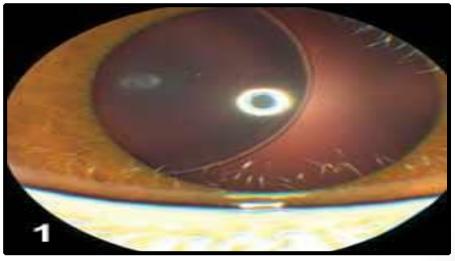
- 1) Cataract (cortical).
- 2) age-related (senile), trauma.

• Ectopia lentis
Displacement or
malposition of
the eye's crystalline
lens from its normal
location.

** A partial dislocation of a lens is (lens subluxation or sublux ated lens)

** a complete dislocation of a lens is (lens luxation or luxated lens).





Nuclear	Cortical	Post.Subcapsular
Hardening + Yellowing of the nucleus .	Hydration of cortex, whitish wedged shaped opacities.	Granular cluster opacities just in front of posterior capsule .
Myopic changes.	Hypermyopic changes + Glare.	Profound effect on vision . Near vision is impaired > distant vision.
Develop very slowly.	Slow but more rapid than nuclear.	Rapid .
Extend peripherally.	Extend centrally .	Extend peripherally.





6. Uveitis

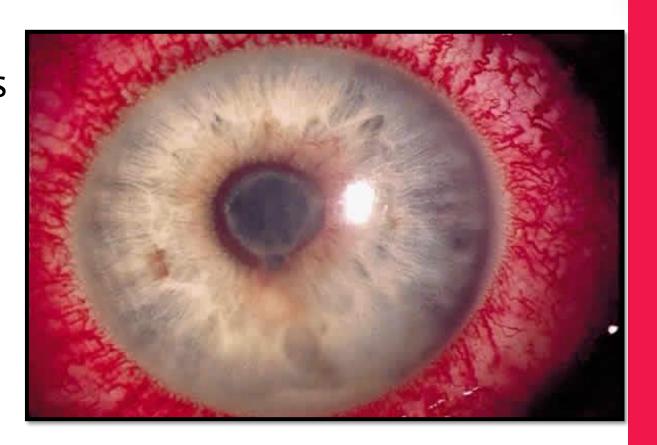
- 1) Mention two signs.
- 2) Treatment (knowing that it's not infectious)?



Explanation J

- 1) A. Hypopyon. B. Limbal injection, posterior synechia. C. Corneal opacity.
- 2) Steroids.

What is this sign?
 Mention two DDX?



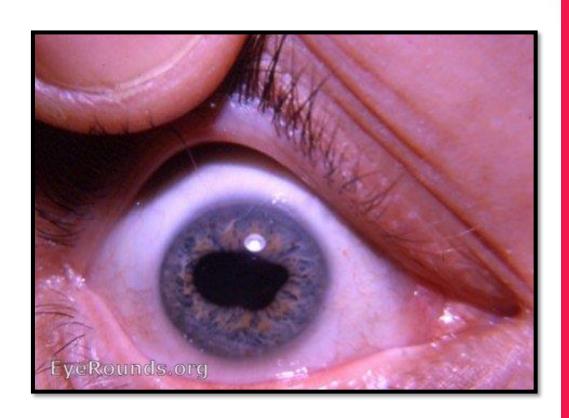
- 1) Ciliary flush (injections).
- 2) Scleritis or Uveaitis.



- 1. Mention the sign seen in the picture.
- 2. Mention 2 causes for this sign.

- 1. Ciliary Flush or Ciliary Injection.
- 2. Anterior Uveitis, Keratitis.

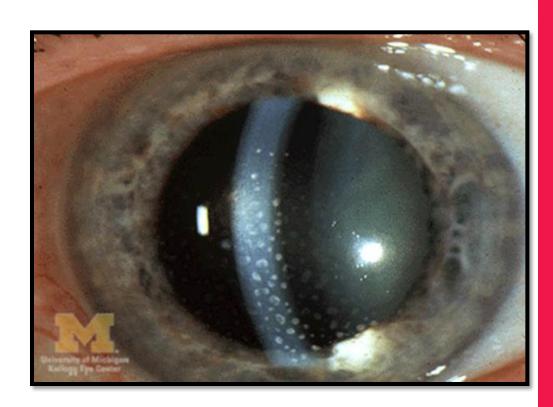
- 1. What's this sign?
- 2. What's the diagnosis?
- 3. Mention 1 complication.



Explanation **J**

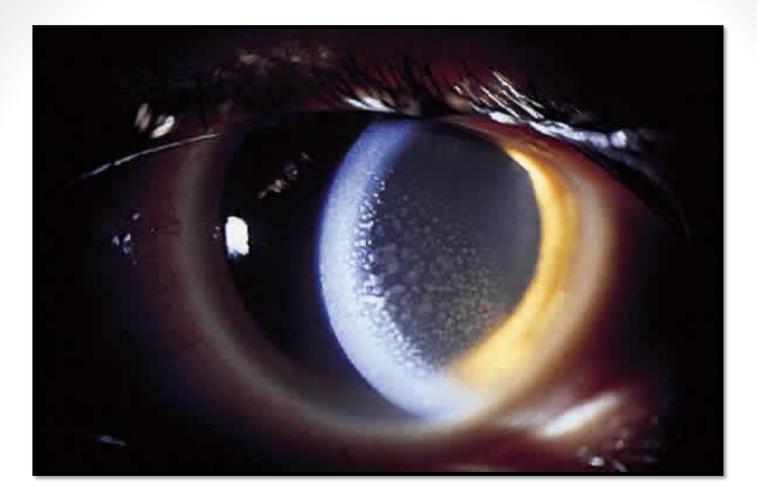
- 1. Posterior Synechia.
- 1. Anterior uveitis.
- 2. Glaucoma.

- 1. What is this sign?
- 2. what is the Dx?
- 3. give 2 complications of the dis.
- 4. mention a systemic disease may be associated.



Explanation **J**

- 1) Keratic precipitate.
- 2) Anterior Uveitis.
- 3) 1- glaucoma. 2- cataract. 3- chronic iritis
- 4) ankylosing spondylitis, RA.



- Pt presented with cough, SOB, & this is his eye.
- 1. What's this sign?
- 2. What's his most likely Dx.?

Explanation

- 1. Keratic precipitates.
- 2. Sarcoidosis.

1- what is this?

2- what is the cause?

3- What's the tt?



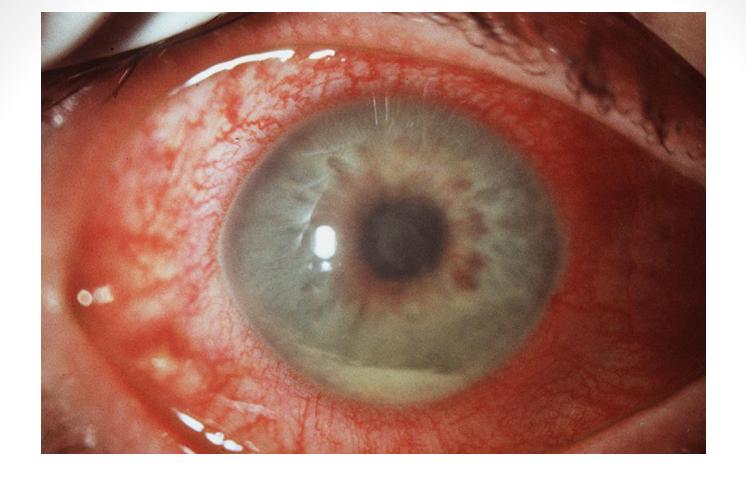
- 1- posterior synechiae.
- 2- anterior uveitis.
- 3- Topical +/- systemic steroid, Mydriatic, Treat the underlying cause.

- A pt with arthritis, urethritis, & develop this complication, eye pain & photophobia;
- 1. what's this complication?
- what test u want to do to confirm your Dx?
- 3. 2 complications.



Explanation J

- 1) Anterior uveitis.
- 2) 1 HLA B27 (Reiter's disease) or sacroiliac joint x-ray.
- 3) Synichiae, hypopeon, cataract & secondary closed angle glaucoma.



- Hx of patient with back pain
- 1) Give a sign in anterior chamber?
- 2) Investigation u may do?
- 3) 2 types of treatment?

Explanation J

- 1. Hypopyon
- 2. HLA typing (HLA-B27), Sacroiliac joint X ray
- 3. Atropine, steriod

1) what's the diagnosis?2) what's the systemic disease associated with the condition?



Explanation J

- 1- Posterior Uveitis.
- 2- Vasculitis.

- 1. identify the condition?
- 2. Give 2 treatment for the active disease?



Explanation J

- Toxoplasma scar.
- 2. TMS (trimethoprim sulfa methoxzaole), azithromycin, tetracycline.

- 1. What is the Definitive sign of uveitis?
- 2. 2 diseases associated with posterior uveitis?
- 3. 2 complications of uveitis?

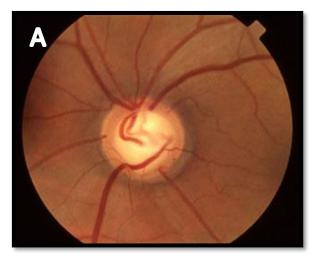
Explanation

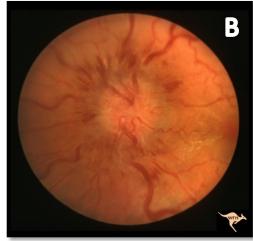
- 1) anterior chamber cellular reaction (indistinct iris).
- 2) Sarcoidosis, toxoplasmosis.
- 3) cataract, glucoma.



7. Glaucoma

⊕ Question 7





- 1) The visual acuity is affected in
- 2) Which one is reversible
- 3) The one which could be caused by infection

Answers: 1) A ,,, 2) B ,,, 3) B. A >> Glaucoma. B >> Papilledema.

- 1. Name the aqueous humor outflow pathways.
- 2. What's the percentage of each one of them?

Answers:

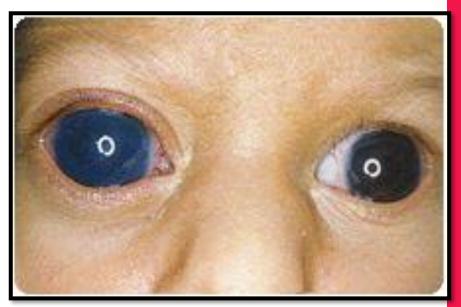
- 1. Conventional pathway.
- 2. Uveoscleral pathway (up to 15%).

Most drs said: 90 % conventional and 10% uveoscleral

- 1. Define the condition.
- 2. Give one surgical treatment.



- 1) Congenital glaucoma.
- 2) Trabeculectomy.



- >> Regarding Anti-glaucoma drugs:
- 1) increases absorption through uveoscleral pathway?
- 2) can be given orally?
- 3) contraindicated in asthmatic or CHF pts?

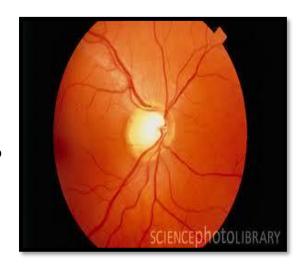
- 1) Prostaglandin agoinst.
- 2) Carbonic anhydrase inhibitor.
- 3) B-blocker.



Memorize the following table about antiglaucoma drugs, (it's in the Glaucoma Seminar) especially the red points.

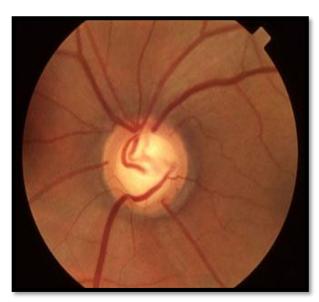
Category	MOA	Drugs	Side effect
B-adrenergic blockers	Decrease aqueous formation	Timolol Levobunolol Metrapranolol	systemic effect (bronchospasm, bradycardia, heart block, hypotension)
Cholinergic stimulation	Increase aqueous outflow	Pilocarpine Carbachol	Miosis, decrease night vision, headache, increase GI motility, decreased heart rate
Adrenergic stimulating	Both	Epinephrine HCl Dipivitrin <mark>Brimonidine</mark>	Contact allergy, hypotension in children
Carbonic anhydrase inhibitor	Decrease aqueous formation	Oral acetazolamide Topical dorzolamide	Renal calculi, nausea, vomiting, diarrhea, weight loss, aplastic anemia, BM suppression S/E generally absent with topical preparation
Prostaglandin agonists	Improve uveoscleral outflow	Latanoprost	Iris color change, lash growth, trichiasis

- 1. What's the diagnosis?
- 2. Surgical correction?



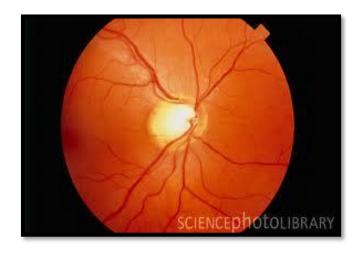
- 1) Cupping >> primary open angle glaucoma.
- 2) Trubeculoctomy.
 - >> Pay attention that the primary line of treatment is medical, & the most commonly used is prostaglandin analog.

- 1. What's the diagnosis?
- 2. Mention 2 medical treatments?
- 3. Mention 2 risk factors.



- 1) Optic disc cupping (open angle glaucoma/closed angle is an acute condition & there is no time for cupping to occur).
- 2) Beta blockers, carbonic anhydrase inhibitors, prostaglandin analogues & parasympathomimetic agents.
- 3) Steroid, Family Hx, Age.

- 1. Name this sign.
- 2. What's your diagnosis?
- 3. Name three drugs.



- 1) Cupping.
- 2) Open angle glaucoma.
- 3) B- blockers, Carbonic anhydrase inhibitors, prostaglandin analogues.

⊕ Question 66

- 1. What are signs you see?
- 2. What's the most important measure in tt?

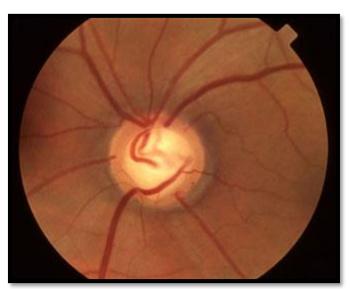


- Cupping (increased cup to disc ratio) & neovascularization (not sure about the latter).
- 2) IOP.

- 1. Mention 2 risk factors for primary open angle glaucoma.
- 2. Mention 3 signs in acute closed angle glaucoma.

- 1. Family history, Myopia, Elderly, Thin cornea.
- 2. Red eye, mid dilated fixed pupil, shallow anterior chamber, high intraocular pressure.

- A) Describe the disc.
- B) What is the Dx?
- C) Give 2 investigations to be made.



- A) Optic disc cupping (increased cup to disc ratio).
- B) Glaucoma.
- C) 1- Visual field examination. 2- Tonometry. 3- RAPD. 4- Color vision.

An infant noticed to have an eye (right) larger than the other presented as in picture;

1- what is your Dx.? 2- mention 2 signs.

2- mention 2 signs. **Answers:**

- 1- congenital glaucoma.
- 2- buphthalmus, watering, cloudy cornea.



A 50 YO male presented to ER with sudden Rt.eye pain with redness, blurring & vomiting, IOP was measured & it was 64;



- 1- what is your Dx? 2- what are the steps of tt?
- 3- will you do anything in the other eye?

- 1- Acute angle closure glaucoma. 2- pilocarpine, acetazolamide, B-blockers. Then iridotomy for both eyes.
- 3- Yes we do iridotomy for the other one by Yag-Laser as prophylaxis.

- 1) What's the Dx?
- 2) What's the tt?

- Rt: congenital glaucoma.
 Lt: corneal scar.
- 2) Rt: reduce pressure by drugs, Surgery (trablectomy). Lt: PKP (not sure!).

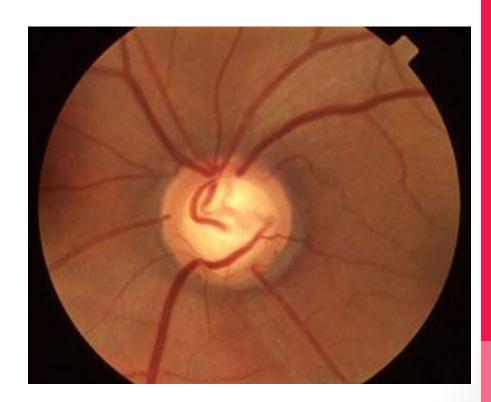


- 1. 2 retinal signs in retinitis pigmentosa?
- 2. Type of glaucoma in patients with BRVO (branch retinal vein occlusion)?

- 1. Bone specule-shaped pigments, attenuated retinal vessels.
- 2. Neovascular, secodary closed angle glucoma

- 1. What's the diagnosis?
- 2. 2 drugs for tt?
- 3. If this condition presented acutely, give 2 signs?

- 1. Chronic open angle glaucoma.
- 2. Beta blocker. carbonic anhydrase inhibitors.
- 3. Fixed mid-dilated pupil, ciliary flush



- 1. Mention the two pathways of aqueous humor drainage.
- 2. Mention 3 families of drugs for the treatment of glaucoma.

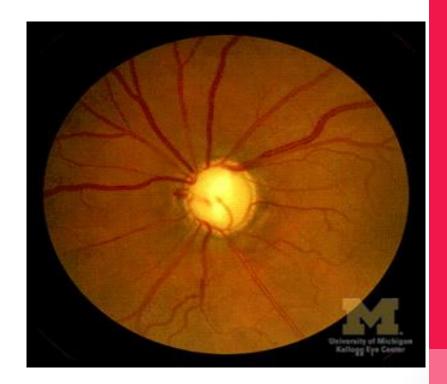
- 1. Conventional Pathway, Uveoscleral Pathway
- **2.** B-Blockers, Prostaglandins analogues, Carbonic anhydrase inhibitors.

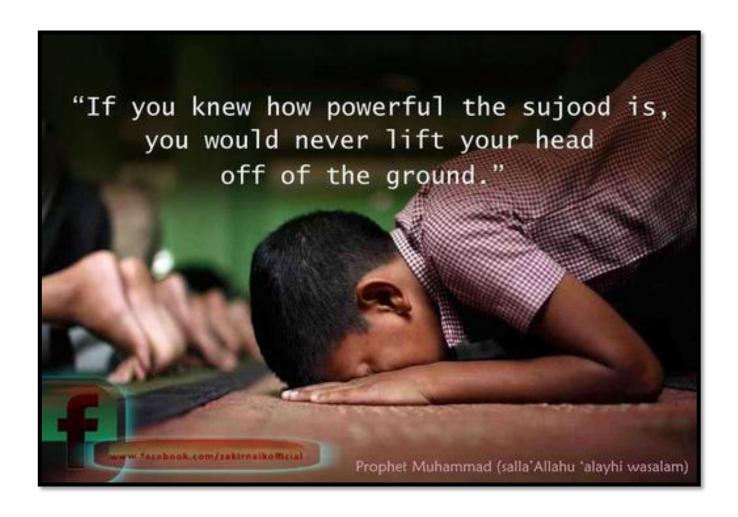
- 1. About acetazolamide?
- 2. Mention three Uses?
- 3. Mention 2 Side effects?

- 1. Group: carbonic anhydrase inhibitor
- 2. glaucoma, papilledema and increase ICP, benign intracranial hypertenition (pseudotumor), cystic macular edema in retinitis pigmentosum.
- 3. periorbital parasthesia, renal impairment, GI upset.

- 1. what we call this sign?
- 2. What is the diagnosis?
- 3. Give three drugs used in treatment?
- 4. Surgical correction?

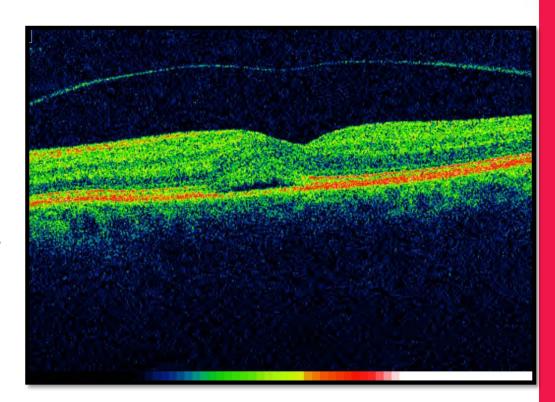
- 1. Optic disk cupping
- 2. Glaucoma
- 3. Prostaglandin agonist, beta blockers, acetazolamide
- 4. trabeculoctomy.





8. Retina

- OCT stands for?
- The deepest centre "the central depression" is (what part of macula)?
- 3. Nutrition supply to the area of the previous Q. is from?
- 4. What structure of the photoreceptor in that central depression?

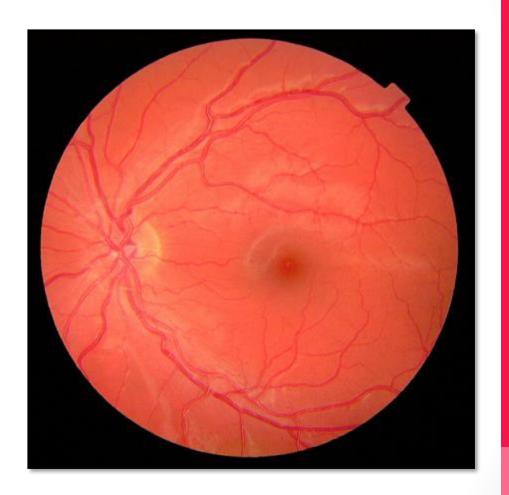


- 1) Optical coherence tomography.
- 2) Fovea.
- 3) Choroid layer.
- 4) Outer segment of cones.

- 1) The retina has 3 dissectible layers, what are they?
- 2) Mention 3 risk factors for CRVO/BRVO.

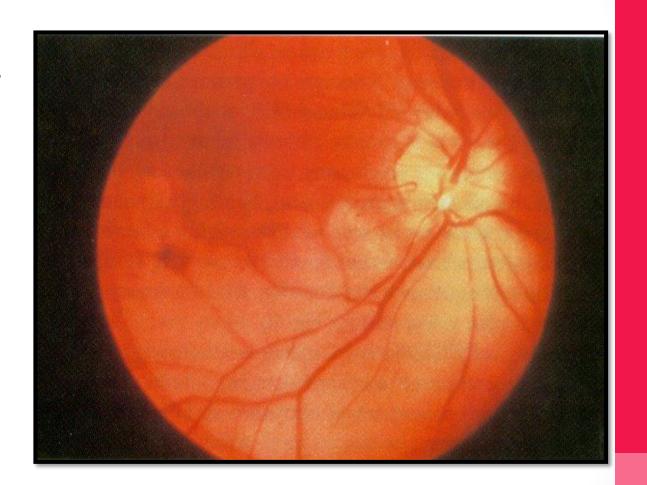
- According to Dr. Arqam:
 Retinal pigment epithelium,
 neurosensory layer &
 internal limiting membrane(bruch's membrane)
 ** attention (not bipolar cells & ganglion cell layers they are histological not dissectible layers)
- 2. Hypertension, diabetes, atherosclerosis, hypercoagulable states, sickle cell disease, ...

- 1- What is your Dx?
- 2- what is the presenting symptom for this condition?
- 3- which eye is this?



- 1- CRAO (central retinal artery occlusion).
- 2- sudden painless loss of vision.
- 3- the left eye. OS (ora sinestro)

- 1. What is the Dx?
- Mention 2Causes?
- 3. Risk factors?
- 4. Complications? tt?



- 1) BRAO "coz it's involving the lower part".
- 1-valvular heart dis. 2-emboli,carotid stenosis ... etc.
- 3) HTN,IHD (extra questions).
- 4) Neovascularization

tt >> LASER PRP((pan-retinal photocoagulation)).

- 1. What's the pathology here?
- 2. Mention one cause.
- 3. Complication?



- 1) BRVO (branch retinal vein occlusion).
- 2) Hypertension.
- 3) Vision loss, Neovascularization (due to ischemia) leading to vitreous hemorrhage, Also new vessels grow on the iris causing rubeotic glaucoma, Macular edema, Optic disc swelling.

- 1. What's the Dx?
- 2. One predisposing factor.
- 3. One complication leads to vision loss.



- 1. BRVO. (branch retinal vein occlusion)
- 2. HTN. (most common)
- 3. Vitreous Hemorrhage.

- Causes of Vitreous Hemorrhage in general:
 - proliferative diabetic retinopathy
 - Retinal detachment
 - Posterior vitreous detachment (PVD)
 - Branch Retinal vein occlusion
 - Trauma

- In case of macular edema (??) we use intravitreous injection.

(avastin (anti VEGF))

Age-related macular degeneration (AMD)

failure of the retinal pigment epithelium (RPE) to remove lipid products \rightarrow Overtime undigested lipid products deposits in Burch's membrane \rightarrow seen as yellow lesions called drusen.

→ Collection of drusen in the macula is termed age related maculopathy (ARM)

Dry (non-exudative) form : (most common)

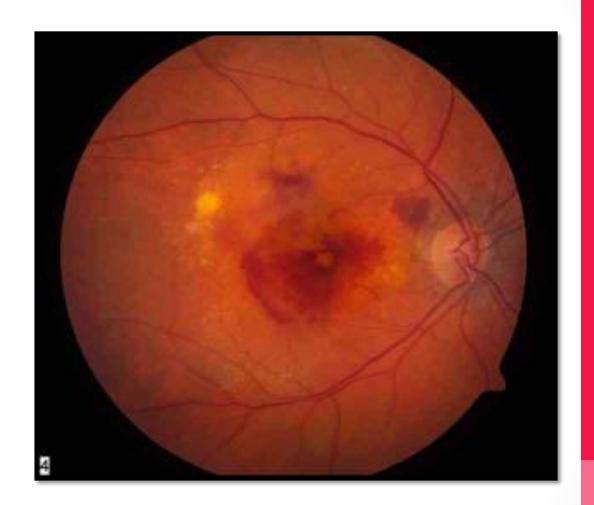
- the neighboring RPE and photoreceptors show degenerative changes; Loss of RPE "apoptosis of RPE"
- Decreased reading ability, decreased visual acuity
- NO treatment

Wet (Exudative) form:

- angiogenic factors (ex. VEGF) stimulate new vessel formation from the choroid through Bruch's membrane and RPE into the sub retinal space forming *sub-retinal* neovascular membrane.
- Subsequent hemorrhage into the sub-retinal space or even through the retina into the vitreous is associated with profound visual loss.
- tt: intravitreous anti-VEGF "avastin", Argon-laser treatment, PDT (photodynamic therapy)

>> 85 YO male, central loss of vision, blurred vision;

- 1. what is your Dx?
- 2. What is the tt?

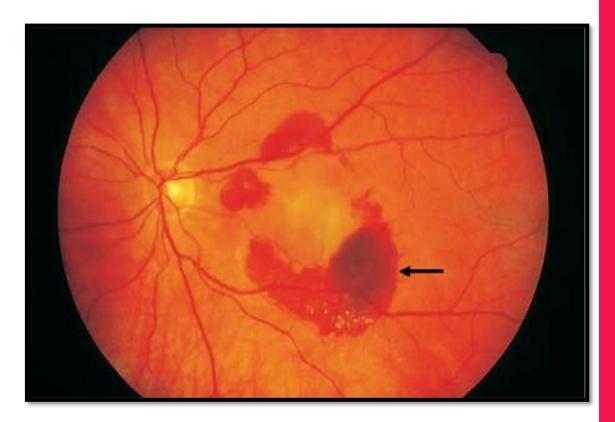


- 1. Wet AMD.
- 2. Intravetrous Avastin.

• The new blood vessels in Wet AMD arise from (.....)

✓ Choroid

- >> This is sub-retinal bleeding in 75 YO man:
- 1. what's the cause for this?
- 2. what's the tt?
- 3. which eye is this?



- 1. Age related maculopathy.
- 2. Laser or vetrictomy.
- 3. Left eye.

- 70 YO male healthy presented with Gradual loss of vision;
- 1. Mention the Sign.
- 2. At which Layer is it located?



- 1) Drusen.
- 2) Bruch's membrane, Sub-RPE (not RPE).

- 1. What PVD sets for?
- 2. What's the type of detachment?
- 3. Sites of the strongest attachment?

- 1. Posterior vitreous detachment
- 2. Detachment of vitreous membrane from retina ... it may cause rhegmatogenous detachment of retina.
- 3. Ora serrata (vitreous base), retinal blood vessels " optic disk " macula

عندما أقرأ (ولسوف يعطيك ربك فترضى) تعودت أن أستشعر أنها خطاب لي شخصياً.. أتراه يخذلني؟.. حاشاه!



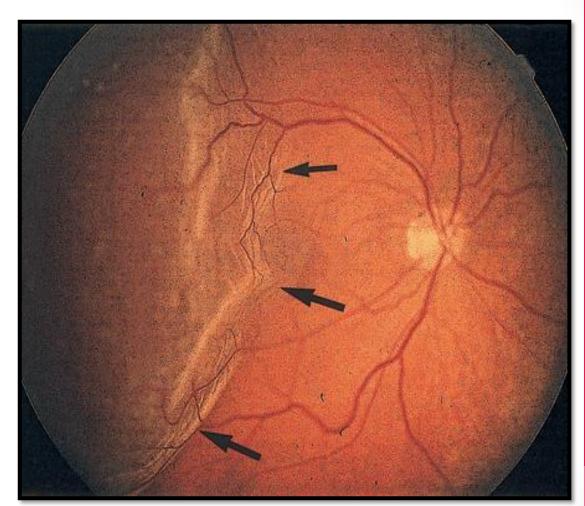
- Picture of retinal detachment (in the Question they gave us the diagnosis, so you can answer without the picture).
- 1. Define retinal detachment.
- 2. Mention 2 types.
- 3. 2 causes.
- 4. Treatment.

- 1) Cleavage in the plane between the <u>neurosensory</u> <u>retina</u> & the retinal pigment epithelium (RPE).
- 2) Rhegmatogenous, Tractional, Exudative.
- B) DM, ocular malignancy (non rhematogenous) & Recent severe eye trauma(rhematogenous).
- 4) Surgical Repair. External (conventional approach) or Internal (vitreoretinal surgery).

A 28 YO pt with sudden loss of vision & flashing light;

1- what is your Dx?

2- mention a risk factor.



- 1- retinal detachment (rhegmatogenous).
- 2- trauma, post cataract surgery, high myopes.

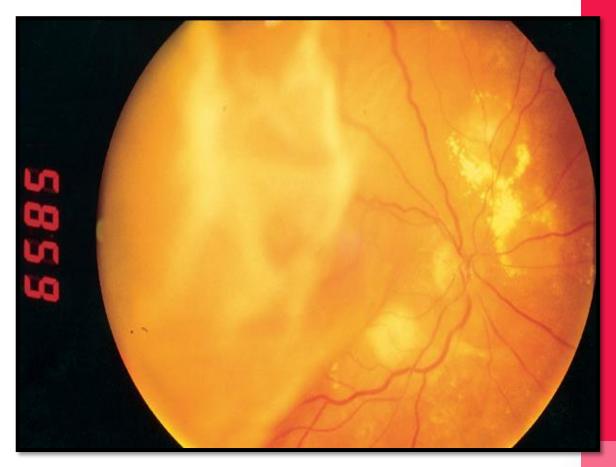
- 1. what do we mean by retinal detachment?
- 2. what are the three types?

- Definition: separation between neurosensory (photoreceptor) layer and retinal pigmentary epithelium.
- 2. Types: rhegmatogenous, tractional, exudative.

- 1. Mention the areas at which the vitreous humor is most firmly attached.
- 2. Which one is the strongest?

- 1. Ora Serrata, Optic disk, Retinal Blood vessels, Macula
- 2. Ora Serrata

What is your Dx.?
 The visual defect will be (superior, inferior, temporal)?
 Mention one surgery.



Notice that this is the right eye

- 1) Superotemporal rhegmatogenous retinal detachment.
- 2) Inferior Or more precisely inferio-nasal visual field (the opposite of the affected part of retina =))
- 3) Buckling surgery.

- 1. What is the source of the fluid in Rhegmatogenous retinal detachment?
- 2. On what sites new blood vessels can grow, in diabetic retinopathy?

- 1) Vitreous.
- 2) NVD, NVI, NVE.

- 1- What are the attachments between vitreous body & retina? And what is the strongest one?
- 2- What is the first sign in Diabetic retinopathy?
- 3- Mention 2 signs of ischemia in Diabetic retinopathy.

- Ora Serrata (the strongest), optic disc, fovea, major retinal blood vessels
- microaneurysm.
- cotton wool spots, Venous beadings, IRMA.

stages of diabetic retinopathy:

1) Non-proliferative (normal vision)

- hyperglycemia --> loss of pericytes --> increase permeability --> Edema (hard exudate)
- weak capillary wall --> micro aneurysm & dot hemorrhage

2) Pre-proliferative (normal vision)

occlusion --> infarction in nerve fiber layer --> swollen ganglion cells --> (cotton wool spots & IRMA(intra retinal microvascular abnormality) & hypoxia(ischemia) & venous loops)

3) Proliferative (normal vision; sight threatening)

 occlusion --> release of vaso-proliferative substance from the retina --> growth of new vessels (on the disk (NVD) or elsewhere on the retina (NVE))

4) Advanced (reduced vision, often acutely with vitreous hemorrhage; sight threatening)

- Proliferative changes --> bleeding (<u>into vitreous</u> or <u>between vitreous & retina</u>)
- Growth of new vessels --> fibrous proliferation --> pull the retina from its RPE(retinal pigment epithelium)

** Maculopathy (not a stage! could happen with any stage), (may reduce vision; sight threatening)

- Exudate & hemorrhage within the macular region
- Evidence of retinal edema
- Evidence of retinal ischemia

Source: lecture notes book & seminar

- Mention the 2 factors that determine the visual acuity in diabetic pts?
- Where do the blood vessels in wet AMD arise from?
- 3) What are the 2 types of diabetic maculopathy?

- 1) A. Clarity of the media.
 - B. Presence or absence of maculopathy.
- 2) Choroid.
- 3) A. Ischemic.
 - B. Exudative.

>> Name the 3 stages of non-prolifrative diabetic retinopathy?

- 1. Pericytes death \rightarrow micro-anurysim.
- 2. Leakage & hemorrhage \rightarrow hard exudates, dots & blots .
- 3. Ischemic \rightarrow cotton wool spot, venous beading, IRMA.

- 1. What's this sign?
- 2. 2 causes?
- 3. What's the type of glaucoma it causes?
- 4. 2 complications?
- 5. Tt?



- 1) Rubiosis Iridis.
- a- DM proliferative retinopathy.b- Central retinal vein occlusion.
- 3) Neovascular glaucoma (Secondary).
- 4) Hyphema, neovascular glaucoma.
- Anti -VGEF or laser.

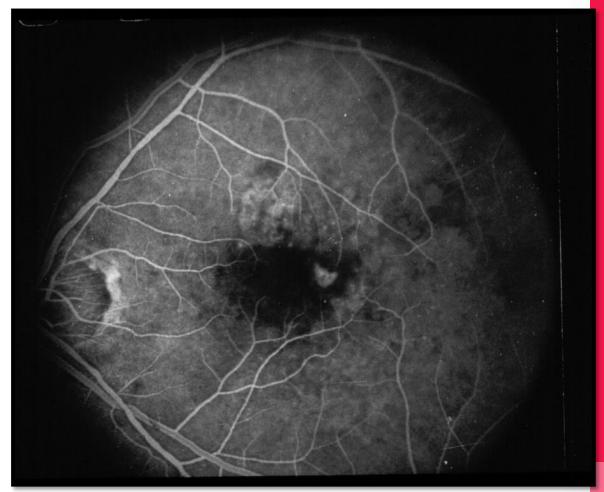
- >> Complete the sentence:
- New blood vessels formation in Diabetic retinopathy arise from ----- (1) blood vessels, and in wet AMD they arise from ----- (2) vessels.

- 1. Retinal blood vessels.
- 2. Choroid.

- >> Retina picture that I don't remember exactly, but there were hemorrhages (maybe vitreous hemorrhage), NVEs, but for sure it was proliferative retinopathy.
- 1. What are the findings? (2 points).
- 2. Modalities of treatment?
- 3. Serious complication of diabetic retinopathy?

- avastin (anti VEGF)
- 2. panretinal photocoagulation PRP.
- 3. Threatening the acuity of vision (in advanced stages of the disease).

- 1. which eye is this?
- what is the name of this test?
- 3. what is the main pathology seen in the Fundus?
- 4. give 2 possible causes for this condition.
- 5. give 2 modalities to treat.



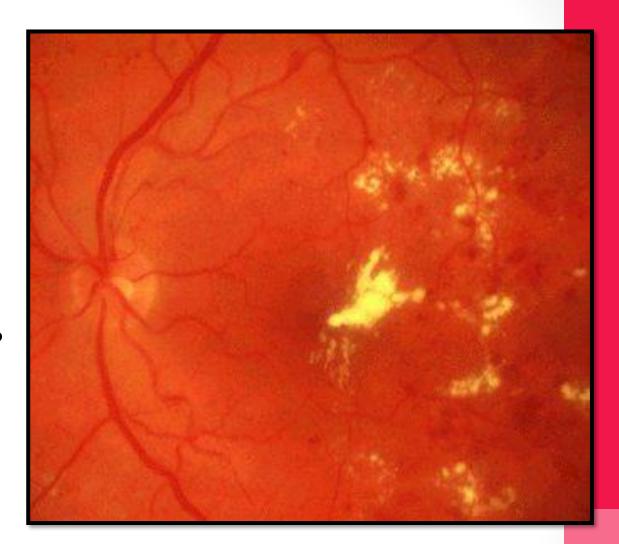
- 1. Left eye
- 2. Fluorescence angiogram
- 3. Macular edema
- 4.DM, WET AMD (age-related macular degeneration)
- 5. avastin, laser photocoagulation

- 1. what's the pathology seen here?
- 2. Its cause?
- 3. Treatment?

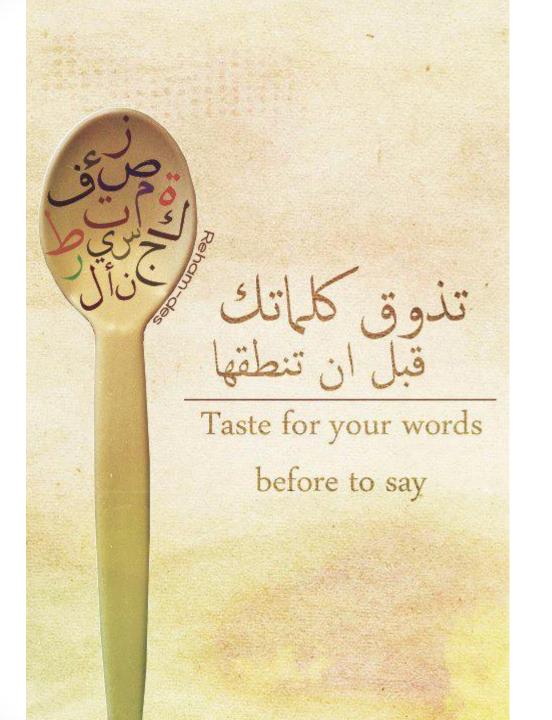
- 1) It was a picture of a retina showing either micro-aneurysms or neovascularization (am not so sure).
- DM,
 if it was microaneurysms (non- proliferative diabetic
 retionpathy).
 And if neovascularization (proliferative diabetic retionpathy).
- Avastin & Laser.

>> A diabetic pt complains of poor vision for 3 months:

1- What is your Dx?2- What is the first line tt?



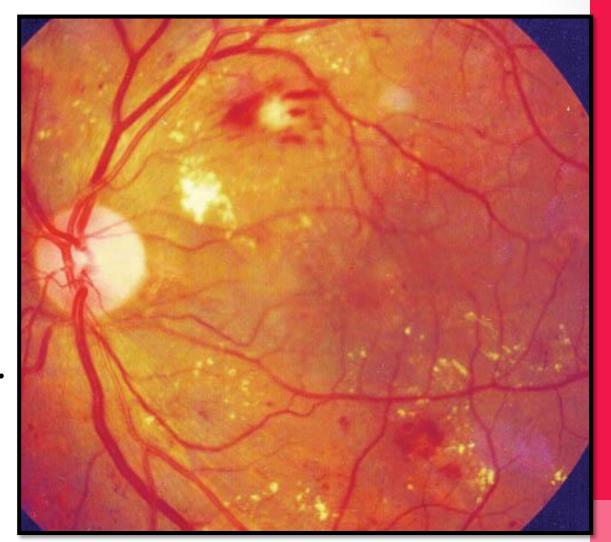
- Macular edema (Diabetic Maculopathy).
- in the past the first line tt was Laser (grid/ focal). 2nd line avastin(anti-VEGF)
 - BUT newly the first line of tt is: Anti-VEGF



- 1- Give 2 signs of severe NPDR?
- 2- what is the mode of inheritance of the milder form of retinitis pigmentosa?

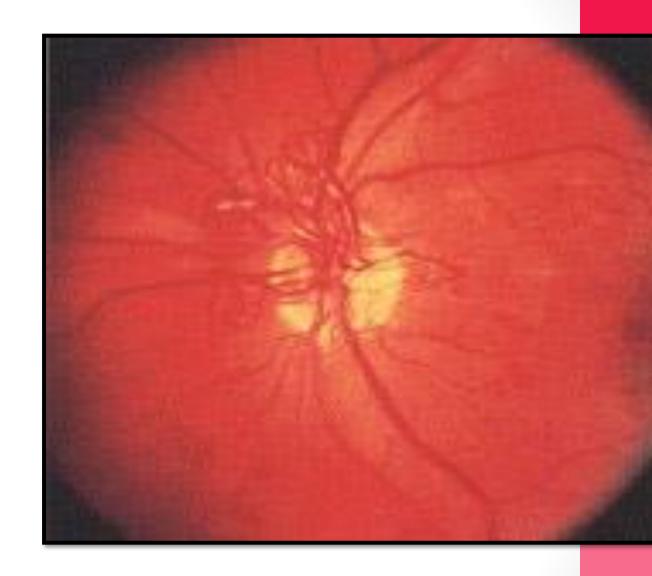
- 1. IRMA, cotton wool spot.
- 2. AD.

- A) Which stage of diabetic retinopathy is this? (Dr. said: "Note the optic disc!")
- B) Mention one tt.



- A) Proliferative stage.
- B) Pan-Retinal Photocoagulation (PRP).

- 1. What is your Dx?
- 2. What is the tt?



- 1. Proliferative Diabetic Retinopathy.
- 2. Surgery (PPV), Laser (PRP), Anti VEGF.

- 1. Mention 3 sites of neovascularization in a DM pt?
- 2. Mention 4 causes of visual disturbances in a DM pt.
- 3. Mention 2 complications of PDR?
- 4. 1st line of treatment?

- 1) NVD, NVI, NVE.
- 2) 1.diabetic maculopathy.
 - 2.Cataract.
 - 3. Vitreous hemorrhage (sudden loss).
 - 4. Tractional retinal detachment.
- 3) -Vitreous hemorrhage.
 - -retinal detachment.
- 4) PRP laser.

- 1) Which eye is this?
- 2) what is Dx?
- 3) what stage of disease is this?
- 4) what are the black dots that you see in the picture?
- 5) what is the tt?



- 1. Rt.eye.
- 2. retinal fibrosis!
- 3. Proliferative diabetic retinopathy.
- 4. The black dots are the result of laser therapy.
- 5. Surgery.

- 1) What's the Dx?
- 2) What's the tt?

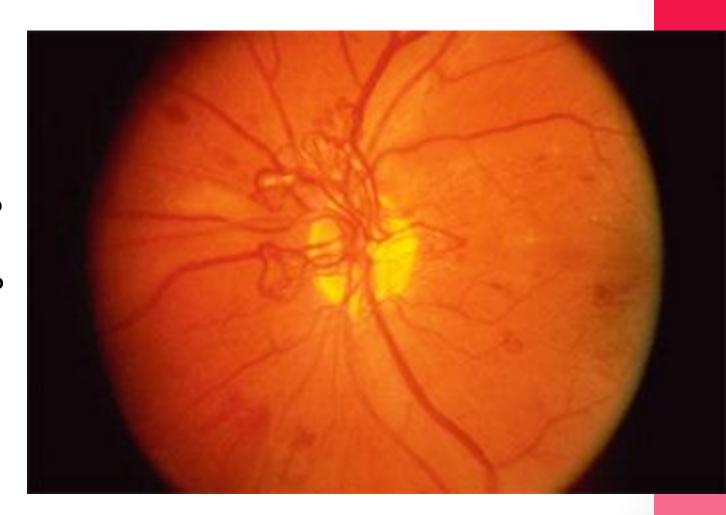


- 1. Retinal hemorrhage & exudates.
- 2. Control DM. NPDRP \rightarrow follow up.

- 1. Hard exudates is_____
- 2. Soft exudates is _____
- 3. What is the most common cause of rheumatogenous retinal detachment.
- 4.In which layer the drusen is formed?

- 1. lipoproteins (lipids also correct).
- 2. ischemic nerve fibers.
- 3. Posterior vitreous detachment.
- 4. bruch's membrane (sub-retinal also correct).

- 1. What is this sign?
- 2. Mention one cause?
- 3. Definitive treatment?



- 1. Neovascularization on the disc.
- 2. Proliferative diabetic retinopathy.
- 3. Pan retinal photocoagulation.



- ✓ Patient with Hx of gradual visual loss and picture obviously have maculopathy (not the same picture of the exam)
- ☐Give 2 drugs that may lead to this?



- Choloroquine, hydroxycholoquine (used to treat certain connective tissue diseases, such as rheumatoid arthritis and systemic lupus erythematosus.)
- Sign in this picture is called: (Bull's-eye pattern) of retinal pigment epithelium disturbance in the foveal region of the right eye (sign of Chloroquine or hydroxychloroquine retinopathy)
- Dx:
- 1. Age-related macular degeneration
- 2. Chloroquine or hydroxychloroquine retinopathy
- 3. Stargardt disease
- 4. Cone degeneration

- 1. Explain the pathophysiology of Retinopathy of Prematurity.
- 2. Mention one modality of treatment.

- Initially failure of normal retinal vascularization --> phase of aggressive new vessel formation
 - This results in vitreous hemorrhage, retinal detachment, and, in the late scarring stage, retrolenticular fibroplasia as vessels and connective tissue fuse with the detached retina.
- 2. Anti-VEGF, Cryotherapy, Laser.
- Surgery is rarely successful in stages IV and V. In stage III, laser
 photocoagulation or cryotherapy is performed in the nonvascularized
 portion of the retina.

- 1. 2 ways of management of ROP in newborns.
- 2. 2 predisposing factors for a premature baby to develop ROP.

- Cryo or laser to the avascular retina (Pan-retinal photocoagulation), avastin(anti VEGF).
- 2) Gestation <32 wks, Birth wt <1.5kg, Exposure to supplement O2, Apnea, Sepsis, Duration of ventilation, Blood transfusion, Presence of intraventricular hemorrhage, Retinal light exposure.

retinitis pigmentosa

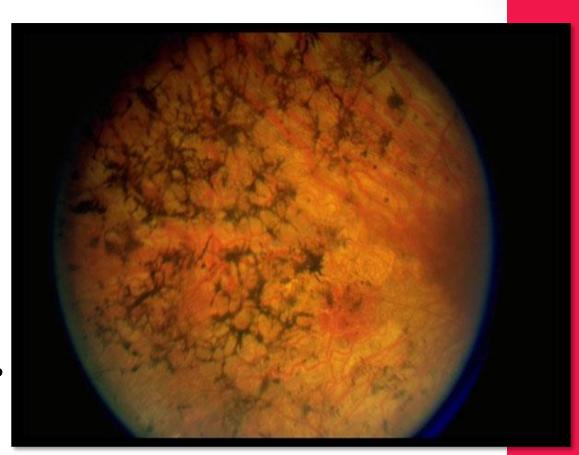
Inherited disorder of the photoreceptors / several genotypic & phenotypic varieties.

- Photoreceptors degeneration (mainly rods) + retinal atrophy.
- > In isolation or in association with other systemic diseases.
- ➤ Inheritance: AR (60%), AD, X-linked recessive.
- > Age of onset, progression & Px. is dependent on inheritance mode.
 - → In general, AD form is of later onset & milder degree.
 - → X-linked recessive forms may present in infancy or childhood.
- ➤ About 50% of all patients will have an acuity of less than 6/60 by the time they reach 50.

> Symptoms:

- Night blindness.
- 2. Decreased peripheral vision (tunnel vision).
- Decreased central vision (macular changes).
- 4. Glare (from cataract).

- 1. What's the Dx?
- Mention 2 symptoms.
- 3. What's the black sign?
- 4. What's the mildest form?
- 5. 3 pathognomic signs?



- 1. retinitis pigmentosa.
- bone spicula.
- 3. 1. retinal pigmentation ('bone-spicule')2. attenuation of the retinal arterioles
- 4. Autosomal dominant.
- bone specules, attenuated arterioles, disc pallor (on ophthalmoscope).

- >> What's the tt of macular edema in a pt with retinitis pigmentosa?
- >> Mention 3 systemic drugs that cause cataract.

- Acetazolamide.
- 2. Steroids, Pheothiazine, Chloropromazine.

✓ give two treatable complication of retinitis pigmentosum?

Answers

Cataract, cystic macular edema.

- >> In Retinitis Pigmentosa:
 - 1- Name the 3 modes of inheritance.
 - 2- What's the most severe form?
 - 3- Mention 2 treatable conditions associated with this disease.

- 1) AD, AR, X-linked.
- 2) AR.
- 3) 1.macular edema. 2.Cataract.



9. Eye Movement and Their Disorders

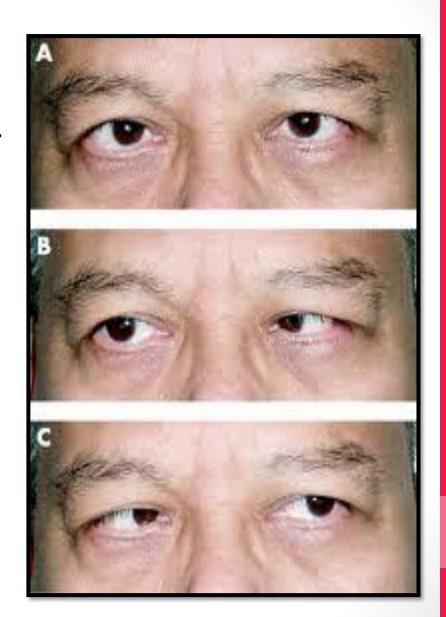


1. What's the condition?2. What's the refractive error the child wearing glasses for?

- 1) <u>Fully</u> accommodative right esotropia.
- 2) Hypermetropia.

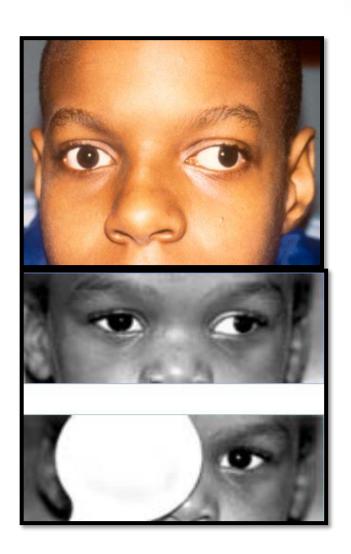
- (A) when the pt gaze straight.
- (B) when the pt gaze to the right.
- (C) when the pt gaze to the left.
- 1. What's the Dx?
- 2. Name a systemic disease that have this manifestation?
- 3. 2 causes?

- 1) Right 6th nerve palsy.
- 2) (HTN, DM) mainly ... MS
- 3) trauma, tumors, aneurysm.



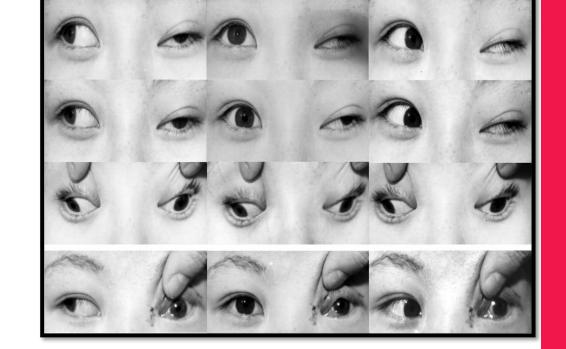
- 1. what is this test?
- 2. what is your Dx?

- 1. Cover/uncover test
- 2. Left eye exotropia



⊕ Question 68

- 1. Mention 2 signs you can see.
- 2. What's the Dx.?

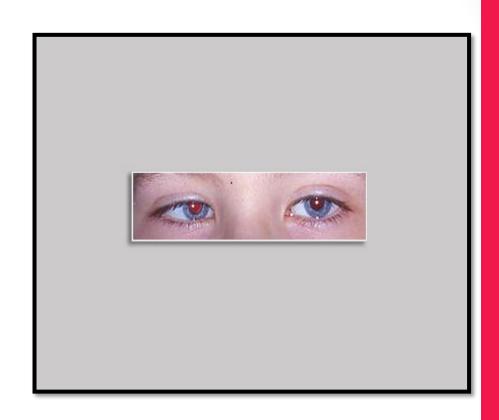


- 1) Ptosis.
 - Outward downward gaze (you can see it in the third row of pics from above. Both eyes.)
 - $\hbox{-} \ Mydrasis \ (\hbox{the exam was more obvious}).$
- 2) 3rd nerve palsy.

⊕ Question 81

- 1. Name the test used here.
- 2. What is the finding?

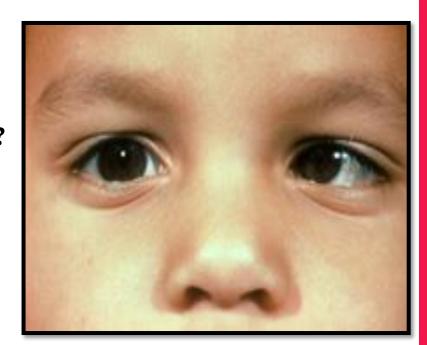
- 1) Hirschberg test.
- 2) Right Esometropia.



- 1. Mention 3 signs in oculomotor (third nerve) palsy.
- 2. What is the test used to diagnose phoria.

- 1. Paralytic squint the eye is downward & lateral, mydriasis, ptosis.
- 2. Alternate cover test.

- 1. What is this?
- 2. Mention 2 causes?
- 3. Mention 2 tt options?

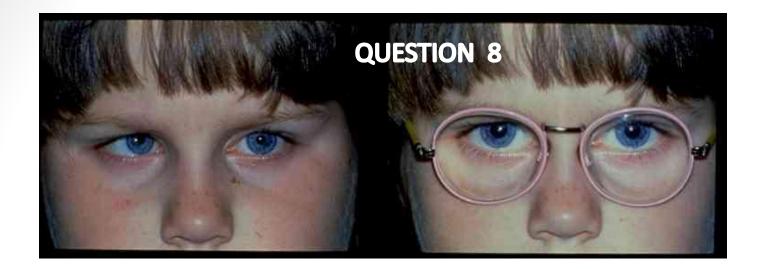


- 1) Left eye esotropia.
- 2) refractive error. -6th nerve palsy.
- 3) Glasses / cover the normal eye (patching).

- 1- what is your Dx in this 4YO child (which eye)?
- 2- if left untreated; what is possible to happen?
- 3- eye symptom he complains of?



- 1- Left eye exotropia (by hirschberg test).
- 2- Amblyopia.
- 3- Diplopia (double vision).



- 1. Dx?
- 2. Complication?
 - **Answers**:
- 1. Accommodative hypermetropia (Accommodative esotropia is caused by accommodative convergence associated with hyperopia.)
- 2. ambylopia

- 1. dx?
- 2. One test?
- 3. Complication?

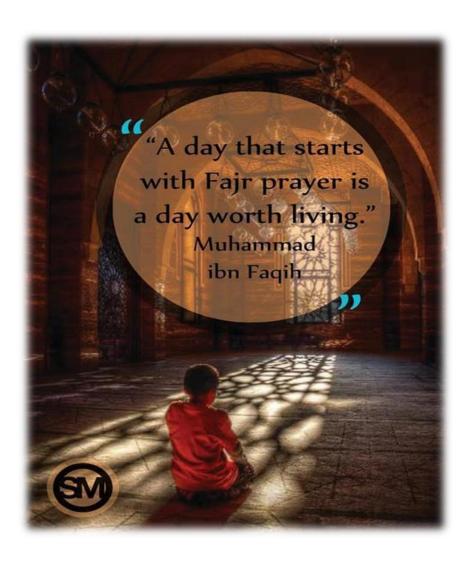
- 1. Left eye Esotropia
- 2. Hirschusburg test
- 3. -amblyopia



- 1. What is ur diagnosis?
- 2. One complication in a child left un treated?

- 1. Left eye Exotropia.
- 2. Amblyopia.





10. Others

- 1. Give 2 uses of Avastin?
- 2. One ocular complication of: steroid, ethambutol?
- Discuss the advantage of using Intraocular lenses instead of glasses in an aphkic pt.

- 1. PDM, wet AMD.
- 2. Ethambutol: optic neuropathy /Steroid: glaucoma.
- 3. Cosmetic & Magnification problem.
 - >> You better search for the answer because we're not 100% sure.

- >> The foveola has only ------
- >> The main cause of vascular hemorrhage & microanurysm in DM is ----- cell death.
- >> Most common tumor of the eye in adult is ------
- >> Most common site of metastasis ------

- >> Cones.
- >> Pericytes.
- >> Choroidal melanoma.
- >> Liver.

- 1. Define RAPD.
- 2. Mention 2 causes.

- 1. a medical sign observed during the swinging-flashlight test, whereupon the pt's pupils constrict less (therefore appearing to dilate) when a bright light is swung from the unaffected eye to the affected eye. The affected eye still senses the light & produces pupillary sphincter constriction to some degree, albeit reduced.
- 2. Causes: amblyopia, monocular occlusion, anisocorea, bense blood (complete hyphema, dense vitreal hemorrhage), optic neuritis & ischemic optic neuropathy but cataract doesn't!

- 1. What's your Dx.?
- 2. What will you do as a general physician?



- 1. Ruptured globe.
- 2. Cover the eye, analgesics IV, antibiotic IV & refer to ophthalmologist.

- >> Cyclopentolate, Atropine, Tropicamide.
- 1. These medications are?
- 2 uses?
- 3. Which one has strongest cycloplegic effect? shortest duration of action?
- 4. What's the potential risk if you used them for a pt with narrow iridocorneal angle?

- 1) Mydriatic Agents (parasymatholytic).
- 2) Slit lamp exam, Eye surgeries, relieve pain in glaucoma.
- Atropine (strongest), Tropicamide (shortest).
- 4) May precipitate acute attack of glaucoma.

- 1. What's this sign?
- 2. What's the systemic association with it?

Answers:

- 1) Coloboma.
- 2) CHARGE syndrome.
 - >> The letters stand for:

Coloboma of the eye, Heart defects, Atresia of the nasal choanae, Retardation of growth &/or development, Genital &/or urinary abnormalities, and Ear abnormalities & deafness.



- 1. Name this sign.
- 2. Give 2 systemic causes.



- 1. Hypopyon (also in the exam there were keratic precipitates).
- 2. Ankylosing spondylitis, sarcoidosis, Behcet's disease,...

⊕ Question 78

- 1. a 23 year old female pt, with this eye disease, is RAPD positive ..etc (typical case for ON) ,,, what is the diagnosis?
- 2. what systemic disease could result in this condition.

Answers:

1. Optic Neuritis.

2. MS.

- 1) Diagnosis?
- 2) 3 causes?
- 3) Treatment?



- 1. Ophthalmia neonatorum
- 2. Infectious * bacterial : Chlamydia , n.gonorrhea . * viral : herpes simplex silver nitrate .
- 3. Sample & culture+ topical antibiotics+systemic antibiotics

⊕ Question 87

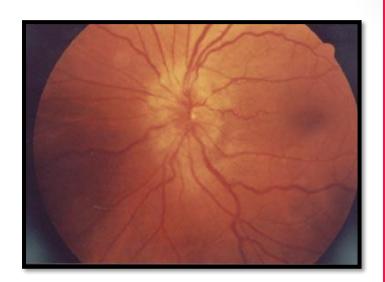
- 1- what is the Dx?
- 2- mention the microorganisms.
- 3- explain the treatment.



- 1- Ophthalmia Neonatorum.
- 2- Neisseria gonorrhea, Herpes simplex, Chlamydia.
- 3- Antibiotics.

⊕ Question 84

- >> 27 YO female, complains of headache, N&V.
- 1- what's the diagnosis?
- 2- mention 2 possible causes.



- 1- papilledema.
- 2- anything that raise ICP.

>> 62 YO male pt with DM,HTN came with a sudden painless loss of vision, he has free ocular Hx. except for a laser surgery 6 months ago in the other eye, no RAPD, dim light reflex, ultrasound showed flat retina.

- 1) What's the Dx.?
- 2) Treatment.

- 1) Vitrous hemorrhage.
- 2) Avastin.

1- What do you call this condition?

2- Mention 2 causes.



Answers:

- 1- Restricted visual field (tunnel vision) or restricted peripherally.
- 2- a- Retinitis pigmentosa. Glaucoma.

b-

- 1. Mention 4 DDx for gradual painless loss of vision.
- 2. Explain how to calculate the lens power.

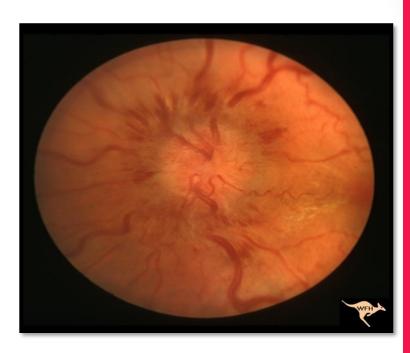
- 1. Open angle glaucoma. 2.cataract. 3.refractive errors.
 - 4. Diabetic maculopathy (retinopathy is wrong).
 - 5.age related macular degeneration.
- 2. Using the biometry by measuring the axis length & the corneal convexity.

- 1. Which is more serious alkali or acid? And why?
- 2. How you treat chemical injury?
- 3. Mention 2 signs seen in blow out injury.

- 1. Alkali, because the it penetrate more while the acidic coagulate.
- 2. Irrigation with normal saline or ringer lactate for 30 minute till we neutralize the pH (500 cc).
- 3. Enophthalmus . emphysema of skin of lower eyelid. Parasthesia of lowereyelid . limitation of eye movement

- 1. what is this sign?
- 2. If this optic disc is of a pt who presented with headache, projectile vomiting, 6th nerve palsy, what is the Dx.?
- 3. Other causes?

- 1. Optic disc swelling. 2. Papilledema.
- 3. Tumors, anterior ischemic neuropathy, Optic neuritis, Central vein occlusion, ...



- 1- What is the most common intraocular tumor in children / adults?
- 2- What is the tt of chemical injuries of the eye?

- 1- Children: retinoblastoma / Adults: choroidal melanoma.
- 2- Irrigation.

- 1- Mention 2 risk factors for acute angle closure glaucoma?
- 2- what is the tt of neovascularization in Wet AMD?

- 1- Hypermetropia, shallow anterior chamber.
- 2- Anti VEGF (avastin).

- 1- Mention 2 surgeries to correct astigmatism?
- 2- Mention 2 complication of cataract surgery & the tt of each one?

- 1- Intraocular toric lense transplantation, LASIK PRK, limbal relaxation incision, Astigmatic keratotomy eye surgery.
- 2- Endophthalmitis → antibiotic & vitrectomy. Retinal detachment → surgery.

>> pt presented with loss of vision, headache, jaw claudication:
1- what is the cause of optic disk swelling?
2- what is the tt?



Answers:

1- this is a case of giant cell arteritis (Arteritic –AION) but the doc wanted optic neuritis as an answer. 2- high dose of steroid.



- 1- what's your Dx.? 2- what's the refractive error?
- 3. possible Cx. If left untreated? 4.what's the cause?

- 1- bilateral accommodative esotropia.
- 2- hypermetropia. 3- Amplyopia. 4- 6th CN palsy, Refractive error.

- A) What is the Dx?
- B) Mention two signs.
- >> Dr. explained that b is the pt unassisted, while a is with the examiner's help.

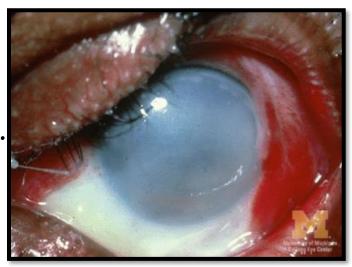
- A. Third nerve palsy (Occulomotor nerve palsy).
- B. Signs:
- 1- Ptosis (complete, indicative of 3rd nerve plasy).
- 2- Characteristic "down & out" eye position (exotropia).
- 3- Mydriasis (Pupil dilation).





>> Male pt presented after chemical injury.

Mention 2 prognostic signs.



Answers:

1- Corneal opacity. 2- Limbus ischemia.

 Mention 3 ocular manifestations of Rheumatoid Arthritis.

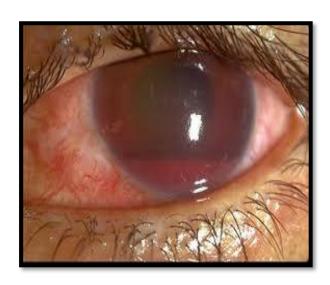
- >> keratoconjuncitivits sicca, episcleritis, scleritis.
- Why in the case of aphakia it is preferable to use Intra Ocular Lens more than using Glasses?
 (Bonus Question).

Define myopia?

Nearsightedness associated with prolonged axial length or thickness of the cornea in which the picture formed in front of the retina.

- Mention 2 association diseases with myopia?
- chronic open angle glaucoma. -retinal detachment.
- Mention 2 causes of 2ndary open glaucoma?
- steroid. hyphema.

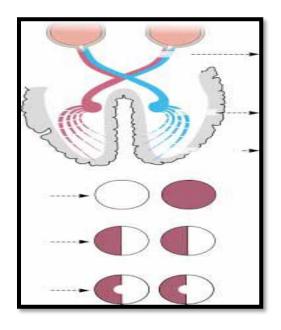
- 1- What is this?
- 2- Mention 2 complications?
- 3- What is the commonest cause for this?



- 1) Hyphema.
- 2) Corneal staining (rusty), secondary glaucoma.
- 3) Trauma. (other cause: rubeosis).

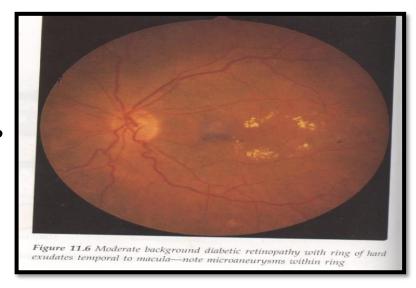
>> We are concerned in the 2nd circles;

- 1. What's the Dx?
- 2. What's the cause?



- 1. Homonomous hemianopia, left sided.
- 2. Cortical infarction.

- 1. what's the cause of this finding?
- 2. Give 2 modalities of tt?



Answers:

>> The most common of unilateral is also graves disease.

- >> 1 ocular complication of RA? MS?
- >> 2 contraindications of refractive eye surgery.

- >> RA >> Keratoconjunctivitis Secca, Uveitis.
- MS >> Optic Neuritis (ON) "most common presentation", Internuclear ophthalmoplegia, intermediate uveitis, sudden painless vision loss [typically; Young female & RAPD diplopiea, nystagmus].
 - >> Keratoconus. Thin cornea. Pregnant. SLE, RA. Autoimmune disorders. Glaucoma. Diabetes.

- Definition of glare & what types cause it?
- Mention 2 signs of blowout trauma & an indication of surgery.

Answers:

1) ???

2) **Signs**: Enophthalmus, parasthesia in lower eyelid, subcutaneous emphysema, reduced eye movement (painful), chemosis, diplopia.

Surgery Indications: Cosmotic, Muscle entrapment, Affected vision.

- 1. Mention 2 complications.
- Mention a systemic disease may be associated.

- 1. Glaucoma, Cataract.
- 2. Ankylosing spondylitis.



⊕ Question 134

- 1. What's the Dx?
- 2. Give 2 possible causes of this condition.



- 1) Left eye ptosis.
- 2) Myasthenia gravis, Cranial nerve (III) palsy, Horner's syndrome.

- >> List 2 indications of Pars-Planal Vitrectomy (PPV).
- >> Give 2 causes of subluxated lens.

- >> Vitreous hemorrhage, Rhegmatogenous RD, Tractional RD. (Macular hole; Macular pucker; Vitreomacular traction; Refractory macular oedema; Vitreous haemorrhage; Tractional retinal detachment; Rhegmatogenous retinal detachment; Dislocated intraocular lens; Refractory uveitis; Retained lens material; Intraocular foreign bodies; Floaters; Aqueous misdirection syndrome).
- >> Marfan's syndrome, Trauma, Homocystinuria.

- 1) Give 3 causes of reduced visual acuity in DM pts.
- 2) Explain about infective post-op. endophthalmitis.

- 1. Maculopathy, Neovasculatization, Macular edema, cataract, Retinal detachment.
- Incidence: 1-2/1000 (1:2000 hospitalized pt).
 Microbiology: Staph epidermidis,
 Propionibacterium acnes (normal skin flora). Prophylaxis: Iodine use, inter-vitreal steroids, IV antibiotics.
 - Management: Antibiotics / vitrectomy.

- 1- Give two causes for lens subluxation.
- 2- Give two indications for Pars plana vitrectomy.

- 1) Trauma, Marfan's syndrome, homocystinuria, Ehlers-Danlos syndrome.
- 2) Vitreous hemorrhage, Tractional retinal detachment, Rhegmatogenous retinal detachment, Dislocated intraocular lens.

16 YO male pt comes to Your clinic with a Hx of right side eye trauma 2 wks ago, now he starts to complain of some floating spots on his both eyes, pain & he is starting to lose the ability to see far objects & vision, what is your Dx?

Answers:

>> Sympathetic ophthalmitis.

Hx of pt came with Dilated conjunctival veins, proptosed eyes & Pulsatile tinnitus.

- what is the most likely Dx?
- 2. which investigation to confirm your Dx?

- 1) Carotico-cavernous fistula.
- 2) Angiography.

- 1) Mention 3 causes of Amblyopia in children.
- Mention 3 risk factors for fungal keratitis.

- 1) 1.congental glaucoma. 2.Refractive error.
- 2) 1.plant contact. 2.Prolonged use of steroids. 3.Hard contact lenses.

- 1. Mention 2 causes of secondary open angle glaucoma.
- 2. Mention 2 investigations done for keratoconus.

- 1) Hypopyon, Hyphema, Drugs.
- 2) Topography, Pakimetry.

- 1. define posterior synechiae.
- 2. one complication.
- 3. treatment.
- 4. Mention 3 causes of increased IOP in uveitis.

- 1) Adhesion between the lens & the iris.
- 2) Glucoma.
- 3) Cycloplegic agent.
- 4) Synechiae, Steroid, Hypopion.

- 1) Definition of red reflex.
- Give 2 diseases that affect the red reflex.
- 3) What is the tt of branch retinal venous occlusion when there is no vitreous hemorrhage?

- 1) It is the reflection of the choroidal blood vessels (also you can describe the normal reflex Diffuse etc).
- 2) Glaucoma, Optic neuritis.
- 3) Focal laser just on the site of new blood vessels.

- 1) Mention the Condition (not Sign).
- 2) Next Step to be Done?
 - A. Surgery.
 - B. Anesthesia & IUP measure.
 - C. Topical antibiotics.

- 1. Ruptured Globe (Sign: Iris Prolapse is not the answer).
- 2. a. Surgery.



- Mention 2 Complications of Retinitis pigmentosa.
- 2. 2 symptoms & 2 DDx. Of cataract.
- 2 causes for decrease vision in <u>intermediate</u> uveatis.

- 1. Cataract (posterior sub-capsular), Gradual Loss of vision, Keratoconus.
- Sx → gradual loss of vision, glare, double vision.
 DDx → Causes of gradual vision loss: glaucoma,
 AMD, refractive error, drugs.
- 3. Cataract, macular edema, retinal detachment.

- 1- What is the 2nd line tt of diabetic maculopathy if laser didn't work?
- 2- Define metamorphopsia.
- 3- What are the 3 types of cones?

- 1. Anti VEGF (Avastin).
- 2. A visual disorder in which images appear distorted in various ways.
- 3. Blue, Red, Green.

- 1. Mention 2 causes of paralytic squint.
- 2. What's the test used to differentiate between squint & pseudo-squint?
- 3. Cells in retina that transmit signals from photoreceptors to ganglion cells?

- 1) Cranial nerve palsies, trauma, increase intracranial pressure, myasthenia gravis, Thyroid diseases.
- 2) Hirschburg or corneal light reflex.
- 3) Bipolar cells.

- A 30 YO female presented with sudden painful loss of vision & painful eye movements. On examination there was optic disk swelling;
- 1- what is the Dx?
- 2- treatment?

- 1- optic neuritis.
- 2- IV steroid for 3 days followed by Oral steroid for 11 days.

⊕ Question 169

- 1) What's the Dx?
- 2) What's the tt?

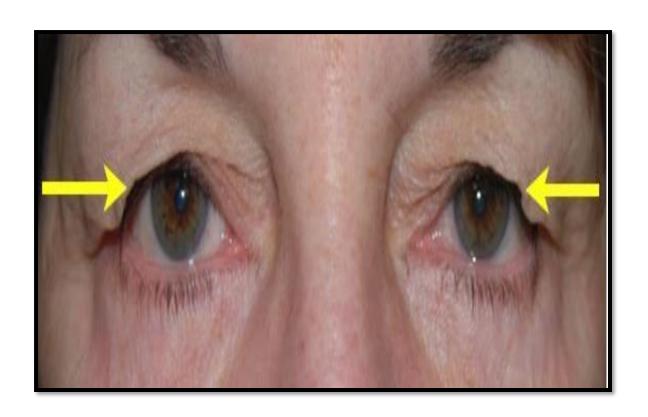


- 1. Post-op. Hyphema + staining.
- 2. Bed rest, Cyclopentolate, Watch intra-ocular pressure.

Madarosis



Dermatochalasis



- 1. Name of this sign?
- 2. 2 ddx?
- 3. Complication?

- 1. Bilateral leukocoria
- 2. Retinoblastoma, congenital cataract
- 3. Ambylopia



- He has eye pain with movement and family history of MS
- 1. Dx?
- 2. Treatment?

- 1. Optic neuritis
- 2. Iv steriod

- ✓ 20 year old pt with history of URTI having ciliary injection...
- 1. what is the most likely diagnosis and what is the MO?
- 2. The nasal part of the retina complete its maturation.

- 1. ADENOVIRUS
- 2. From (4) weeks until 34w(before) term

- 1. What is your diagnosis?
- 2. Mention 2 systematic associations.

- 1. Coloboma.
- 2. CHARGE Syndrome,Patau Syndrome



- 1. Identify the condition?.
- 2. Give three drugs that can cause this?

- 1. Optic disk swelling
- 2. Steroid , vitamin A , lithium , tetracycline.



- 1. What's this sign?
- 2. Mention one cause?

- 1. Right eye Leukocoria.
- 2. Retinoblastoma.





إن العبد لا يزال يرتكب الذنوب ، حتى تهون عليه وتصغر إن العبد لا يزال يرتكب الذنوب ، حتى تهون عليه وتصغر ين العبد لا يرتب المدنون علامة الهلاك الدين المدنون المدنون

