Tanta University
Faculty of Medicine
Ophthalmology Department

MD Ophthalmic Medicine Exam

Code number: **Date: 20 April, 2022**

Time allowed: Three Hours **Total Marks: 260**

All questions should be attempted **Exam in: 3 pages**

Part I:

(20 degrees for questions from 1-6, 10 degrees for each item in question 7)

1- Discuss causes and evaluation of a case of proptosis?

2- Recent advances in management of a case of neurotrophic keratitis

3- Discuss pathogenesis, types, clinical evaluation and management of accommodative esotropia

4- Discuss visual impairment in infants and children|: classification, clinical evaluation ad pediatric low vision rehabilitation

5- Discuss biomechanical properties of the cornea that affect intraocular pressure measurement, clinical applications, and measures to overcome these effects

6- Discuss clinical and diagnostic workup and management of ocular myasthenia gravis

7- Discuss briefly:

   a. Ocular ischemia syndrome
   b. Sickle cell hemoglobinopathy
   c. Intermediate uveitis
   d. Horner's syndrome

PART 2

MCQs (only one answer to be chosen, 4 degrees for each question)

1. **Which of the following is NOT a potential advantage of MRI over CT scanning?**
    a. MRI does not expose the patient to radiation
    b. MRI is unaffected by motion artifact
    c. MRI can generate high quality axial, coronal, and sagittal image without repositioning the patient.
    d. MRI allows for better evaluation of lesions that extend from the orbit to the cranium
2. **For which orbital disease can increased orbital fat volume be a primary radiographic finding?**
    a. Orbital myositis
    b. Thyroid orbitopathy
    c. Sarcoidosis
    d. Wegner's granulomatosis
3. **Arteriovenous fistula that affect the orbit most commonly develop following what type of trauma?**
    a. Orbital blowout fracture
    b. Frontal sinus fracture
    c. Basal skull fracture
    d. Penetrating intracranial trauma
4. **A 2-year-old girl has left lower eyelid ecchymosis and 3 mm proptosis of left eye. Her medical history is significant for treatment of some unknown tumor. Which of the following childhood tumors is MOST likely the diagnosis?**
    a. Rhabdomyosarcoma
    b. Retinoblastoma
    c. Neuroblastoma
    d. leukemia
5. **Dorsal midbrain syndrome is NOT associated with:**
    a. absent convergence
    b. gaze palsy
    c. light-near dissociation
    d. nystagmus
6. **The saccade system does NOT involve the:**

a. occipital motor area
b. premotor cortex
c. frontal motor area
d. PPRF

7. **Characteristics of spasmus nutans include all of the following EXCEPT|:**
   a. spontaneously disappears within 3 years
   b. may mimic chiasmal glioma
   c. begins before 1 year of age
   d. signs present during sleep
8. **In an effort to prevent postoperative endophthalmitis following cataract surgery, which of the following is LEAST efficacious?**
   a. Instillation of 5% topical povidine-iodine during presurgical preparation of the eye
   b. Treatment of blepharitis with hot compresses, lid hygiene, and antibiotic one week before cataract surgery
   c. Addition of gentamicin to the intraocular irrigating solution during cataract surgery
   d. Keeping the eyelashes out of the field using a plastic adhesive drape.
9. **Which one of the following statements is LEAST accurate about the rubella syndrome?**
   a. The retina demonstrates a salt and pepper appearance
   b. It often includes bilateral nuclear sclerotic cataract
   c. It occurs when the mother is infected during the third trimester
   d. Virus-induced iridocyclitis may occur if all cortical and nuclear lens material is not removed during the initial cataract surgery
10. **A 41-year-old man is evaluated for a unilateral cataract. Examination reveals 20/200 visual acuity with a dense nuclear sclerotic cataract. Examination of the opposite eye shows it to be entirely normal. The patient denies any trauma except for multiple occasions when foreign bodies were removed from the cornea after he was injured at his job as an auto mechanic. Further examination shows a blue iris in the noncataractous eye and a greenish iris in the cataractous eye. In addition, three or four reddish brown pigment clumps are noted just below the lens capsule in the affected eye. In this patient**
    a. The cataract should have a sunflower appearance
    b. CT scan is the appropriate next diagnostic option
    c. ERG will reveal a large b-wave in both light- and dark-adapted conditions
    d. Simple phacoemulsification and IOL implantation carries a good prognosis

11. **Which patient with juvenile rheumatoid arthritis is MOST likely to suffer secondary uveitic glaucoma?**
    a. Still's disease
    b. Pauciarticular , ANA-positive, RF-negative girls
    c. Polyarticular, ANA-positive, RF-positive boys
    d. Pauciarticular, ANA-positive, RF-positive girls
12. **A 5-year-old boy presents with difficulty seeing the blackboard in school. Upon exam, he is found to be highly myopic. He is short with short stubby fingers and broad hands and tight joints. Which of the following is MOST likely?**
    a. Prone to angle closure glaucoma aggravated by the administration of pilocarpine
    b. Prone to angle closure glaucoma aggravated by the administration of cycloplegic
    c. Normal appearing parents
    d. Higher risk of lens dislocation with minor trauma
13. **Which statement about carbonic anhydrase inhibitors is FALSE?**
    a. Aqueous production in the eye is not significantly reduced until more than 90% of the carbonic anhydrase activity is inhibited
    b. Carbonic anhydrase inhibitors cause reduced excretion of urinary citrate or magnesium, therefore predisposing to formation of kidney stones
    c. Carbonic anhydrase inhibitors may cause idiosyncratic and transient acute myopia
    d. Metabolic acidosis is greater with oral acetazolamide than with intravenous injection of acetazolamide
14. **Which of the following conditions can cause an electronegative electroretinogram (ERG)—full field, bright flash in scotopic conditions?**
    a. Acute macular neuroretinopathy
    b. Best's disease
    c. Retinitis pigmentosa
    d. X- linked retinoschisis
15. **Which of the following about optic disc pit maculopathy is TRUE?**
    a. It affects both sexes equally
    b. It commonly manifests during childhood
    c. The commonest presentation is with subretinal fluid
    d. It is usually associated with a choroidal coloboma
16. **An asymptomatic 19- year- old female is referred to the eye clinic with an abnormal appearance to the optic nerve margins. An ocular B- scan confirms hyper- reflective deposits within the nerve head consistent with optic disc drusen. Which of the following conditions are associated with optic disc drusen?**

a. Alport's syndrome
b. Gronblad– Strandberg syndrome
c. Retinitis pigmentosa
d. All of the above

17. Which of the following studies reported that intensive blood sugar control reduced the mean risk of developing diabetic retinopathy by 76% in type 1 diabetes?

a. Diabetes Control and Complications Trial (DCCT)
b. Diabetic Retinopathy Study (DRS)
c. United Kingdom Prospective Diabetes Study (UKPDS)
d. Wisconsin Epidemiological Study of Diabetic Retinopathy (WESDR)

18. Which of the following vitamins is associated with cystic changes at the macula?

a. Vitamin B1
b. Vitamin B2
c. Vitamin B3
d. Vitamin B6

19. Which of the following about the prognosis of non- arteritic anterior ischaemic optic neuropathy is CORRECT?

a. The involvement of the fellow eye is estimated at about □5– 25% over 5 years
b. About 50% of the affected patients have a final visual outcome of 6/ 60 or worse
c. The recurrence rate in the affected eye is around 25%
d. Around 5% of the affected eyes will recover at least 3 Snellen visual acuity over time

20. Which of the following statements about idiopathic intracranial hypertension (IIH) is CORRECT?

a. Long- term use of systemic corticosteroids is a recognized risk factor
b. The gender predilection is not influenced by puberty
c. Normal neuroimaging with normal cerebrospinal fluid (CSF) constituents is essential to make the diagnosis of IIH
d. The recent IIH treatment trial (IIHTT) showed that acetazolamide was effective in improving the visual field defect in IIH patients with severe visual field loss (mean deviation worse than –12dB)

21. Which of the following HLA types is associated with birdshot chorioretinopathy?

a. HLA- A29
b. HLA- B27
c. HLA- B51

d. HLA- DR1

22. The following are appropriate treatment regimes in toxoplasma uveitis, EXCEPT:

a. Observation alone for a peripheral focus of toxoplasma retinitis

b. Oral clindamycin plus oral corticosteroid

c. Oral spiramycin during pregnancy

d. Oral steroid alone in a patient with allergy to co- trimoxazole

23. Sterility is a side effect associated with which of the following immunomodulatory drugs?

a. Mycophenadolate mofetil

b. Azathioprine

c. Chlorambucil

d. Cyclosporine A

24. Initial treatment should NOT include immunomodulatory therapy in addition to corticosteroids for which of the following?

a. Wegener's granulomatosis

b. Sarcoidosis

c. Mucous membrane pemphigoid

d. Behcet's disease

25. Which of the following statement regarding familial exudative vitreoretinopathy (FEVR) is CORRECT?

a. It is most commonly inherited in an autosomal recessive fashion

b. Wide- field fluorescein angiography is the gold standard in assessing FEVR

c. A negative family history is useful in excluding the diagnosis of FEVR

d. Early laser photocoagulation does not reduce the risk of disease progression

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MD Exam in Commentary

Code number: OPHT 9007 **Date: 7 May, 2022**
Time allowed: One & Half Hours **Total Marks: 200**

All questions should be attempted **Exam in 2 pages**

Q1: Case I: 120 Marks

COMMENT ON THE FOLLOWING CASE

An 85-year-old Caucasian male presented to the emergency room complaining of blurry vision in the left eye upon awakening the previous day. He thought it would clear up but says the vision got worse. He reported "thunder-like" flashes the day before but no new floaters. Patient denied preceding transient monocular vision loss or diplopia.

Upon questioning, patient admitted to mild bilateral neck pain extending from his ears down the sides of his neck that started the previous day, and bilateral jaw ache for the past two to three days. He denied headache, loss of weight, malaise, fever.

Ocular history was positive for cataract extraction with posterior chamber intraocular implants OU and subsequent YAG capsulotomy OS. Patient also had an iridectomy OD.

Patient's medical history was significant for hypertension, that was well controlled, and prostate cancer in remission status after radiation treatment.

On examination the patient's corrected visual acuity was 20/20 OD and 20/400 which improved to 20/150 with pinhole OS. His left pupil was displaced inferior temporal, the right pupil was round and both were reactive to light. There was a 3+ afferent papillary defect OS. Ocular motilities were full. Confrontation visual fields were full without defect OD, and constricted 360 degrees OS. Temporal arteries were prominent, non-tender, and pulsatile bilaterally. Biomicroscopy revealed well-positioned posterior chamber intraocular lenses with a deep anterior chamber OU. There was a mild anterior chamber reaction OS with trace flare and 1+ cells. Goldman applanation tonometry was 9 mm Hg OU. Dilated fundus exam of the right eye revealed a posterior vitreous detachment. The optic nerve was pink and healthy with distinct margins and a 0.2 cup to disc ratio. Dilated evaluation of the left eye revealed a pallid, edematous nerve with indistinct borders and no cup. Retinal veins were dilated. There was also a PVD and mild RPE changes superior to the fovea. Peripheral exam was unremarkable.

Laboratory studies were ordered.

Radiologic studies, including a head CT without contrast, brain and orbit MRI, and brain MRA were non-contributory and showed no acute findings. A carotid duplex was also performed and revealed less than 30% stenosis on the right side and more than 50% on the left side.

Fluorescein angiography shows delayed arm/retinal time bilaterally. On the left eye it showed multiple areas of choroidal non perfusion and cilioretinal artery occlusion.

How to proceed for the diagnosis of the case ??

---------- END OF THE CASE----------

Q2: Case 2: 80 Marks

COMMENT ON THE FOLLOWING CASE

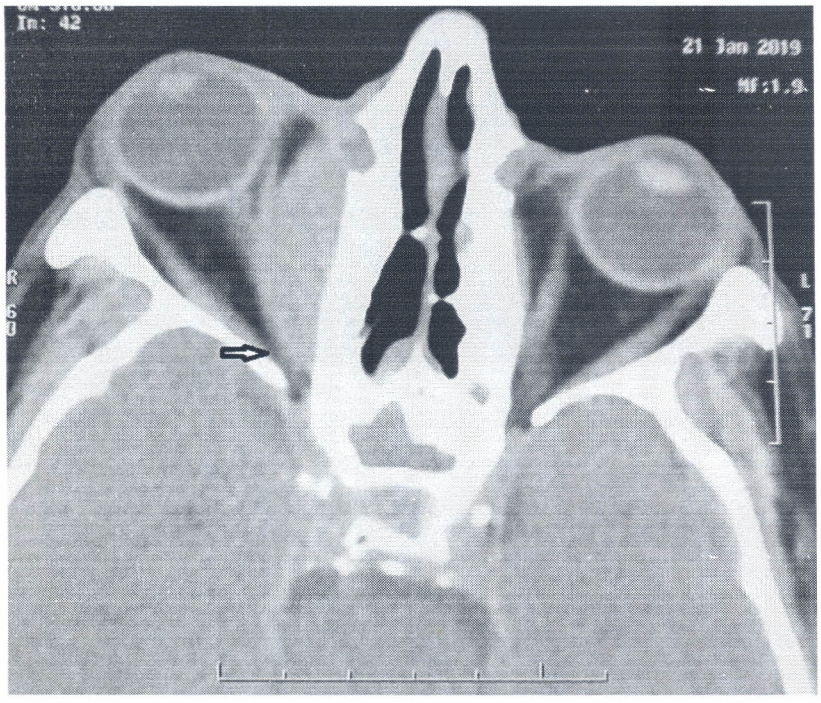
A 62-year-old man presented to the ophthalmology department with acute onset of pain, redness and diminution of vision in the right eye since 2 days.

He was diagnosed to have craniofacial fibrous dysplasia, 5 years ago, which was confirmed with biopsy. He gave history of gradually progressive outward deviation of right eye since 5 years for which he did not seek any treatment.

On examination, his visual acuity was 20/200 in right eye and 20/20 in left eye. Examination of extraocular motility revealed outward and downward displacement of the right eye with total limitation of adduction and elevation. However, there was no proptosis of the right eye. Anterior segment examination revealed ciliary congestion of the right eye with mild chemosis and dilated episcleral veins. Slit lamp examination revealed shallow anterior chamber with mid-dilated, fixed pupil and dense nuclear sclerosis of the lens. Fundus examination revealed normal appearance of optic disc with dilated and tortuous retinal veins. Gonioscopy revealed closed angles in all four quadrants. Intraocular pressure by Goldman applanation tonometry was 60 mm Hg. Left eye examination was unremarkable except for minimal senile cataract. Gonioscopy of the left eye revealed open angles in all quadrants.

He was treated with pilocarpine eye drops, oral acetazolamide 500 mg and topical antiglaucoma medicines, which reduced the intraocular pressure to 26 mm Hg. CT of the orbits and brain was performed, and shown in the figure below.

He was taken up for surgical interference under general anesthesia the next day. After the procedure, ocular congestion resolved, intraocular pressure dropped to 14 mm Hg, anterior chamber depth improved and gonioscopy revealed open angles in all quadrants. Comment on the case ??



---------- END OF THE CASE----------

End of Exam, Good Luck.