

# ***Pulling the Trigger***

*Cases from the Heartland*

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*Excitement in Optometric Education*

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## **Summary**

- OCT allows unprecedented visualization of posterior structures
- OCT ushered in a far better understanding of the relationship between the retina surface and the vitreous
- OCT is now allowing better understanding of the role of the choroid in retinal disease
- OCT facilitates accurate clinical decision making, often without referral, invasive testing, keeping patients in primary care OD's office
- Elevates level of care provided, increases revenue, makes clinical throughput easy and efficient

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## **Case 1: The "Routine" Flashes**

- CC: "Flashes" HPI: OD/1d/mod/no floater
- 33 F, allergy – HC Meds: OCs, valacyclovir, flonase
- VA = 20/20 OU w SCL IOP: 18OU AC: D&Q
- Retina: multifocal choroidal lesions, myopic macular degeneration
- OCT: Inner choroidal thickening and macular edema
- IVFA: no CNV

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## **Case 1: The "Routine" Flashes**

- CC: "Flashes" HPI: OD/1d/mod/no floater
- IMP – Punctate Inner Choroidopathy OD, myopic macular degeneration OU
- PLAN – Medrol 4mg DOSPAK, Durezol tid OD, Bromday qd OD
- Prognosis - excellent

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## **Case 1: The "PIC"**

- OCT Pearls
  - OCT confirms (if not MAKES) the diagnosis
  - Provides an image of the choroid that we cannot evaluate clinically with any other technique

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### Case 2: The “Bonsai Floaties”

- CC: “floaties on my trees when I work” HPI: OD/1m/mod/ CABG 11 yrs
- 67 M. Meds: atenolol, maxide, plavix
- MR OD: -3.50DS = 20/100
- MR OS: -2.75DS = 20/25
- IOP: 14OU AC: D&Q NS/CX+2OU
- Retina: tear at equator with PVD OD, small micro-aneurisms temporal to FAZ OS
- OCT: OD 233u, OS 271u

### Case 2: The “Bonsai Floaters”

- IMP – Retinal tear OD, Juxta-foveal Telangiectasia OS
- PLAN – Laser photocoagulation for tear OD today, return for IVFA OS 2wks
- IVFA: NO leakage from JFT
- PLAN: Observe JFT, order glucose screening, schedule cataract consult

### Case 2: The “JFT”

- OCT Pearls
  - OCT demonstrates abnormal thickness
  - IVFA shows no leakage (SURPRISE!)
  - OCT & IVFA do not agree
  - OCT is more sensitive test?
  - Allows us to identify pathology at a subclinical level
    - follow closer for progression
    - avoiding vision loss

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### Case 3: The “CME” Solution

- CC: “Not as good as 1<sup>st</sup> week” HPI: OU/1m/Cat-IOL/ Lattice Deg OU / Retinal tears OU treated with laser
- 66 F, VA OD = 20/15, VA OS = 20/40
- PCIOL OU
- IMP – Pseudophakic CME OS?
- OCT: OD 306u, OS 383u
- Plan: Predforte tid & Bromday qd OD
- RTO: 2 wks

### Case 3: The “CME” Solved

- CC: “Getting better” HPI: OS/2 wks/ CME /PF & Bromfenac
- 66 F, VA OD = 20/15, VA OS = 20/25+
- PCIOL OU
- IMP – Pseudophakic CME OS Resolved
- OCT: OD 306u, OS 310u
- Plan: Predforte tid & Bromday qd OD until gone, new spec Rx

### Case 3: The “CME Solved”

- OCT Pearls
  - OCT demonstrates abnormal thickness
  - OCT allows for conservative treatment trial prior to more invasive procedures
  - OCT demonstrates rapid improvement in condition
  - OCT keeps patient in primary care OD doctor’s office, specialist not needed
  - IVFA not needed

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#### Case 4: The “glasses dilemma”

- CC: “Had cataract surgery and cant see” HPI: OS/1m/Cat-IOL/OD gave 2 new glasses, likes one better than other
- 80 F, VA OD = 20/30, VA OS = 20/40+ at one week post ops, admits to one drop per day?
- PCIOL OU
- IMP – Pseudophakic OU
- PLAN – Predforte tid OU, release to optometrist for continued care, emphasis on correct drug dosing

#### Case 4: The “glasses dilemma”

- CC: “Had cataract surgery and cant see” HPI: OS/1m/Cat-IOL/OD gave 2 new glasses, likes one better than other
- Now after one month VA OD = 20/200 OS
- Hands me the steroid prescription (never filled)
- PCIOL OU
- IMP – Pseudophakic CME OS?
- OCT: OD 311u, OS 510u
- Plan: Retina for IVK (failure with drop compliance)

#### Case 4: The “Compliance dilemma”

- OCT Pearls
  - OCT demonstrates abnormal thickness OS
  - IVFA not needed to confirm diagnosis
  - Pseudophakic CME in this case related to inflammation from non-compliance with steroidal eyedrops
  - Treatment with topicals may be beneficial but with questionable ability to comply, intraocular depot drug is the best choice

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#### Case 5: The “Big Black Spot”

- CC: “Black spot” HPI: OS/2 days/constant/decreased vision Cat-IOL/OU ROS: recent diagnosis Hairy cell leukemia, chemotherapy and splenectomy, now anemic
- 76 F, VA OD = 20/40, VA OS = 20/400, was 20/25 two months prior
- PCIOL OU IOP: 10 OU
- Fundus: peripheral small retinal hemorrhages OU, thick macular hemorrhage OS, schisis cavity inf OS
- OCT: 286u/333u

#### Case 5: The “Big Black Spot”

- IMP: Leukemic Retinopathy
- PLAN: Retina consult
  - TPA & gas to displace macular hemorrhage
  - Continue oncologic care
- Follow-up visit one month
  - RE 20/25
  - LE 20/30
  - No retinopathy noted!

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#### Case 5: The “Leukemic Retina”

- Pearls
  - OCT demonstrates abnormal thickness OS
  - OCT clearly shows pre-retinal and intra-retinal nature of hemorrhages
  - Prognosis often very good

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### Case 6: The “Black Dot”

- CC: “Black dot” HPI: OS/1 yr/constant/no worse
- Referring doctor: Retinal detachment, partial, old
- 8 M, VA OD = 20/20, VA OS = CF CVF: central scotoma OS, SLE: NL
- Fundus: massive hemorrhage and exudative retinopathy OS
- OCT: massive elevation of macula

### Case 6: The “Black Dot”

- IMP: Coat’s Disease
- PLAN: Retina consult
  - R/O toxoplasmosis with serology
  - Consideration of retinoblastoma

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### Case 6: The “Coats Disease”

- Pearls
  - OCT demonstrates markedly abnormal thickness OS
  - Serologic testing to R/O toxoplasmosis, toxocariasis
  - Always obtain retina consult (poor prognosis)

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### Case 7: The “Different Size Images”

- CC: “Different sizes” HPI: OS/2 yr/constant/worse/failed drivers test
- PMH: colon CA, HTN
- Referring doctor: Cataract surgery requested
- 69 M, VA OD = 20/30, VA OS = 20/80 SLE: symmetric NS
- Fundus: Vitreous traction OS
- OCT: 266u/338u
- AL: 24.36/24.45

### Ocriplasmin / ThromboGenetics, Inc

- Non surgical treatment for vitreomacular adhesions
  - Increased macular thickness
  - CME Diagnosed 8% at slit lamp 30% with OCT
- Vitrectomy vs Vitreolysis?
  - Invasive
  - Anesthesia
  - Face down
  - Retinal breaks
  - Cataract

### Ocriplasmin / ThromboGenetics, Inc

- Truncated form of human plasmin produced by bacteria
- Indications: developed for dissolving blood clots in vascular disease
- Single Intravitreal injection
- Results – resolution 30% at 28 days, closure of hole 40% at 28 days
  - better than all other agents tried
- Spin offs – DME, AMD, adjunct to vitrectomy
- New England JourMed 2013

### Case 7 : The “VMT”

- Pearls
  - OCT demonstrates abnormal thickness OS
  - OCT demonstrates vitreo-macular traction clearly
  - IVFA finds no leakage
  - Previous solution limited to vitrectomy surgery
  - Option now includes medical treatment first
  - Ocriplasmin is perfect for this exact clinical presentation
  - If not successful, PPV remains option and will be technically easier

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### Case 8: The “Lost My Monovision!”

- 77yowf CC: “Can’t read!”
- HPI: 1 D duration / intermittent loss, altitudinal, preceded episode / painless / OD
- Meds: Amiodarone, ASA, Coumadin, Cartia, Zolof, Advil, Singulair, Cozaar, Norvasc
- ROS: 190 lbs, recent Spinal surgery (L3-5), planned shoulder (rotator cuff) surgery, Monovision
- BVA: 20/60 OD 20/20 OS    PERRL + APD
- EOM: Full        EXT: NL
- SLE: ACIOL OD, PCIOL OS Blurred optic disc margin OD, otherwise NL

### What is the likely diagnosis?

- 1. Idiopathic optic neuritis
- 2. Ischemic optic neuropathy
- 3. Buried drusen
- 4. Papilledema
- 5. Cerebral vascular accident

### What eye test would you order now?

- 1. Pachymetry
- 2. Visual fields
- 3. SCODI
- 4. ERG
- 5. IVFA / Photo

### What other testing is indicated?

- 1. CBC with differential
- 2. Brain MRI
- 3. C-reactive protein
- 4. ESR
- 5. ESR & CRP

### Tests results

- 1. Visual field = Mild central defect OD, normal OS
- 2. ESR = 17mm/Hr
  - Reference 0-20mm/Hr
- 3. C-reactive protein = 0.899mg/L
  - Reference 0.000-3.0mg/L

### What should you do now?

- 1. Start Prednisone
- 2. Order biopsy of superficial temporal artery
- 3. Retina consult
- 4. Follow conservatively for NAION

### Case 8: “NAION”

- Clinical pearls
  - R/O GCA most important
  - Follow conservatively
  - ASA debatable benefit

### Case 9: The “Graduation”

- 83yowf from Memphis, TN CC: “Skim on my eye, then it went black!”
- HPI: 1 D duration / intermittent loss, altitudinal, preceded episode / painless / OD
- Meds: HCTZ, meclizine, centrum, naproxen
- ROS: 115lbs, HA, stiffness
- BVA: NLP OD 20/30 OS      PERRL + APD
- EOM: Full      EXT: NL
- SLE: PCIOLOD      NS 2 OS      Fundi: OD Blurred optic disc margin, otherwise NL

### What is the likely diagnosis?

- 1. Idiopathic optic neuritis
- 2. Ischemic optic neuropathy
- 3. Buried drusen
- 4. Papilledema
- 5. Cerebral vascular accident

### What eye test would you order now?

- 1. Pachymetry
- 2. Visual fields
- 3. SCODI
- 4. ERG

### What other testing is indicated?

- 1. CBC with differential
- 2. Brain MRI
- 3. C-reactive protein
- 4. ESR
- 5. ESR & CRP

### Tests results

- 1. Visual field = absolute defect OD, normal OS
- 2. ESR = 44mm/Hr
  - Reference 0-20mm/Hr
- 3. C-reactive protein = 0.158mg/L
  - Reference 0.000-3.0mg/L

### What should you do now?

- 1. Start Prednisone PO stat
- 2. Order biopsy of superficial temporal artery
- 3. Retina consult

### Tests results

- 1. C-reactive protein = 27.5mg/L
  - Reference 0.000-3.0mg/L
  - Corrected C-reactive protein test delivered *by mail* five days later!

### Case 9: “GCA/ AION”

- Differential Diagnosis – Anterior ischemic optic neuropathy, Giant cell arteritis, CVA, NAION
- Additional Testing – STAT ESR, CRP, STA Biopsy +/-
- Diagnosis – AION, GCA
- Treatment Plan – Prednisone 80mg PO qd, chronic care with internist or neurologist
- Clinical Pearls – CRP best test, Don't miss it, Prednisone dose = 1mg/kg/D, tapered with ESR, need to co-manage

### Case 10: “I Lost Vision Last Night!”

- 35yowm      CC: “Lost vision last night”
- Pupils: PERRLA+MG
- Meds: Glucophage for 3 years
- VA 20/20 OD, HM OS
- IOP: 17/18
- SLE: NI OU      Fundus : As shown

### What is the diagnosis?

- 1. Macular twig venous occlusion
- 2. Birdshot retinochoroidopathy
- 3. Hypercholesterolemia (retinal lipidemia)
- 4. CRAO

### What is the best test to order?

- 1. IVFA
- 2. Carotid artery ultrasound
- 3. Total cholesterol, LDL, HDL, TG
- 4. Blood pressure
- 5. ANA / ESR & CRP other rheumatologic inflammatory tests
- 6. Cardiac consult/echo

### Case 10: CRAO

- Clinical pearls
  - 1. Breathe into a bag, massage globe
  - 2. Anterior chamber paracentesis
  - 3. Topical anti-glaucoma agents
  - 4. Thrombolytic therapy
  - 5. Must have a systemic cause
    - Find it & fix it!

### Case 11: The “Pink” Eye

- 17yobm CC: “Pink-eyes”
- HPI: 3 W duration / getting worse / painful
- Meds: Ilotycin from Peds Trauma: None NKDA
- BVA: 20/30 OU PERRL No APD
- EOM: Full EXT: Raised Red Rash-Neck
- SLE: Cell & Flare 3+ OU Fundi:WNL

### What is the likely diagnosis?

- 1. Sarcoidosis
- 2. Tuberculosis
- 3. Syphilis
- 4. Idiopathic uveitis

### What tests would you order?

- 1. Chest x-ray
- 2. RPR/VDRL
- 3. PPD
- 4. HLA B-27

### You Make The Call

- Differential Diagnosis-idiopathic uveitis, sarcoid, TB, syphilis, Lyme, AS/Reiters, HIV
- Additional Testing-ANA, RPR/VDRL, HLAB-27, PPD, CXR, titers, HIV?
- Diagnosis-Syphilis (stage 2), AIDS
- Treatment Plan
  - Ceftriaxone IM, start HAART for HIV,
  - PredForte q2h, Cyclogel option



### Case 11: “Uveitis/HIV”

- Clinical Pearls
  - R/O systemic causes in uveitis if bilateral, severe, young, or high index of suspicion
  - Granulomatous presentations more often underlying cause
  - “Everyone lies” ....Dr. House

### Case 12: “Doc, I See Double”

- 57yobm CC: “Double vision”
- HPI: OU / 3 D duration / Stable / not painful / Horizontal
- Past H: Colon cancer / surgery / radiation / Chemo
- Meds: Multiple Trauma: None NKDA BVA: 20/30 OU PERRL No APD
- EOM: R Adduction deficit, L Jerky nystagmus
- SLE: NS OU Fundus : NL

### What is the diagnosis?

- 1. Internuclear Ophthalmoplegia
- 2. Ocular Myasthenia Gravis
- 3. Duane Retraction Syndrome
- 4. CN 3 Palsy

### What is the best next step?

- 1. ESR
- 2. Neuro-ophthalmology consult
- 3. Neurology consult
- 4. MRI of head

### Case 12: INO / Met CA

- Differential Diagnosis - CN 3P, CN 6P, INO, Decompensating heterophoria
- Additional Testing-old photos
- Diagnosis- R INO, metastasis of colon CA
- Lesion- R MLF
- Treatment Plan- MRI, Neurology / Neurosurgery, Oncology, PCP, monocular occlusion
- Pearls-INO often related to MS, stroke
  - Needs imaging to differentially diagnose

### Case 13: “Corneal Abrasion”

- Age: 19yowm CC: Floaters
- HPI: OD / 3wks / constant / worsening since corneal abrasion with patching therapy
- Meds: none
- BVA: 20/20 OU Pupils: PERRL EOM:NL EXT: NL
- SLE: small corneal defect / haze at limbus
- IOP: 18/16
- Fundi: As shown
- PFSH & ROS: NL

## What is the likely diagnosis?

- 1. Old CA with residual edema
- 2. Intraocular foreign body
- 3. Toxocara canis
- 4. Vitreous condensation

- ## What is the likely diagnosis?
- 1. Old CA with residual edema
  - 2. Intraocular foreign body
  - 3. Toxocara canis
  - 4. Vitreous condensation

## What tests would you order?

- 1. Ultrasound
- 2. Orbital CT
- 3. VF

- ## What tests would you order?
- 1. Ultrasound
  - 2. Orbital CT
  - 3. VF

## Case 12 : IOFB

- Differential Diagnosis – Old CA, retinal IOFB, primary retinal pathology
- Additional Testing – US, Photography, VF
- Diagnosis - IOFB
- Treatment Plan – pars plana vitrectomy, FB removal, intravitreal antibiotics

- ## Case 12 : IOFB
- Differential Diagnosis – Old CA, retinal IOFB, primary retinal pathology
  - Additional Testing – US, Photography, VF
  - Diagnosis - IOFB
  - Treatment Plan – pars plana vitrectomy, FB removal, intravitreal antibiotics

## Case 14: “Woke Up Blind!”

- Age: 19yobf CC: decrease VA
- HPI: OU / rapid / severe / worsening
- Meds: plaquenil 400mg, loproressor
- BVA: CF OU Pupils:PERRL-APD EOM:NL  
EXT: NL
- SLE: NL
- IOP:16/16
- Fundi: as shown
- PFSH & ROS: SLE x 3yrs, ischemic necrosis of hip secondary to corticosteroids at initial flare

- ## Case 14: “Woke Up Blind!”
- Age: 19yobf CC: decrease VA
  - HPI: OU / rapid / severe / worsening
  - Meds: plaquenil 400mg, loproressor
  - BVA: CF OU Pupils:PERRL-APD EOM:NL  
EXT: NL
  - SLE: NL
  - IOP:16/16
  - Fundi: as shown
  - PFSH & ROS: SLE x 3yrs, ischemic necrosis of hip secondary to corticosteroids at initial flare

## What is the likely diagnosis?

- 1. Diabetic retinopathy
- 2. Hypertensive retinopathy
- 3. Retinal vaculitis
- 4. Bilateral CRVO

- ## What is the likely diagnosis?
- 1. Diabetic retinopathy
  - 2. Hypertensive retinopathy
  - 3. Retinal vaculitis
  - 4. Bilateral CRVO

## What tests would you order?

- 1. BP
- 2. ESR
- 3. ANA
- 4. VF
- 5. Photo

- ## What tests would you order?
- 1. BP
  - 2. ESR
  - 3. ANA
  - 4. VF
  - 5. Photo

### Case 14: Lupus Retinal Vasculitis

- Differential Diagnosis – SLE with retinal vasculitis, HTN and retinopathy, DM and retinopathy, hyperviscosity states
- Additional Testing – IVFA, photos, ESR, ANA, C-reactive protein, VF
- Diagnosis – SLE and retinal vasculitis
- Treatment Plan – IV corticosteroids, rheumatology consult, retina consult
- Pearl – ANA is elevated in acute Lupus

### Case 15: The “Blue Freckle”

- Age: 34yobm      CC: blurred vision
- HPI: OS / 1 yr / stable / constant
- Meds: none
- BVA: 20/20 OU Pupils: PERRL-APD      EOM: full      EXT: pigmented lesions of face
- SLE: pigmented lesions of the sclera
- Gonio: pigment puddling
- IOP: 19/29
- Fundi: deeper retinal/choroidal pigmented, asymmetry of CDR
- PFSH & ROS: NL

### What is the likely diagnosis?

- 1. Nevus flammeus
- 2. Nevus of Ota
- 3. Sturge-Weber
- 4. POAG

### What tests would you order?

- 1. Old photos
- 2. VF
- 3. Scanning lasers
- 4. Gonioscopy

### You Make The Call

- Differential Diagnosis – Sturge-Weber, Nevus Ota, Nevus flammeus, OAG
- Additional Testing – VF, GDx/HRT, Gonio
- Diagnosis – Nevus of Ota, OAG OD
- Treatment Plan – Photodocument, blue tint spectacles, latanoprost 0.005% qhs OS

### Case 15: The “Nevus Ota”

- Clinical Pearls
  - Follow for malignant transformation of skin lesions
  - Follow for pigment glaucoma
  - Affects other systems
  - Familial tendency
  - More difficult in darker skin to diagnose

## Case 16: “Headache” Lady

- 45yowf CC: “HA, Blurred vision”
- HPI: Sudden / Explosive / Constant HA / photophobic
  - Lower Extremity Amputee / Tracheotomy
- Meds: None Trauma: None NKDA
- BVA: 20/40 OD 20/20 OS PERRL No APD  
EOM: Full EXT: WNL
- SLE: WNL Fundi: Globular Sub-Hyaloid Hemorrhage OD

## What is the likely diagnosis?

- 1. Valsalva retinopathy
- 2. Terson’s syndrome
- 3. Diabetic retinopathy
- 4. Vitreous hemorrhage

## What tests would you order?

- 1. MRI of the brain
- 2. Lumbar puncture
- 3. Fundus photography
- 4. Random blood glucose

## You Make The Call

- Differential Diagnosis-Drance hemorrhage, CNVM, migraine, subarachnoid hemorrhage
- Additional Testing-MRI/MRA, lumbar puncture+/-, pupillary testing, physical examination (neurology)
- Diagnosis
  - ICA/SAH Terson’s Syndrome

## You Make The Call

- Treatment
  - STAT admission/high mortality & morbidity
  - Oxygenation
  - Sedatives
  - Control of blood pressure
  - Monitor cerebral edema
  - Surgery +/-
    - endovascular balloons, “clipping” of aneurisms

## Case 16: ICA / SAH

- Clinical pearls
  - Neurological/Neurosurgical emergency
  - Prodromal sentinel signs common
  - Rapid onset of pain/HA, nuchal rigidity, loss of consciousness, loss of sight, obtundation, death
  - Neurosurgery if stable
  - Survivors-mild /severe cognitive impairment

### Case 17: "LASIK Nevus"

- 34yowf CC: "Freckle in my eye"
- HPI: OD / 2 wks duration / Lasik OU 1 wk
- LASIK doctors request retinal evaluation
- Meds: Allopurinol NKDA
- BVA: 20/15 OU PERRL No APD
- EOM: Full EXT: W&Q
- SLE: Flaps OU IOP: soft OU
- Fundus: as pictured

### What is the likely diagnosis?

- 1. Epiretinal membrane
- 2. Congenital hypertrophy of RPE
- 3. Macular drusen
- 4. Choroidal osteoma
- 5. Benign choroidal nevus
- 6. Malignant melanoma

### What eye test would you order now?

- 1. IVFA
- 2. Visual fields
- 3. SCODI
- 4. B scan ultrasound

### What is the best course now?

- 1. Retina consult
- 2. Ocular Oncology
- 3. PCP
- 4. LASIK retreatment
- 5. Retire; I can't take another day of this

### Case 18: "Upper part missing"

- 65yowm referred for AION CC: "wavy things"
- HPI: OD / 5 wks wavy / 2 wks upper part of vision missing / no pain / no flashes
- Meds: MV, OM3, ASA NKDA
- BVA: HM OD, 20/25 OS PERRL No APD
- EOM: Full EXT: W&Q
- SLE: NS 2 OU IOP: 15 OU
- Fundus: as pictured

### What is the likely diagnosis?

- 1. Retinal tear
- 2. Lattice degeneration
- 3. Vitreous hemorrhage
- 5. Benign choroidal nevus
- 6. Malignant melanoma

### What is the best course now?

- 1. Retina consult
- 2. Ocular Oncology
- 3. PCP

### Case 19: “Fell & Hit head”

- 89yowm MD referred for RD CC: “retina problem”
- HPI: OS / 1 wk / no pain / no flashes / no vision loss
- Meds: levothyroxine, OM3, garlic NKDA
- BVA: 20/50, 20/60 OS PERRL No APD
- EOM: Full EXT: W&Q
- SLE: PCIOL OU IOP: 15 OU
- Fundus: as pictured

### What is the likely diagnosis?

- 1. Retinal detachment
- 2. Choroidal detachment
- 3. Vitreous hemorrhage
- 5. Macular degeneration
- 6. Malignant melanoma

### What is the best course now?

- 1. Retina detachment surgery
- 2. Ocular Oncology
- 3. IVFA and anti- VEGF
- 4. No Rx; observation

### Case 20: “10 days of bad vision”

- 49yowm OD referred for VO CC: “Can’t see for 10 days”
- HPI: OD / 10 days / no pain / no flashes
- Meds: amlodipine, OM3, ASA NKDA
- BVA: CF, 20/20 OS PERRL No APD
- EOM: Full EXT: W&Q
- SLE: NL OU IOP: 13 OU
- Fundus: as pictured

### What is the best course now?

- 1. Anti-VEGF injections
- 2. Steroid injections
- 3. Ozudex injections
- 4. Vitrectomy

### Case 20: “Spot in vision”

- 63yowf MD referred for AMD CC: “Blur spot in center”
- HPI: OD / 1 mos / no pain / constant Meds: synthroid, restasis, lotemax NKDA
- BVA: 20/50 OD, 20/20 OS PERRL No APD
- EOM: Full EXT: W&Q
- SLE: PCIOL OU IOP: 8 OU
- Fundus: as pictured

### What is the best course now?

- 1. Anti-VEGF injections
- 2. Steroid injections
- 3. Ozudex injections
- 4. Vitrectomy
- 5. Photodynamic therapy

### Case 21: “Itchy retina”

- 35yowm OD referred for pink eye CC: “Itch, swollen”
- HPI: OD / 1 d / no pain / constant NKDA
- BVA: 20/30 OD, 20/20 OS PERRL No APD
- EOM: Full EXT: conjunctival injection chemosis
- SLE: same IOP: 14 OU
- Fundus: as pictured

### What is the best course now?

- 1. Anti-VEGF injections
- 2. PE, CBC, CXR, ANA, ESR, autoimmune, coagulopathies
- 3. Ozudex injections
- 4. Photocoagulation
- 5. Photodynamic therapy

### Case 22: “Lost vision for 15 mins”

- 24yowm OD referred for retinal hemorrhage CC: “episode of lost vision”
- HPI: OD / days / no pain / constant / had CL exam one month ago NKDA
- BVA: 20/40 OD, 20/20 OS PERRL No APD
- EOM: Full Ext: NI
- SLE: NI IOP: 14 OU
- Fundus: as pictured

### What is the best course now?

- 1. Anti-VEGF injections
- 2. Pneumatic retinopexy
- 3. Vitrectomy +/- buckle
- 4. Photocoagulation to lattice
- 5. Photodynamic therapy

### Case 23: “I Want Chalazion Removed”

- 55yowf CC: “OD dx chalazion”
- Pupils: PERRLA-MG
- Meds: Premarin, Zocor, HCTZ
- VA 20/30 OU
- IOP: 16/17
- SLE: Lid lesion E2 OS Fundus : NL

### What is the best option now?

- 1. Remove chalazion with I&D
- 2. Intralesional kenalog injection
- 3. Biopsy
- 4. Oral antibiotics and hot packs

### Case 24: “Exotropia”

- Age: 2yowm CC: R/O strabismus
- HPI: XT OD / 4mos / constant / severe
- Meds: none Ref: Peds
- BVA: No Fix or follow Pupils: PERRL-APD  
EOM: L XT 45 EXT: NL
- SLE: NL
- IOP: Soft
- Fundi: ON abnormal OS
- PFSH & ROS: NL

### What is the likely diagnosis?

- 1. Coloboma optic nerve entrance
- 2. Morning glory syndrome
- 3. Retinal detachment
- 4. Cavernous hemangioma

### What tests would you order?

- 1. PE
- 2. MRA brain and orbits
- 3. EUA
- 4. IVFA

### You Make The Call

- Differential Diagnosis – morning glory, retinal hemangioma, ON coloboma
- Additional Testing – PE family members, eye examination family members
- Diagnosis – cavernous hemangioma retina, strabismus, amblyopia
- Treatment Plan – external plaque radiation, EOM surgery, patching treatment



### Case25: “Light Sensitive”

- Age: 15 yowf CC: “Lights hurt”
- HPI: OS / 2D / worsening / severe
- Meds: none OcHx: Accuvue SCL denies sleeping in lens (Dr. House “everybody lies”) Renu
- VAsRx: OD 20/100, OS LP Pupils: PERRL-APD EOM: full EXT: injected, ptosis
- SLE: as pictured
- IOP: not done
- Fundi: not viewed
- PFSH & ROS: NL

### You Make The Call

- Differential Diagnosis – bacterial keratitis, fungal keratitis, acanthameba keratitis, foreign body, hypopion uveitis
- Additional Testing – culture/sensitivity
- Diagnosis – bacterial keratitis
- Treatment Plan – moxifloxacin q1h, close watch
- RTO 24h

### Case26: “Glaucoma or Not?”

- Age: 68 yowm CC: “Need new doc for glaucoma”
- HPI: OU / 6 yrs / Trav qhs OU / mild / No SE
- Meds: Metformin, diovan, crestor, zetia, ranitidine
- VAsRx: OD 20/25 OU Pupils: PERRL-APD EOM: full EXT: nl +Fam Hx Glauc mother
- SLE: NS/CX 1 OU
- IOP: 13 OU OCT normal VF normal
- Fundi: Normal CDR .75 OU symmetric rims
- PFSH & ROS: NL

### You Make The Call

- Differential Diagnosis – POAG vs normal
- Additional Testing – VEP
- Diagnosis – Probable POAG OU based on VEP
- Treatment Plan – continue medications, switch to generic latanoprost qhs

# *Thank you*

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