AMERICAN ACADEMY of OPTOMETRY

Top 5 Pitfalls in Neuro-Ophthalmic Disease

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Nothing to disclose

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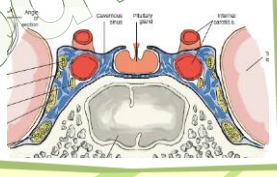
#5: Mistaking ocular disease for neurologic disease

History

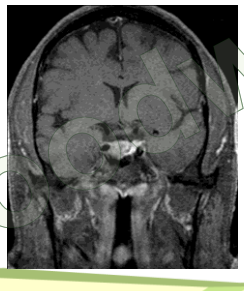
- 64 year old white male
- Presenting Symptom:
  - Double vision
  - Pituitary tumor
    - Dx 5 years ago



Objective

- Alignment: no strabismus
- Eye movements: full
- Saccades: accurate
- Slit lamp examination: cataracts OU
- Fundus examination: unremarkable OU

Diagnostic Imaging



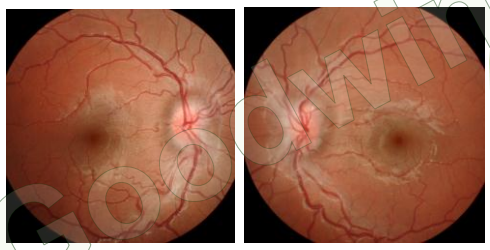
History

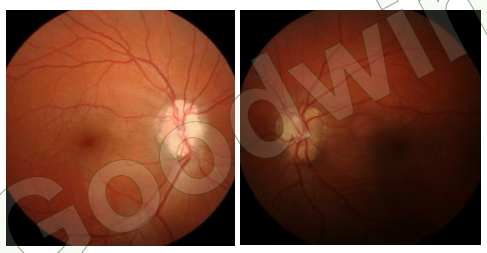
- Missing piece of information…

- Assessment
- Management

#5: Mistaking ocular disease for neurologic disease

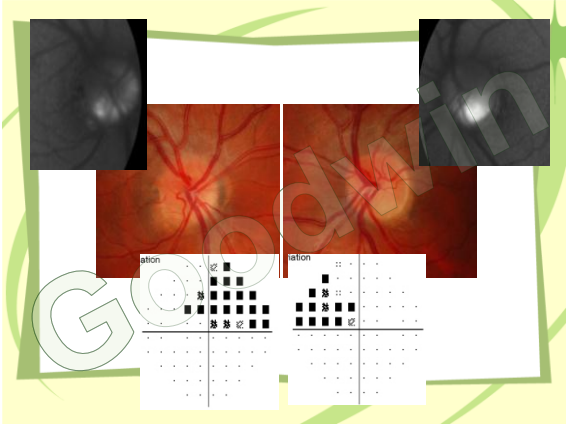
- Importance of good case history
- Check each eye for monocular diplopia
- Monocular ghosting
  - Refractive error, tears, cornea, lens, macula
  - Worse in dim light
  - Rarely cerebral polyopia

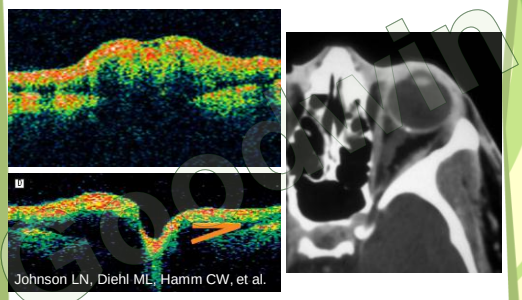




#5: Mistaking ocular disease for neurologic disease

Pseudopapilledema	**Optic disc edema**
Disc blood vessels clear	Disc blood vessels obscured
Elevation confined to disc	Elevation of NFL
Sharp, linear NFL	Obscured NFL
Patton folds	Peripapillary pigment changes
No exudates/cotton wool spots	Exudates/cotton wool spots
Small cupless disc	Loss of cup occurs late
Anomalous disc vasculature	Normal disc vasculature
May or may not have SVP	Absent SVP





#4: Incorrect ordering or interpretation of neuroimaging studies

History

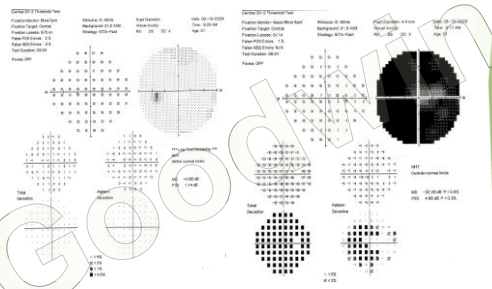
- 21 y.o. white male
- Presenting Symptoms:
  - Gradual loss of vision OD over a 2 year period

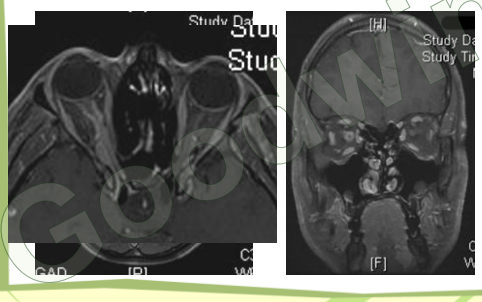
- Additional History
  - No problems OS
  - No other neurologic symptoms
  - No medications
  - FHx: non-contributory
  - Had MRI of brain and cervical spine and MRA
    - Described as unremarkable

Objective Findings

- VA: 20/80 OD; 20/20 OS
- PIP: 2/10 OD; 10/10 OS
- EOM: slight limitation of abduction and supraduction OD
- Slight proptosis OD
  - Exophthalmometry: 20 mm OD, 19 mm OS
- No eyelid retraction or ptosis
- Pupils: equal, briskly reactive to light with a RAPD OD

- Anterior Segment: unremarkable
- IOP: 13 mmHg OD; 14 mmHg OS
- DFE:

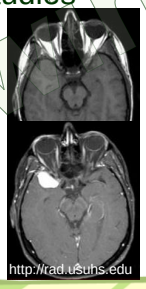


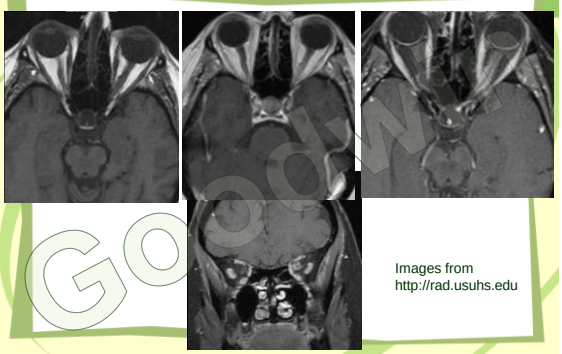


- Diagnosis
- Management

#4: Incorrect ordering or interpretation of neuroimaging studies

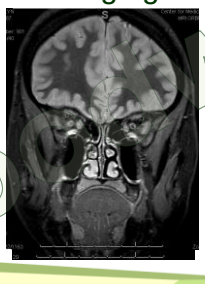
- Accurately localize the lesion prior to ordering neuroimaging
- Dedicated orbital MRI
- Use of contrast
- Fat suppression
- Axial and coronal views





Images from http://rad.usuhs.edu

#4: Incorrect ordering or interpretation of neuroimaging studies



#3: Failing to recognize atypical patterns

History

- 68 y.o. white male
- Presenting Symptom:
  - Abrupt vision loss (foggy/cloudy) OS x 2 days

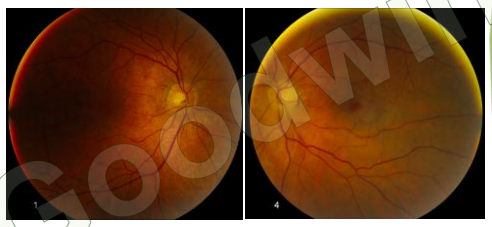
- Medical history
  - Hypertension
  - Diabetes
  - High cholesterol
  - POAG
- Social history
  - Cigarette use
  - Occasional cocaine use
- Medications
  - Paxil
  - Lexapro
  - Diovan
  - Was taking Alphagan bid OU (no longer taking)

Objective Findings

- VA: 20/25 OD, FC at 1 foot OS
- Pupils:
  - Equal and reactive to light
  - Left RAPD
- EOM: full OU
- CVF: normal OD, superior defect OS
- Color vision: 15/15 OD, unable to perform OS

- Blood pressure: 180/120
- Anterior segment
  - 1+ NS OU
  - Otherwise unremarkable OU
- IOP: 10 OD, 10 OS

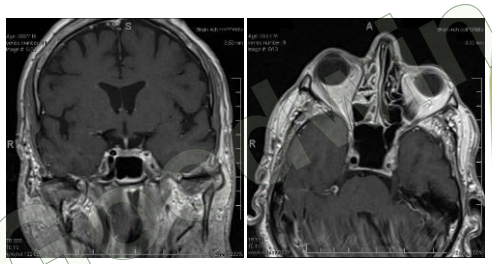
- Posterior segment

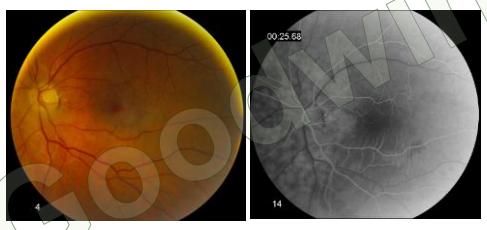


- Diagnosis
  - Suspect NAION OS
- Management
  - MRI
  - ESR, CRP, CBC
  - Referral to ER for BP control
  - RTC 1 week for VF

1 Week Follow-up

- VA: 20/20-1 OD, HM at 5 feet OS
- EOM: full OU
- Pupils: left RAPD
- BP: 150/88
- IOP: 10 OD, 9 OS





- Diagnosis
- Management

#3: Failing to recognize atypical patterns

- NAION
  - Caucasians
  - Males = females
  - Disc at risk
  - Acute vision loss within 2 hours of awakening
  - Painless
  - 75% are better than 20/200
  - 50% are better than 20/30
  - Interior altitudinal VF defect

#3: Failing to recognize atypical patterns

NAION	AAION
Caucasians	Caucasians
Males = females	Females
Mean age 61-66 yrs	Mean age 75-76 yrs
Painless, acute vision loss within 2 hrs of awakening	HA, pain on chewing, temporal artery or scalp pain/tenderness, malaise, anorexia, weight loss, fever, and joint and muscle pain
75% better than 20/200	75% worse than 20/200
Disc at risk	Pallid disc edema

#2: Erroneously assuming a functional cause for neurologic conditions

History

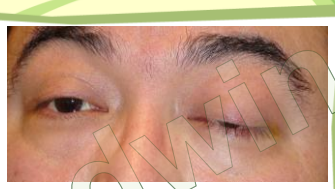
- 49 y.o. Hispanic male
- Presenting Symptom(s):
  - Referred to evaluate ptosis OS since MVA 3 months previous
    - Worse in the afternoon and when the pain around his eye increases
  - Tenderness and pain around the left orbit since the accident

- Additional history
  - No diplopia
  - No nausea/vomiting
  - No dizziness or tinnitus
  - No numbness or tingling in the hand or feet
  - Medications
    - Intermittent use of Mestinon and prednisone for systemic MG

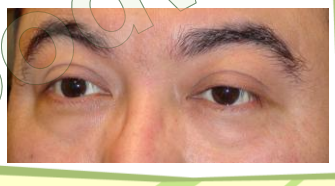
Objective Testing

- VA: 20/20 OD and OS
- EOM:
  - No strabismus, EOM restrictions, or nystagmus
  - Normal pursuits and saccades
- CVF: FTFC OD and OS
- Pupils:
  - Equal, round and briskly reactive to light
  - No RAPD

- Before ice



- After 2 min ice

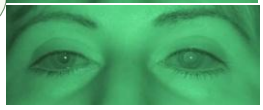


- Diagnosis
- Management

- Dilation lag
  - Bright light

  - 5 sec after removal of light

  - 15 sec after removal of light



#1: Forgetting the importance of eye care

History

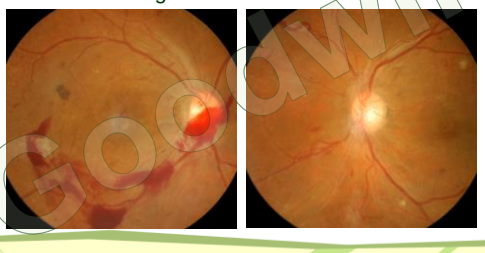
- 49 y.o. Hispanic male
- Presenting Symptom:
  - Right eyelid droop x 1.5 weeks

- Additional history
  - Headaches and nausea/vomiting x 2 mo
  - Non-contrast CT, non-contrast MRI, and MRA within the past 2 weeks: unremarkable
  - Type 2 DM x 15 years
    - Poorly controlled
    - Kidney dysfunction
  - Hypertension
    - Poorly controlled
  - Medications
    - Insulin, metoclopramide, metoprolol, clonidine, amlodipine, Vicodin, Zofran, Lasix, and nifedipine

Objective

- BCVA: 20/400 OD, 20/80 OS
- Pupils:
  - Equal and reactive to light
  - No RAPD
- EOM
  - Complete 3rd N palsy OD
  - Sparing of intorsion and abduction OD
  - Full range of motion OS
- CN 4-12 intact

- Anterior segment: variable lid swelling OD
- IOP: 13, 15 mm Hg
- Posterior segment:



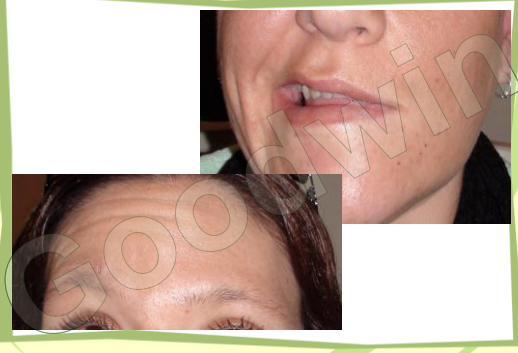
- Diagnosis
- Management

#1: Forgetting the importance of eye care

- Third nerve palsy
  - Rule of the pupil
    - An isolated pupil involving CN3 palsy is a PCOM aneurysm until proven otherwise

#1: Forgetting the importance of eye care

- Proliferative diabetic retinopathy
  - PRP
  - Avastin/Lucentis/Eylea



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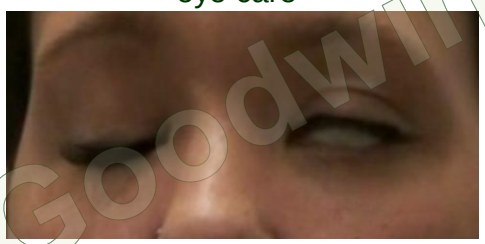

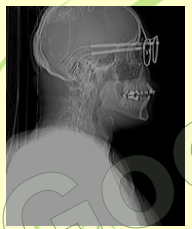

Thank You!

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