An interesting case of unilateral optic disk edema

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Initial Symptoms and History

• **HPI**- 22 yo WF 1 week h/o abrupt painless central vision loss. Mild pain OS when "focusing" and extreme horizontal gaze. HA 3-4 X day, worse than her typical “migraines”.

• **PMHx**- ADD, Depression, Fibromyalgia

• **POphHx**- Ambylopia OS with small > XT
Presented to local Ophthalmology

- **VA**: D sc 20/20-1, 20/400. N sc 20/20, 20/70
- PERRL, no APD. CF full, EOM intact
- **Amsler grid**: central distortion OS
- **SLE**: AC wnl OU, vit clear OU, C/D 0.1, >0.1. Optic nerve wnl OD, edema and flame heme OS. Macula wnl OD, nasal edema OS, Retina/periphery wnl OU
- Referral to Neuro-ophthalmology
Neuro-Ophthalmology 1 week later

- Symptoms unchanged
- **Vitals:** T 97.9F, BP 112 / 69, BMI 31
- **VA:** sc 20/20, 20/100 PH NI
- **Color:** HHR 6/6, 3/6
- **CF:** full OU
- **Amsler:** Normal OD, Distortions central OS
- **Pupils:** ERRLA no RAPD
- **EOM:** Ductions and Versions full OU. Small > XT in pp
• **CN 7**: normal facial muscle strength bilaterally
• **CN 9/CN 10**: normal palate elevation
• **CN 12**: tongue protrudes in the midline, no atrophy or fasciculations
• **Motor Exam**: no atrophy or fasciculations
• **Muscle Tone**: physiologic tone in upper and lower extremities
• **Pronator drift**: absent
• **Tremors/Involuntary Movements** None observed.
• **Gait and Station**: Normal posture; normal gait, stride length, rate, base and arm swing.
Family History

- **Mother** – deceased: drug OD. h/o anemia, anxiety, OA, asthma, depression, HTN, Hashimoto's thyroiditis, fibromyalgia
- **Father** – deceased: CVA. h/o ETOH and drug abuse
- **MGF** – deceased: pancreatic CA, HTN, DM
- **MGM** – living, bone CA
- **PGF** - living, history unknown
- **PGM** – deceased: breast CA
- **Brother** – living, asthma, fragile X
The patient is dilating, now what?

- Differential Dx
Differential Dx

- Optic neuritis
- Sarcoidosis
- SLE
- Vasculitis
- Leukemia, Lymphoma
- Meningioma, Glioma
- Toxic/nutritional (OU)

- Viral
- Ocular bartonellosis
- Lyme disease
- Syphilis
- Toxoplasmosis
- Tuberculosis
- Pseudotumor (usually OU)
Patient is dilated . . . Lets have a look
The $100,000,000 question . . .
• Further history elicited by Dr. Glisson
  – Many cats at home. She has been scratched and bitten frequently.
Work Up / Orders

- MRI brain/orbits
- Labs: CBC with diff, CMP, ESR, CRP, ANA, ACE, Bartonella henslæ titers
- Doxycycline 100 mg bid 3-6 weeks
Results

- MRI of Brain / Orbits- negative
- B. henselae IgG positive
- Pt continued on Doxycycline
- Return visit 4 weeks
RTC

- Vision improved, central vision still slightly blurry OS. No ocular pain or discomfort with ocular motility.
- **VA**: sc 20/20, 20/50 PH NI
- **Color**: HHR 6/6, 5.5/6
- **Amsler**: Normal OD, subtle central meta OS
- **Pupils**: ERRLA no RAPD
- **HFV**: full OU, Subtle central scotoma OS. Significant improvement compared to prior.
OCT before/after
Cat-Scratch neuroretinitis (Ocular bartonellosis)

• Also known as cat scratch disease
• Approximately 22,000 cases per year in the US
• Most common in children under 10 years old
• Bartonella henselae
  – Gram negative rod
  – Transmitted from cat flea, to cat and potentially to humans
  – Seasonal pattern, Fall and Winter
  – Most common in southern states
Signs/Symptoms

• Pustule at inoculation site within 3-10 days
• Enlarged regional lymph nodes, typically in axillae, groin, neck or head along with systemic flu like illness with low grade fever
  – Disseminated disease rare but can include meningitis, pneumonia, pleural and pericardial effusions
• Ocular involvement in 10% of cases
• Classic signs/symptoms
  – Unilateral abrupt vision loss, disk swelling and macular star
• Can also present as
  – Parinaud’s oculoglandular syndrome- granulomatous conjunctivitis with associated preauricular lymphadenopathy
Treatment

- Self limiting disease
- Typically doxycycline or erythromycin given
- Controversy exists over use of steroids
Do I have MS?

• Optic Neuritis Treatment Trial (ONTT)
  – Optic neuritis
    • Color < VA, pain with EOM movement (92%), no disk swelling (65%), RAPD present
    • ONTT 15 year conversion to MS
      – 25% with normal MRI
      – 72% with 1 or more white matter lesions.
    • Lowest risk of conversion in pts with normal MRI and atypical features: male, disk swelling, peripapillar hemorrhages and retinal exudates.
“The greatest thing a clinician can do for his patients’ is to take away their worries”
-David Kaufman D.O.
Thank You!