

I. Commotio Retinae/Lamellar Macular Defect/Iritis in 22WM

I. Case History

i. –Patient Demographics

1. 22WM, Navy Active Duty Enlisted

ii. –Chief complaint

1. Patient complains of flashing lights in center of vision and yellowing of vision in left eye following direct hit by football in left eye, while playing football at 11pm the previous evening. He had immediate pain afterward which has continued to this morning. He also notices flashes of light which he describes as a “strobe light” in center of vision in left eye. He also reports that he notices a “yellowish” appearance to his vision in his left eye. He also reports photophobia and left eye pain which is worse in right gaze.

iii. –Ocular, medical history

1. No significant med/oc history

a. No prior eye surgeries or eye trauma.

iv. –Medications

1. None

II. Pertinent findings

i. –Clinical

- Visual Acuity:
  - OD: 20/20
  - OS: 20/400 PH: 20/60-2
- Extraocular Motility: Full OU
- Pupils:
  - 5->3 mm OS and OS (No APD) Left pupil is sluggish.
- Confrontation Visual Fields: FTFC OU
- Intraocular Pressure: OD: 11 OS: 10 @ 0822 NCT
- Anterior Orbit: Left eye: ecchymosis noted temporal upper and lower adnexa
- Conjunctiva: OS: injection noted temporally>nasally
- Cornea: OS: Small infiltrate located at 12:00 position 1/3 distance from center of cornea to limbus. Infiltrate is approximately 0.8 mm in diameter and extends 25% thickness of stroma.
- Anterior Chamber: OS: 3+ WBC and pigment noted. 0 Flare.
- Lens: Normal OU
- Vitreous: Normal OS
- Optic Disk: Normal OS
- Retina: OS: Confluent area of retinal whitening noted throughout macular area extending to temporal retina. 2 retinal hemorrhages noted far periphery temporal retina.
- Macula: OS: Edema noted. No foveal reflex.

- ii. -Physical
  - iii. -Laboratory studies-NONE
  - iv. -Radiology studies-NONE
- III. Differential diagnosis
- i. Macula (Lamellar Macular Defect)
    - 1. Macular Pseudohole
    - 2. Lamellar Macular Hole
    - 3. Foveal Pseudocyst
    - 4. Full Thickness Macular Hole
  - ii. Retina
    - 1. Commotio Retinae
  - iii. Retinal Hemorrhage
  - iv. Anterior Chamber
    - 1. Iritis/Uveitis
  - v. Adnexa
    - 1. Contusion with intact skin surface (Black Eye)
- IV. -Primary/leading
- i. Lamellar Macular Defect OS
- V. Diagnosis and discussion
- i. Iritis OS
  - ii. Commotio Retinae OS
  - iii. Lamellar Macular Defect OS
  - iv. Retinal Hemorrhage OS
- VI. Treatment, management
- i. Iritis OS:
    - 1. OS: Prednisolone acetate 1% q2h, homatropine 5% TID
    - 2. Orally: 1 tab 800mg Ibuprofen TID
  - ii. Commotio Retinae OS:
    - 1. Photodocument with mosaic photography, Educate Patient, Monitor.
  - iii. Lamellar Macular Defect OS:
    - 1. Patient ordered to limited duty. No strenuous physical activity. Patient educated on risk for progression to full macular hole. Patient educated on signs and symptoms for retinal detachment with instructions to contact medical personnel immediately if noted.
    - 2. Macula Visual Fields
  - iv. Retinal Hemorrhage OS:
    - 1. Photodocument. Monitor.
  - v. Contusion with intact skin surface OS.
- VII. Treatment and response to treatment
- i. Patient followed for 6 weeks with sequential retinal and macula photos, OCT evaluations and macula visual fields. Iritis, commotio retinae, and contusion resolve within a few days. Lamellar Macular Defect does not resolve, however, BCVA improves to 20/20. Mild metamorphopsia remain.

VIII. -Bibliography, literature review

- i. Chen JC, Lee LR. Clinical Spectrum of lamellar Macular Defects including pseudoholes and pseudocysts defined by optical coherence tomography. *Br J Ophthalmol* 2008;92:1342-1346.
- ii. Thompson JT. Macular Holes. In: Regillo CD, Brown GC, Flynn HW, eds. *Vitreoretinal Disease: The Essentials*. New York, NY: Thieme; 1999:267-282.

IX. Conclusion

- i. Patient regains visual acuity in left eye with some mild metamorphopsia remaining. Patient cautioned against outdoor sports activities at 11 PM at night.

X. Clinical pearls

- i. Eyes with visual acuity of 20/40 or better can be followed for signs of enlargement of the macular hole, and concomitant worsening of visual acuity.
- ii. Spectral Domain OCT can be invaluable in assessing and managing lamellar macular defects.