Retinal detachment secondary to uveal effusion syndrome

- **Abstract:** Uveal effusion syndrome is a rare bilateral condition with the potential for severe complications, including retinal detachment. Treatment for uveal effusion syndrome is full-thickness sclerotomy to increase diffusion of fluid out of the choroid.

- **Case History**
  - 58 yo African American
  - **Chief complaint**
    - Decreased distance and near vision OS. Long-standing since childhood, but increased blurred vision the last 6 weeks.
  - **Ocular history**
    - Refractive amblyopia, OS
    - Acute angle closure OS, S/P LPI
  - **Medical history**
    - HTN
    - Type 2 DM x 10 years
    - Chronic low back pain
    - Hyperlipidemia
    - PTSD
    - Erectile dysfunction
  - **Medications**
    - Aspirin 81mg
    - Sildenafil
    - Amitriptyline
    - Simvastatin
    - Hydrocodone/acetaminophen
    - Meloxicam
    - Glipizide
    - Metformin
    - Losartan

- **Pertinent findings**
  - **Clinical**
    - Motility: FROM OD, OS
    - CVF: FTFC OD, Superior defects OS
    - Refraction
      - OD:+2.75 +0.75 x003 20/20
      - OS:+6.75 +0.75 x123 CF @ 1ft, PHNI
        - Previous acuity with this Rx: 20/70
- Pupils: ERL with 2+ APD OS
- IOP (GAT):
  - OD: 14 mmHg
  - OS: 12 mmHg
- Iris: Normal OD, Patent PI 2:00 OS
- Anterior chamber:
  - Grade 1 VH angle, OU
  - Shallow and quiet (-) cell/flare OU
- Lens: OD: 1+ NS, OS: 2+ NS
- C/D: 0.4/0.4 OU, distinct rim, good color
- Macula: OD: WNL, Macula off RD OS
- Fundus: OD: (-)DM retinopathy, OS: Serous retinal detachment of varying heights with choroidal thickening

  - Radiology
    - B-scan: Confirmed serous RD OS, shallow choroidal effusion without choroidal detachment OU, and thickened sclera OU.

- Differential diagnosis
  - Posterior scleritis
  - Uveal melanoma
  - Posterior uveitis

- Diagnosis and discussion
  - Uveal effusion syndrome is a rare bilateral condition in which the sclera is thickened. Uveal effusion syndrome is often associated with nanophthalmos and high levels of hyperopia. Uveal effusion syndrome is a diagnosis of exclusion, and inflammatory or neoplastic causes of choroidal effusion need to be eliminated.
  - No masses were seen clinically or on B-scan, and so a uveal melanoma was eliminated as a possible cause of uveal effusion and retinal detachment. No cells were seen clinically in the anterior chamber or vitreous, and posterior uveitis was eliminated as a possible diagnosis. The patient had no symptoms of posterior scleritis, which include eye pain, reduced eye movement, and proptosis. The patient was diagnosed with uveal effusion syndrome, OU, with secondary serous retinal detachment, OS.
  - Uveal effusion syndrome is caused by a thickened sclera that reduces scleral permeability and/or compresses on the vortex veins. The thickened sclera reduces the ability of larger molecules, notably albumin, to exit the choroid. Increases levels of large molecules inside the choroid increases osmotic pressure and leads to fluid retention and uveal effusion. Uveal effusion can cause a serous retinal or choroidal detachment.

- Treatment, management
  - Treatments for choroidal effusion syndrome include full thickness sclerotomy and vortex vein decompression. Both procedures allow for increased diffusion of large molecules out of the choroid and decreases the osmotic pressure within the choroid. Decreased osmotic pressure decreases fluid retention and choroidal effusion.
In this patient, a full thickness sclerotomy was performed in 4 quadrants, OS. In this procedure, a section of sclera is removed, exposing the choroid, and the movement of molecules out of the choroid is no longer hindered, the osmotic pressure within the eye reduces, and fluid stops collecting in the choroid. This treatment will reduce the sub-retinal fluid causing the retinal detachment and prevent choroidal detachment. The patient declined surgery OD, despite bilateral choroidal effusion. The patient was given Predforte Q1hr with taper, vigamox, and atropine drops. At the 1 month follow-up, the patient’s serous retinal detachment was more shallow with partial macular attachment, and by 3 months post-op the retina was reattached, although visual acuity did not improve.

- **Conclusion**
  - Although uveal effusion syndrome is rare, there are serious complications, including serous retinal detachment and choroidal detachment, that can result in blindness. Understanding of this clinical entity and early treatment can prevent a retinal or choroidal detachment from occurring, thus saving vision.

- **References**