Title: An uncharacteristic case of central serous chorioretinopathy with large pigment epithelial detachments.

Abstract
A 62 year-old male presents with multiple large PEDs and sensory macular detachment. He does not fit the classic picture of CSCR, but our work-up has yet to reveal an alternative etiology.

I. Case History
- **Patient demographics:**
  62 year-old African American male.
- **Chief complaint:**
  Blur superior temporal to fixation in the right eye for 3.5 weeks that he associates with momentarily viewing the reflection of the sun off the hood of a car. The patient also notes blur greater at near without correction, OD only.
- **Ocular history:**
  The patient does not recall when he had his last eye exam. He reports no ocular surgeries or trauma, and he does not wear glasses.
- **Medical history:**
  The patient underwent radical retropubic prostatectomy two years ago for a malignant neoplasm of the prostate, with no recurrences, but he has had multiple surgeries for post-operative complications of the original prostatectomy. His medical history is also positive for hyperlipidemia and microcytic anemia in 2002, although the anemia was likely due to repeated blood donation. Allergic to Terazosin.
- **Current Medications:**
  Oxybutynin Chloride 5 mg tab TID PO (for bladder spasm)
  Aspirin 81 mg daily

II. Pertinent findings
- **Clinical:**
  Uncorrected VA OD 20/60-, OS 20/25-
  Ishihara color vision test, confrontation visual fields, ocular motility, and pupil responses all normal.
  Facial amsler reveals the entire face of the examiner appears darker when viewing OD versus OS.
  Refraction:
  OD  Plano-0.50x140  20/50-
  OS  -0.25-1.00x075  20/20
- **Physical:**
  External slit lamp exam is unremarkable. Dilated fundus exam reveals two large pigment epithelial detachments (PEDs) superior to the fovea, and one much smaller PED between the fovea and the disc. An overlying serous detachment of the retina extends from the superior macula to beyond the inferior arcade inferiorly. There are no signs of vitreous cell, hemorrhage or drusen in either eye. Also, no fibrinous exudates are noted, and the large sensory detachment has a smooth (not bullous) appearance.
-Laboratory studies:
  Cortisol, VMA, metanephrine, normetanephrine. Results pending.

-Radiology studies:
  None

-Others:
  Cirrus OCT of the macula and fundus photography demonstrate the large PEDs filled with optically empty (serous) fluid and overlying serous detachment.
  The patient returned in three weeks for a fluorescein angiogram. By this time the serous detachment has significantly resolved, and no source of leakage into the subretinal space is seen on the angiogram (even at 25 minutes post-injection). Repeat OCT of the macula at this visit demonstrates that the macula is reattached and the PEDs are slightly larger, likely owing to the sealing of the leakage from the RPE.

III. Differential diagnosis (of macular PEDs with serous detachment)
-Primary/leading:
  Idiopathic Central Serous Chorioretinopathy (CSCR)

-Others:
  CSCR secondary to medications (corticosteroids, epinephrines) or an underlying medical condition (such as pheochromocytoma)
  Choroidal Neovascularization (most commonly Wet Age Related Macular Degeneration)
  Polypoidal Choroidal Vasculopathy
  Choroidal Neoplasm
  Posterior Uveitis (such as Harada’s Chorioretinopathy or systemic inflammatory disease)

IV. Diagnosis and discussion
-Elaborate on the condition:
  Central serous chorioretinopathy is a disorder of the RPE/choriocapillaris that causes sensory detachment of the macula. The patient experiences a decrease in central vision and may notice metamorphopsia. The typical patient is a young to middle aged, energetic (“Type A”) male, although there is no upper limit to the possible age of onset (1). One or multiple leakage points in the RPE should be demonstrable on fluorescein angiography. PED is large enough to be evident on fluorescein angiography in about 9% of cases of CSCR (2), but the more recent use of OCT has demonstrated that PED is more common than previously thought(1). Acute CSCR usually resolves in weeks to months without treatment. About half of acute CSCR cases will recur. Some patients suffer from a chronic form of CSCR which is more likely to be bilateral and causes more extensive damage to the RPE. Other possible sequelae include RPE tears and choroidal neovascularization.

-Expound on unique features:
  The patient does not report any increased level of stress recently, exhibits a mellow disposition, and is older than the expected age range of patients with idopathic CSCR. The size and number of PEDs in this case, as well as the size of the overlying serous detachment, are uncommon features of CSCR. A variant of CSCR with multiple PEDs, a bullous serous detachment and fibrinous exudates has been reported (3, 4). Our case could be a variant that lies somewhere between the classic CSCR and Bullous CSCR. Due to his age, wet age related macular degeneration is high on the list of differentials, but drusen and choroidal neovascularization are notably absent from the work-up. Polypoidal choroidal vasculopathy (PCV) is inconsistent with the results of the OCT, in which the fluid under the RPE is optically empty (5). Indocyanine green angiography can be used to definitively rule out PCV if there is a question about the diagnosis. Choroidal neoplasm and posterior uveitis are inconsistent with the exam findings. The
patient does not report any recent systemic corticosteroid or epinephrine use (6). Raised cortisol or metanephrine on laboratory testing could prompt a work-up for an extraocular etiology such as pheochromocytoma.

V. Management
-Treatment and response to treatment:
Management in this case is conservative. The sensory detachment is largely resolved, but remains “tented” up by the PEDs. Laboratory tests have been ordered for systemic cortisol and metanephrine levels, and we are awaiting results (6). We will be monitoring closely, and focal laser photocoagulation will be considered if full resolution does not occur in three months. Focal laser speeds resolution in CSCR but has no effect on the final outcome (7).

VI. Conclusion
-Take away points:
Although CSCR carries a good prognosis in that it usually resolves spontaneously, the patient should be followed closely to monitor for reoccurrence and sequelae. Also, other etiologies of serous detachment and PED listed in the differentials above may have a worse prognosis or underlying systemic etiology and should be ruled out, especially if the patient falls outside the usual demographics for idiopathic CSCR.

References