Posterior Segment Disease: Case Challenges

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Disclosures

- Speakers bureau and/or Advisory Board for:
  - Alcon
  - Allergan
  - Macula Risk
  - MacuLogix
  - Nicox
  - Science Based Health
  - ThromboGenics

Case OW

- 71 year old female
- Presents for routine eye exam
- 20/25 OU
- Ant seg: 1+ NSC OU
- Post seg:

Case OW

- CHRPE OD
  - Congenital Hypertrophy of the RPE
- RTC 1 yr
- Photodocumentation

CHRPE

- Unifocal lesion typically appear as flat, pigmented round lesions with distinct margins
- Color ranges from light brown to jet black, depending upon amount of melanin
- Often have areas of chorioretinal atrophy within the lesion that appear window like and allow a clear view of the underlying choroid (lacunae)

CHRPE

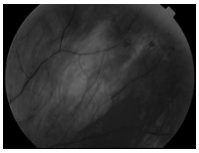
- Typical size is 2-6 mm, but may be smaller or as large as 14 DD (21 mm)
- Can be located anywhere within the fundus, but about 70% in temporal half of fundus
- No apparent racial predisposition, although reported more in Caucasians
- May be present at birth, with reports in as young as 3 months old

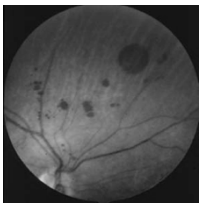
CHRPE

- Lesions are almost always stable in size, but color may change.
  - Very rare instances of enlargement with time
- Typically asymptomatic, and found on routine exam, but large lesions have been shown to have VF defects

CHRPE

- Can also appear as multifocal CHRPE
  - From 3 to 30 lesions, 0.1 to 3.0 mm in size
- Benign, stationary and unilateral in 85% of the cases
- Often called bear tracks





Gardner's Syndrome

- Multifocal CHRPE have been associated with Gardner's Syndrome
  - Familial condition of colonic polyps that may be precursor to colon cancer
  - However, these lesions are bilateral, have more irregular borders, and are often scattered throughout the fundus

CHRPE

- Deferential includes nevi and choroidal melanoma
  - Nevi: nevi are rarely jet black and tend to have more indistinct borders
  - Melanomas tend to be greater than 2mm in thickness, where CHRPE are flat
- B-scan, serial photos and frequent monitoring of assistance

Nevus

- Common, benign tumor of the posterior fundus
- Typically slate –gray or brown in color, with somewhat indistinct borders
  - Often have overlying drusen, which signify chronicity of lesion
- Vary in size from 1/3 DD to as much as 7 DD
  - Flat or minimally elevated, < 2mm

Nevus

- Very common, with prevalence ranging from 0.2% up to 32% of patients
- More common in Caucasian population
- Asymptomatic, and usually found on routine exams
- Management consists of serial photography and frequent follow-up, with ultrasound if needed for more suspicious lesions

Nevus

- TFSOM: To Find Small Ocular Melanomas
  - T: Thickness: lesions > 2 mm
  - F: Fluid: any subretinal fluid suggestive of RD
  - S: Symptoms of photopsia or vision loss
  - O: Orange pigment overlying the lesion
  - M: Margin touching the optic nerve head
    - No factor= 3% risk of converting to melanoma in 5 yrs
    - 1 factor=8% risk
    - 2 or more factors =50% risk

Update

- Arch Ophth Aug 2009: Shields and Shields
- Suggests adding two new features that are predictive for growth of nevi to melanoma
  - UH: Ultrasonic Hollowness
    - 25% with hollowness progressed vs. 4% w/o
  - H: Halo absence
    - 7% w/o halo progressed vs 2% w/halo
- To Find Small Ocular Melanomas Using Helpful Hints

Choroidal Melanoma

Most common intraocular malignancy in adults

- May arise from pre-existing choroidal nevi or may be a completely separate lesion
- 6 people per million
- Almost always isolated
- Almost always unilateral
- Average age of diagnosis is 6th decade

Choroidal Melanoma

- Prolonged exposure to UV light is a risk factor
- Usually will be dome-shaped/mushroom shaped if break through Bruch's membrane
- Grows toward the vitreous
- Median survival for patients is about 7 years
- Treatment: Prevent metastasis

Metastatic Tumors

- Usually amelanotic/yellow in appearance
- Usually from breast or lung cancer(Breast>Lung)
- Usually symptomatic (metamorphopsia,blurred vision, floaters, photopsia)
- Leopard Skin→Brown pigment overlying lesion(represnts lipofuscin and pigment)
- At posterior pole/posterior to the equator(Usually at posterior pole)

Metastatic Tumors

- Multilobular
- Can be multifocal (Usually unifocal)
- May be bilateral (Usually unilateral)
- Can lead to bullous RD
- Over 90% of cases present with sub-retinal fluid or serous retinal detachment
- No race predilection
- Mostly in women

Metastatic Tumors

- B-scan shows medium to high internal reflectivity
- Less hyperintense on T1 MRIs than melanomas
- 10 year death rate is 100%
- Grow faster than primary melanomas
- Treatment: Similar to choroidal melanoma
- Work up with oncology needed

SF CASE

- 68 year old male
- Presents with c/o flashes floaters OD x 2 days
  - No pain
  - No change in acuity
- Med hx: Type 2 DM x 2 years, well controlled; HTN; ED
- Meds: Metformin, HCTZ, Lipitor, Viagra
- Oc Hx: Unremarkable

SF CASE

- Entering VA: 20/25 OU
- SLE: WNL
- IOP 14 mm OU
- DFE:

SF CASE

- Assessment:
  - Acute PVD OD
- Plan:
  - Pt education
    - Signs/symptoms of RD
  - **RTC when?**

SF CASE

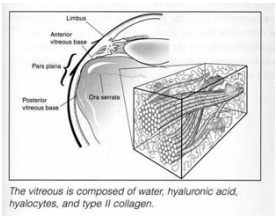
- Really no consensus
- Symptomatic PVD without retinal break
  - AOA:1-2 weeks
  - **AAO: depending on symptoms, risk factors and clinical finings:**
    - **1-6 weeks**
    - **Then 6 mos to 1 year**
  - Cleveland Clinic: 4-6 Weeks
  - Others: if no heme or other issues, very low risk so no need to see to back

PVD

- Floaters are typically most common symptom
  - Cobwebs
  - Flies
  - Hairs
- Flashes
  - Indicative of traction on retina, but not necessarily a tear or break

The Vitreous Humor

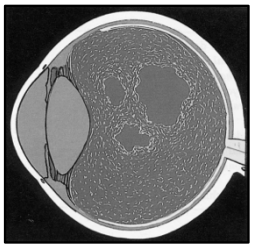
- Vitreous attached most firmly at
  - Macula
    - VMT
  - Vitreous base
  - Around optic nerve head
    - Weiss' Ring
  - Also, some traction on blood vessels
    - Vit heme



The vitreous is composed of water, hyaluronic acid, hyalocytes, and type II collagen.

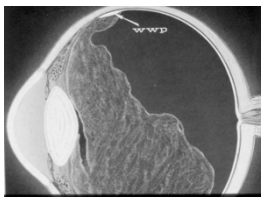
Physiologic Changes

- With age, liquifaction due to reduction in hyaluronic acid causes loss of support.
- This process is referred to as synchesis.



Physiologic Changes

- Vitreous shrinkage, contraction and collapse can cause traction.
- This process is referred to as syneresis.



Incidence of PVD

Age	Incidence
>30	RARE
30-59	10%
60-69	27%
>70	63%
>80	75%

- 65%>65 HAVE A PVD

Incidence of PVD

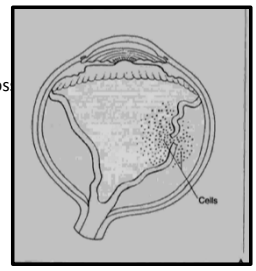
- Incidence may be accelerated by
  - Myopia
  - Trauma
  - Prior vitreoretinal disease
  - Surgery
  - Inflammation
- Symmetrical 90% of the time
- Happens to second eye with 1-2 years

PVDs

- Good News:
  - Retinal Tears/Breaks *Relatively* uncommon
    - One study: only 7-15% of symptomatic PVDs have a retinal break
- Bad news:
  - 7-15% have a retinal break

Risk Factors

- Pigment
  - Schaeffer's Sign
    - Indicates break is pos
- Hemorhage
  - 90% have break
- Inflammatory cells



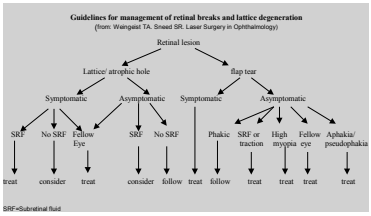
Treatment of Symptomatic Lesions

Lesion	Treat
• Horseshoe tears	• Yes
• Operculated holes	• Rarely
• Atrophic holes	• No
• Lattice w/o holes	• No
• Lattice with holes	• Sometimes

Treatment of Asymptomatic Lesions

Lesion	Phakic	High Myopia	RD etc in other eye
Atrophic hole	No	No	Rarely
Operculated hole	No	Rarely	Rarely
Lattice with or without hole	No	Rarely	Sometimes
Flap tear	Sometimes	Sometimes	Usually

Basic Guidelines for Treatment



Take Home

- DFE WITH scleral Depression!
- Council patient on signs and symptoms of RD
  - Increase in floaters
  - Increase in flashes
  - Sudden loss of vision/ curtain over eye
- RTC 4-6 weeks as long as FLASHES are present
  - Sooner if heme or high risk
- 6 months to 1 year after
- DOCUMENT! DOCUMENT! DOCUMENT!

Case CU

- 40 yo male. Works as used car salesman
- Presents with blurry vision OS x 3 days
- Med hx: HTN
- Meds: HCTZ
- VA 20/20 OD, 20/40 OS

Case CU

- CSR OS
  - Pt ed stress as risk factor as well as steroids
  - RTC 1 mos
- Pt calls clinic 3 mos later. Reports saw local OD who said VA now 20/20 OS

CSR case #2

- 38 year old male
- Small grey spot in central vision OS x 3 days
  - Color distorted when looks through grey spot
  - Peripheral vision normal
- Oc Hx: unremarkable
- Med Hx: h/o ulcerative colitis
- Meds: prednisone 30 mg/day

CSR case 2

- Consult to GI Clinic regarding systemic steroids as risk factor
- Pt eager to get off steroids
  - Gained 30 lbs since started
- Unable to verify with FA as pt has h/o passing out when "sees a needle"
- Pt Ed: RTC 6-8 weeks

CSR case 2

- Consult to GI Clinic regarding systemic steroids as risk factor
- Pt eager to get off steroids
  - Gained 30 lbs since started
- Unable to verify with FA as pt has h/o passing out when "sees a needle"
- Pt Ed: RTC 6-8 weeks

CSR Case 3

- 56 yo white male
- h/o decreased VA OS x 30 yrs
  - Unknown etiology
  - Was told might resolve on own
  - Probably related to stress
  - Med HX: mild HTN, obesity, ED, hip replacment

CSR Case 3

- Inactive CSR in Macula
- New area temporal to macula
- Review with retinal specialist
  - Agrees with findings
  - PDT was discussed but not readily available
  - Suggest grid laser OS since temporal due to previous vision loss

Central Serous Retinopathy

- Common disorder of unknown etiology which typically affects men between age 20 and 45
  - Males to females 10:1
- Serous detachment of neurosensory retina due to leakage from small defect in RPE

Central Serous Retinopathy

- Pt typically presents with fairly recent onset of blurred VA in one eye with a scotoma, micropsia, or metamorphopsia
  - VA typically 20/30-20/70
  - Often correctable with low hyperopic RX
  - Unilateral in 70% of cases

Central Serous Retinopathy

- Appears as a shallow round or oval elevation of the sensory retina often outlined by a glistening reflex
- FA is helpful in providing definitive diagnosis
  - Classic Smoke stack appearance (occasionally)
  - Ink-blot appearance
- OCT shows marked elevation

Central Serous Retinopathy

- Risk factors
  - Type A personality
  - Stress
  - Use of systemic cortico-steroids
  - Pregnancy

Central Serous Retinopathy

- 80-90% of pts will undergo spontaneous resolution and return to normal (or near normal) VA within 1-6 mos.
  - >60% resolve back to 20/20
  - Rare to have vision remain < 20/40
- Approx 40% will get recurrence
- CNVM is VERY rare occurrence, but possible

Central Serous Retinopathy

- No known medical therapy has been proven effective
  - Topical steroids, NSAIDs etc
- Localized photocoagulation may be of some benefit, but only if
  - Duration at least 4 months
  - VA in other eye is reduced from other attacks
  - Recurrent CSR has already reduced VA in that eye
  - Pt is intolerant of vision and willing to take risk
- PDT suggested in some cases
- Avastin?
- Behavior modification?