Abstract Title
Diagnosis and Management of Peripheral Exudative Hemorrhagic Chorioretinopathy (PEHCR)

Abstract Text
A patient who presents for routine eye exam has an incidental finding of subretinal hemorrhage and final diagnosis of PEHCR. This case report discusses characteristic signs and differential diagnoses of this rare condition.

I. Case History
- **Patient demographics**
  - 78-year-old Caucasian male
- **Chief complaint**
  - No visual complaints
- **Ocular history**
  - Peripheral chorioretinal atrophy with retinal fibrosis OD
  - Mild non-proliferative diabetic retinopathy OD, no retinopathy OS
  - Cataract OU
- **Medical history**
  - Diabetes mellitus type II
  - Hypertension
  - Hyperlipidemia
  - Coronary artery disease
  - History of left cavernous sinus meningioma without ocular manifestations, s/p stereotactic radiosurgery 09/1996
- **Medications**
  - Amlopidine, fluticasone, hydrochlorothiazide, insulin, lisinopril, metoprolol, rosvastatin, famotidine, zolpidem, baby aspirin

II. Pertinent Findings
- **Initial visit with finding:**
  - BCVA 20/20 OD, 20/40 OS, consistent with cataract OU
  - Ophthalmoscopy
    - OD: inferior/inferotemporal peripheral chorioretinal atrophy with fibrosis, few pigmentary changes, and large area of subretinal hemorrhage extending to mid-periphery
- **Retinal hemorrhage follow-up:**
  - BCVA 20/20- OD, OS, improved visual acuity OS s/p cataract surgery
  - Ophthalmoscopy
    - OD: extensive chorioretinal atrophy with fibrosis and scattered pigment clumps inferior periphery, no hemorrhage
  - Cirrus SD-OCT HD 5 Line Raster over peripheral chorioretinal atrophy:
    - OD: choroidal thickening, hyper-reflective lesion corresponding with fibrosis and adjacent RPE atrophy

III. Differential Diagnosis
- **Primary/leading**
  - Peripheral exudative hemorrhagic chorioretinopathy
- **Others**
  - Polypoidal choroidal vasculopathy, exudative age-related macular degeneration, retinal arterial macroaneurysm, retinal telangiectasia,
IV. Diagnosis and Discussion
As defined by Annesley in his 1980 retrospective study of its natural history, PEHCR presents as peripheral subretinal pigment epithelial changes, blood, exudates, or some combination of these clinical signs. Of the exudative, exudative-hemorrhagic, and hemorrhagic classifications, the latter was found to be most common. Annesley proposed that increased intraluminal arterial pressure secondary to hypertension may cause subretinal bleeding and subsequent exudation. There have also been various reports that support an association between PEHCR and choroidal neovascularization. Due to the low reported incidence of PEHCR, this condition is not well studied and likely often misdiagnosed. Review of the available literature reveals that a combination of older age, hypertension, arteriosclerosis, and peripheral temporal location of the lesion can be used to aid in differentiation from some conditions with similar clinical manifestations such as polypoidal choroidal vasculopathy, exudative age-related macular degeneration, and choroidal melanoma, among others. Auxiliary testing, such as fluorescein angiography, indocyanine green angiography, SD-OCT, and ultrasonography, provide useful information and may aid in the diagnosis of PEHCR.

V. Treatment, Management
The patient was referred to ophthalmology for evaluation of the extensive peripheral retinal hemorrhage, which was initially diagnosed as a retinal macroaneurysm and observed. At the subsequent follow-up visits, ophthalmoscopic examinations and SD-OCT revealed the peripheral retinal hemorrhage had resolved and left behind extensive chorioretinal atrophy and fibrosis. There is a general consensus in the literature for observation in management of PEHCR due to its often self-resolving nature. In the rare instance of macular involvement, limited case studies have shown some benefit with intravitreal anti-VEGF injections.

VI. Conclusion
It is important to consider PEHCR as a differential diagnosis in cases of large peripheral retinal hemorrhage and/or exudation to avoid unnecessary referrals for exudative age-related macular degeneration, choroidal melanoma, and other conditions with similar presentations. Careful consideration of patient demographics, systemic health, location and extent of retinal lesion is essential for making the correct diagnosis.

Bibliography


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**Available images:**
- Fundus photos
- Cirrus SD-OCT

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