A 68-Year-Old Male with Purple Vision

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Introduction:

A 68-year-old man presented with "purple vision" in the left eye. The patient had a visual acuity of 20/30 in the right eye and 20/300 in the left eye and had undergone a pars plans vitrectomy for a vitreous hemorrhage in the right eye in 2006. Fundus examination of the left eye revealed sub-retinal hemorrhage and lipid deposition. A indocyanine green angiogram of the left eye revealed branching choroidal vessels with polyp-like lesions confirming the suspected diagnosis.

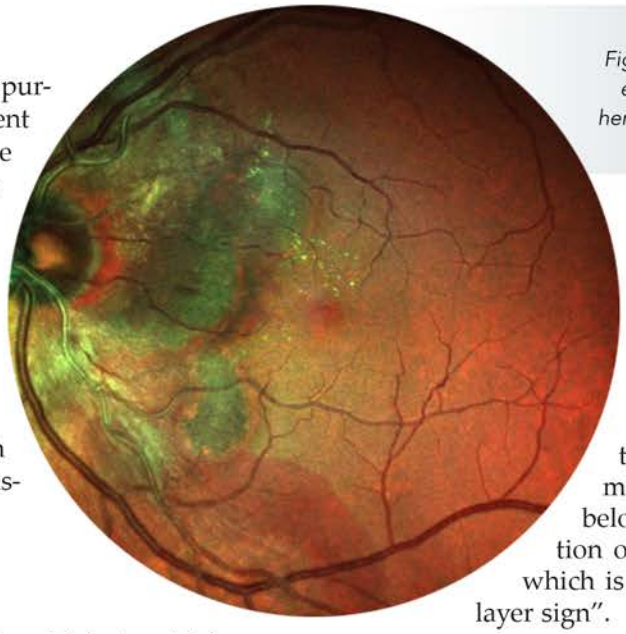

Figure 1: Color photo of the left eye shows extensive subretinal hemorrhage and lipid deposition

Diagnosis:

The patient was diagnosed with polypoidal choroidal vasculopathy (PCV) which is a disease of the choroidal vasculature first described by Lawrence Yanuzzi in 1982[1]. It is considered a sub-type of macular degeneration and is most prevalent in African Americans and Asians between the ages of 50 and 65. However, while less commonly seen in Caucasian patients, PCV may be responsible for up to 9.8% of cases of exudative macular degeneration[2-5]. PCV may be found in isolation or there may be typical age related macular degeneration findings (such as drusen and pigmentary changes) which can confuse the diagnosis. It is characterized by dilated choroidal vessels terminating in orange, polyp-like dilations typically in the peripapillary or macular regions.

Although clinical examination findings in high risk populations can suggest the PCV, the best imaging technique available for diagnosing this condition is indocyanine green angiography (ICGA). ICGA highlights the choroidal vasculature and allows for improved visualization of the branching vascular networks and polyp-like aneurysmal dilations with improved resolution over fluorescence angiography[6]. During the early phases of the study, the polyps present as focal, hyperfluorescent spots with a hypofluorescent halo.

Optical coherence tomography (OCT) can also be helpful in the diagnosis of PCV. Polypoid lesions resemble dome like elevations of the retinal pigment epithelium with moderate internal reflectivity. In some cases there may be a hyperreflective line below this lesion in the location of the vascular abnormality which is referred to as the "double layer sign".

Photodynamic therapy (PDT) with verteporfin has been shown to be effective in the treatment of PCV. PDT utilities a photosensitizing agent that is activated by light of a certain wavelength with a goal of causing targeted tissue destruction and selective vascular occlusion[7]. The EVEREST study demonstrated that PDT either alone or in combination with intravitreal ranibizumab was superior to ranibizumab monotherapy in achieving complete regression of polyps.

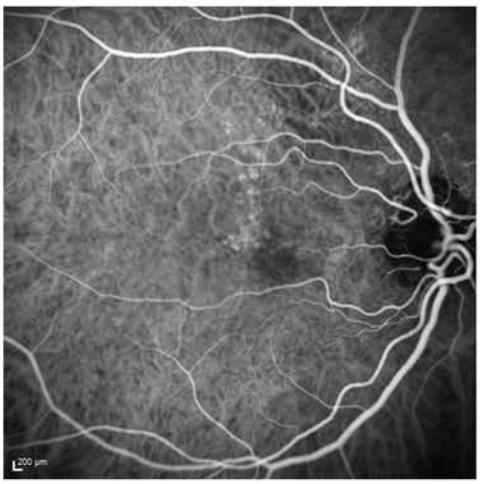

Figure 2: Indocyanine green angiography provides the best imaging of the polyps.

Conclusion:

Our patient was treated with intravitreal Eylea in the left eye and visual acuity improved from 20/300 to 20/30. It was recommended he take AREDS formula vitamins and monitor his vision with an Amsler grid. After a discussion of the risks, benefits, and alternatives the patient decided to proceed with PDT of the left eye as a preventative measure.

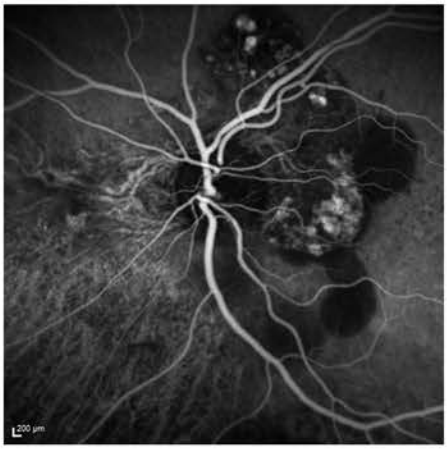

Figure 3: Blockage from sub retinal hemorrhage and branching vascular network with polyp like dilations .

References:

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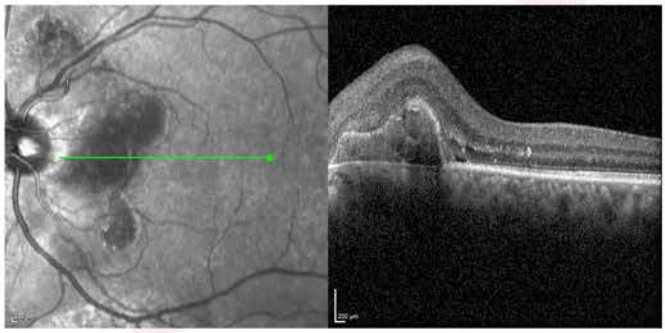

Figure 4: OCT shows nasal PED with moderate internal reflectivity with mild sub retinal fluid.

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