



A 19-Year-Old Male with Blurry Vision in His Right Eye

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Case Presentation:

This case involves a 19-year-old male who has been complaining of blurry vision in the right eye for the last few weeks. He has no relevant past medical history, has not been taking any medications. He has no surgical history and has a negative review of symptoms. Visual acuity is 20/40 in the right eye and 20/20 in the left eye. His intraocular pressure was 15 in the right eye and 12 in the left eye. Anterior examination demonstrated a possible vascular lesion on his right eyebrow. Posterior examination in the right eye revealed a well circumscribed orange yellow choroidal lesion encompassing almost 180 degrees of the inferonasal disc with exudates and edema in the inferonasal macula. Also, there may be a diffuse component that spares the superior wedge of peripheral retina. (Figure 1) OCT through the lesion demonstrated large choroidal mass with intraretinal fluid and exudates. (Figure 2) OCT through the macula demonstrated extension of the lesion with evidence of subretinal fluid and intraretinal fluid. (Figure 3)



Figure 1 – Posterior fundus photo demonstrating orange-yellow choroidal lesions inferonasal to the disc with exudates and edema in the inferonasal macula

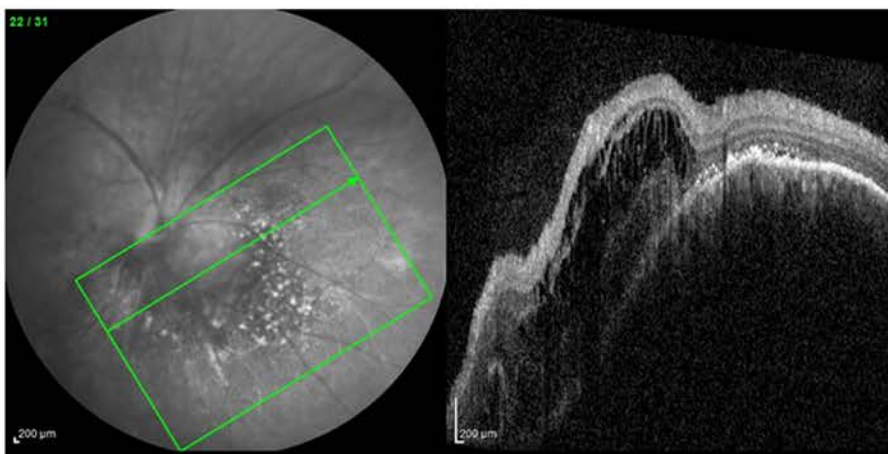


Figure 2 – OCT through the lesion demonstrating large choroidal elevation with presence of intraretinal fluid. B-scan also demonstrates RPE changes.

Fluorescein angiography of the lesion demonstrated alternating areas of hypofluorescence and hyperfluorescence in a speckled pattern. These findings are most consistent with a classic case of choroidal hemangioma. Less likely diagnoses to consider on the differential are choroidal melanomas, osteomas, central serous retinopathy, or a metastatic choroidal tumor.

Discussion:

Choroidal hemangiomas are benign vascular hamartomas that typically present in two different flavors: diffuse and localized. Diffuse hemangiomas are typically present in syndromic cases such as Sturge Weber syndrome. Local choroidal hemangiomas are rare and usually associated with non-syndromic cases. Nearly all cases are present in Caucasian individuals. The signs of a choroidal hemangioma are classically seen as a unilateral orange-red or pink lesion near the optic disc. OCT demonstrates a choroidal elevation with or without the presence of subretinal fluid. Fluorescein angiography demonstrates a lacy hyperfluorescence in the early

stages and in the later stages, a multi-loculated appearance of the dye. Unlike a melanoma or metastasis, ICG of a hemangioma will demonstrate early rapid filling of the lesion and in the later stages a classic “wash out” phenomenon. B-scan demonstrates elevated dome lesion with high internal reflectivity, which is key in differentiation of these lesions from melanomas or metastatic tumors which typically present with low or medium reflectivity.

Treatment:

Choroidal hemangiomas are typically benign lesions and are often found on routine asymptomatic examinations. If the lesions do not cause any visual symptoms they are typically observed. However, they can sometimes present with symptoms such as decreased vision, acquired hyperopia, or metamorphopsias due to the presence of an accompanying serous retinal detachment. Additionally, these isolated lesions can rapidly grow in pregnancy and should be monitored carefully during pregnancy.

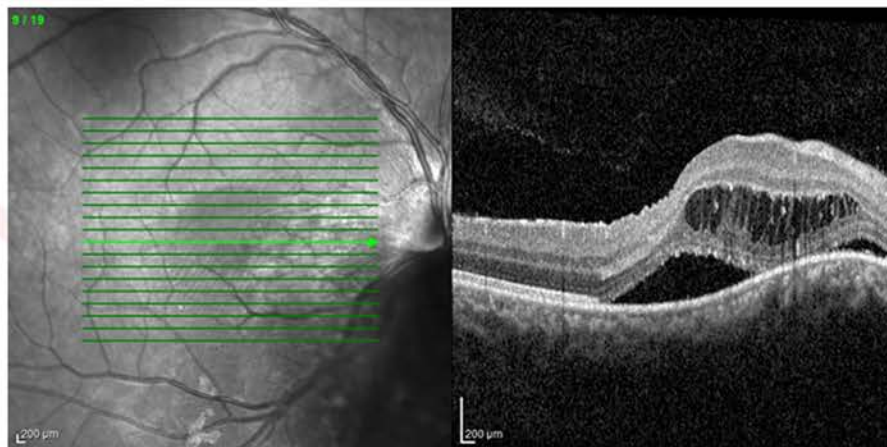


Figure 3 – OCT of the right eye macula demonstrating nasal choroidal elevation with presence of subretinal and intraretinal fluid.

In this case treatment may be indicated due to the vision changes. Originally treatment was performed with laser photocoagulation, however it can result in expansion of RPE atrophy and development of a scotoma. Treatment is now primarily performed successfully with photodynamic therapy, as it allows selective treatment of the vasculature and limited collateral damage to other tissues. Less common treatments such as transpupillary thermotherapy, plaque brachytherapy, or external beam radiation therapy can be used in select cases. It is important to remember that in the presence of a diffuse choroidal hemangioma, systemic work up is warranted to rule out life threatening intracranial hemangiomas, and a glaucoma evaluation may be necessary as well. In our patient, due the possibility of a systemic lesion on his eyebrow in combination with suspicious diffuse component, an MRI was ordered to rule out leptomeningeal involvement.

References:

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2. Singh AD1, Kaiser PK, Sears JE. Choroidal hemangioma. *Ophthalmol Clin North Am.* 2005 Mar;18(1):151-61, ix.
3. Morgan Berry and Linda J.H. Lucas. Circumscribed choroidal hemangioma: A case report and literature review. *J Optom.* 2017 Apr-Jun; 10(2): 79–83.



Figure 4 – Lacy hyperfluorescence on fluorescein angiography.

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