An Asymptomatic 21-Year-Old Man with a Spherical Abnormality

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Introduction:

A 21-year-old man was referred to our clinic without symptoms. His past ocular history was only notable for myopia, and he had no significant past medical history. In particular, he denied any history of ocular trauma or inflammation. His vision was 20/20 in both eyes and his ocular exam was normal except for the finding noted in these photos of his left eye (Figs. 1 and 2). B-scan ultrasound revealed a hypoechogenic spherical cyst with a hyperechogenic rim within the vitreous cavity (Fig. 3). No attachments to the posterior pole were noted. The diagnosis was discussed with the patient and treatment options were explored; given his asymptomatic nature, observation was recommended, and the patient has continued to fare well without further intervention.

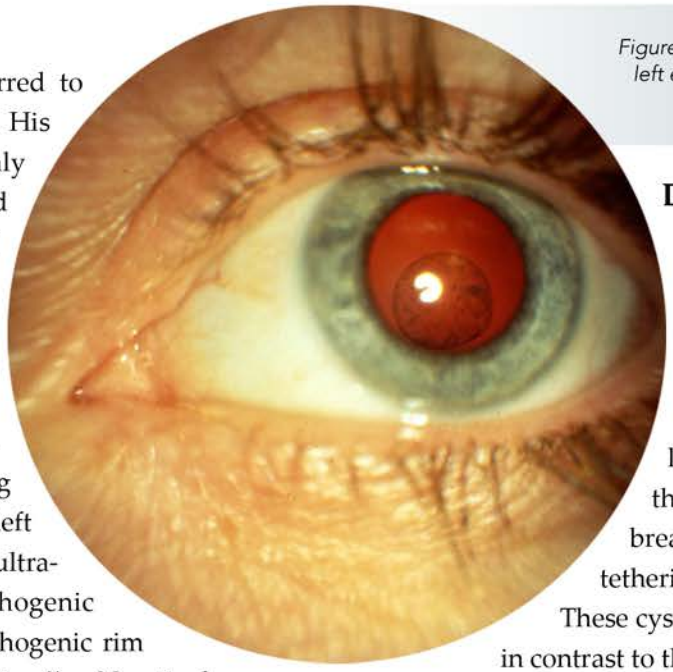

Figure 1: External photograph of dilated left eye revealing a mobile, translucent cyst floating in the posterior pole.

This patient has a free-floating vitreous cyst. First described in 1899, primary vitreous cysts are rare and generally are discovered on routine exam in patients between ages 10 and 20. Occasionally the patient will see the cyst in their vision and complain of transient blurring of vision or floaters as the cyst enters and leaves the visual axis.

Discussion:

Standalone vitreous cysts can either be congenital or acquired. Congenital cysts are thought to be remnants of the hyaloid vasculature and lie posteriorly, just anterior to the optic nerve. Rarely, they can break free from their posterior tethering and become free-floating. These cysts are usually non-pigmented, in contrast to the pigmented cysts thought to be derived from the iris or ciliary body that may float into the posterior chamber.

Differential diagnosis for the cysts includes infectious and inflammatory etiologies. Pigmented cysts can mimic pigmented ocular tumors such as melanoma. Nonpigmented cysts often resemble those of parasites, most commonly cysticercosis.

A careful history must be obtained, including any history of cancer, exposure to

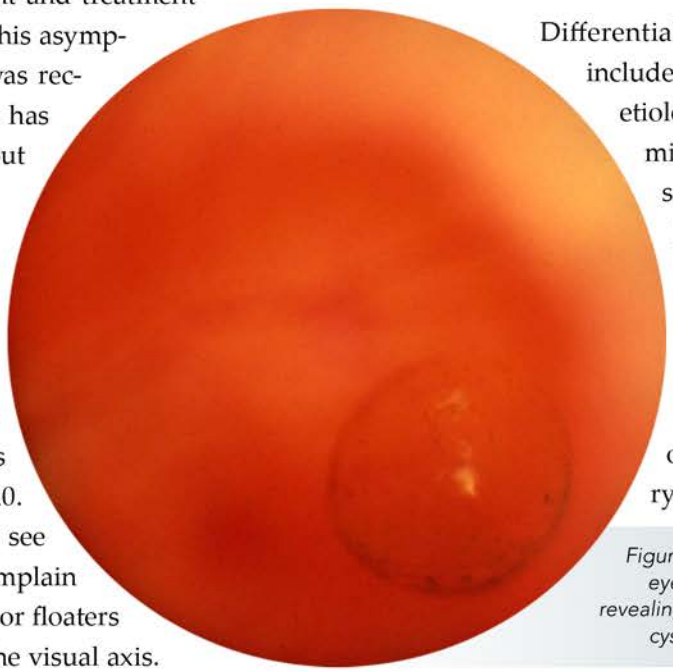

Figure 2: Fundus photograph of the left eye focused within the vitreous cavity revealing a largely-nonpigmented vitreous cyst with some pigmented speckling.

contaminated or raw food or water, and history of autoimmune disease. Ocular examination includes a careful examination of the anterior and posterior segments and may require gonioscopy for anterior cysts. B-scan ultrasound can help determine echogenicity of the cyst, identify any posterior attachments, and in the case of cysticercosis, locate a scolex (anterior end of tapeworm). Ultrasound biomicroscopy can be used for cysts located near the ciliary body or posterior iris.

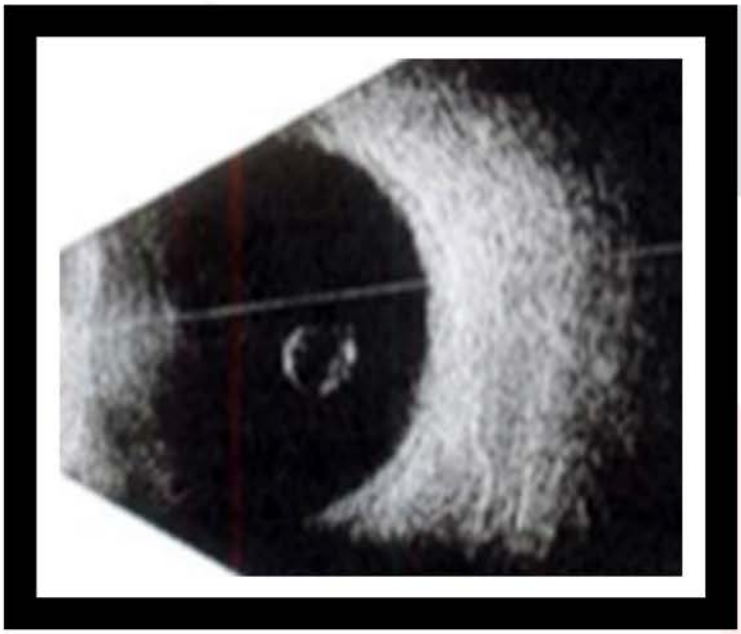

Figure 3: B-scan ultrasonography shows a free-floating hypoechogenic vitreous cyst without attachments.

Treatment is generally observation. If symptomatic, pars plana vitrectomy and laser have been described in the literature as treatment options.

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