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Asteroid Hyalosis

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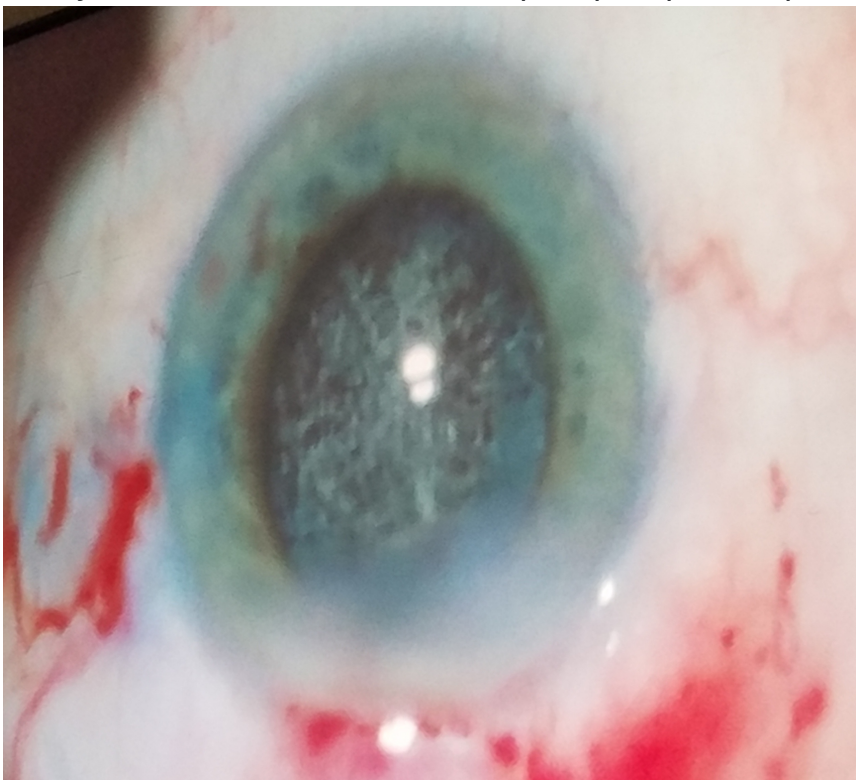
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Asteroid hyalosis, a degenerative opacity of the vitreous, is a common benign clinical finding. Asteroid hyalosis appears as spherical creamy-white particles suspended throughout the collagen fibrils of the vitreous.^{1,2} The particles can be distributed evenly throughout the vitreous or in chains or sheets.² These shimmering bodies, which move along with the vitreous humor as the eye moves, consist of calcium-phospholipid complexes (**Video**).^{1,3}



Patients are often surprisingly asymptomatic, although they might experience floaters, glare, and/or decreased visual acuity.^{1,2,4} The condition may make viewing the fundus difficult if there are numerous asteroid bodies impeding the assessment. The bodies can also interfere with A-scan ultrasonography measurements of axial length, which are performed to determine the correct power of an intraocular lens implant.¹ A pars plana vitrectomy may be indicated to improve visualization of the fundus for diagnostic purposes or if the asteroid bodies decrease the patient's visual acuity. If the bodies do not compromise the patient's vision, and the fundus is easily viewable, then no surgical intervention is indicated.^{1,4}

Asteroid hyalosis usually occurs unilaterally, although it can present bilaterally.^{1,2,3,5} It commonly presents in patients older than 60 years—it is closely associated with aging and therefore is rare in patients younger than 50 years.¹⁻³ There is no racial predilection, and studies vary on whether or not there is an increased prevalence in men.^{1,2,5} The reported prevalence in the general population ranges from 0.5% to 0.9%.¹

While the exact etiology and pathogenesis remain unclear, several studies have suggested relationships between the ocular finding of asteroid hyalosis and systemic conditions such as hypercholesterolemia, hyperlipidemia, hypercalcemia, hyperuricemia, hypertension, and diabetes mellitus.¹⁻⁴ The source of the material that composes the bodies may be exogenous cell products, which can occur due to inflammation, hemorrhage, or leaking blood vessels, although the exact cause remains unknown.¹

Differential diagnosis includes synchysis scintillans. Synchysis scintillans also appears as glittering crystals in the vitreous; however, the golden-colored deposits are composed of cholesterol and are due to ocular trauma or inflammation. The cholesterol crystals often settle inferiorly instead of remaining suspended, and they may also accumulate in the anterior chamber and subretinal space.³ Other degenerative vitreous opacities often appear after ocular inflammation, hemorrhage, or posterior vitreous detachment. These are associated with inflammatory debris.³ It is important to note that no inflammatory connection has been found with asteroid hyalosis.

References:

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