

CLINICAL IMAGE

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Acute vision loss related to asteroid hyalosis

Tomas Andersen, Charles G. Miller, Benjamin J. Kim

CASE REPORT

An 82-year-old woman with age-related macular degeneration (AMD), pseudophakia, and asteroid hyalosis presented with two weeks of blurry vision and floaters of the left eye. On examination, visual acuity of the right eye was stably limited to 20/60 due to AMD. However, examination of the left eye revealed newly decreased visual acuity of 20/500 and vitreous opacities consistent with atypical and severe asteroid hyalosis (Figures 1 and 2) precluding fundus assessment by ophthalmoscopy and optical coherence tomography. Ultrasound demonstrated posterior vitreous detachment (PVD) of the left eye. Pars plana vitrectomy (PPV) was pursued to better visualize suspected worsening of AMD as the presumed etiology of her symptoms and to rule out malignancy as a cause of her floaters. However, PPV excluded AMD progression as the cause of her vision declined, as she had only mild fovea-sparing atrophy. Vitreous biopsy excluded lymphoma. Improvement in post-operative visual acuity to 20/40 confirmed that PVD in asteroid hyalosis was the etiology of her symptoms, which were entirely ameliorated by vitrectomy.

DISCUSSION

First described by Irish ophthalmologist Alfred Hugh Benson in 1894 [1], asteroid hyalosis is a degenerative disorder of the vitreous with a prevalence estimated variably to be 1% [2], 1.2% [3], and 1.96% [4]. Clinically evident as yellow-white spherical particles suspended in the vitreous humor [5], asteroid bodies are idiopathic

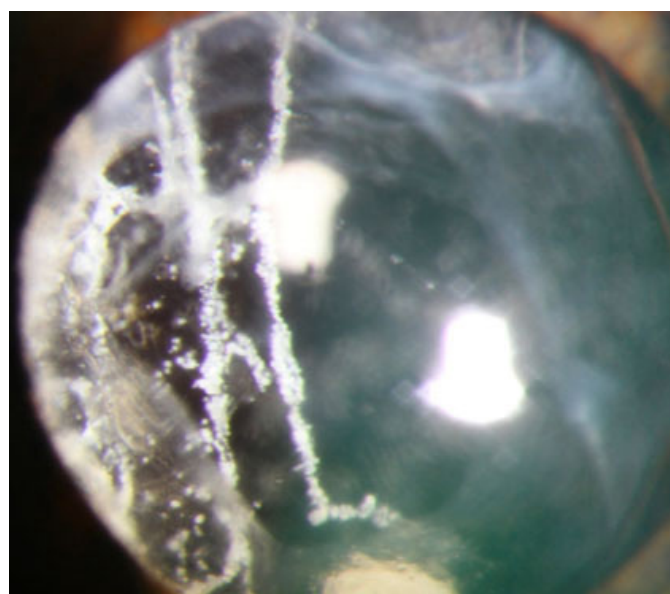


Figure 1: Slit lamp biomicroscopy of the left eye demonstrates strands of asteroid hyalosis in the anterior vitreous.

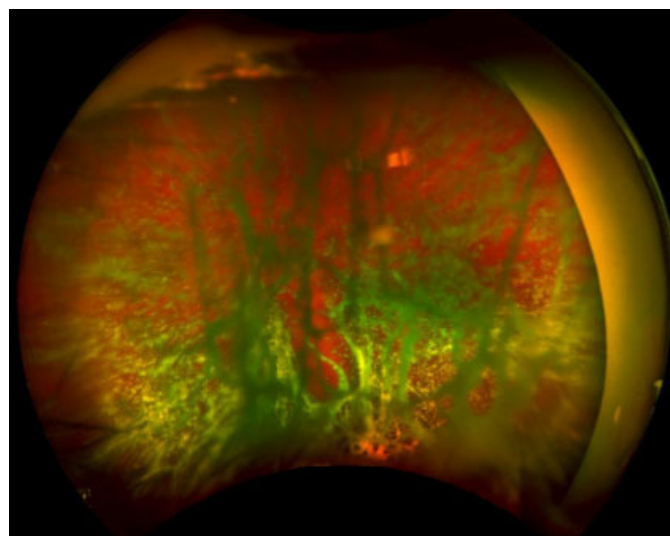


Figure 2: Widefield color fundus photography of the left eye reveals severe asteroid hyalosis obscuring the view to the posterior pole.

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calcium-lipid complexes that form in the collagen meshwork of the vitreous [6].

Although asteroid bodies often hamper an examiner's view of the fundus, they are typically visually insignificant

for patients, partly because they tend not to aggregate in the anterior vitreous [7]. Accordingly, vitrectomy in asteroid hyalosis has historically been uncommon unless pursued to better evaluate and manage other co-existing pathology obscured by asteroid bodies [6].

However, recently it has been described that PVD in asteroid hyalosis likely causes asteroid bodies to concentrate anteriorly obstructing the nodal point of the eye and leading to decreased vision and myodesopsias [7]. Posterior vitreous detachment in asteroid hyalosis is uncommon due to strong vitreoretinal adhesions [4, 5, 7–9], but when the posterior vitreous does separate, the resulting anterior shifting of asteroid bodies may cause vision degradation and floaters [7]. Vitrectomy in those cases has been shown to be curative [7].

CONCLUSION

This case further supports this feature of PVD in asteroid hyalosis, and encourages ophthalmologists to consider vitrectomy when the development of decreased vision and floaters coincides with acute detachment of the posterior vitreous in asteroid hyalosis.

Keywords: Asteroid hyalosis, Pars plana vitrectomy, Posterior vitreous detachment, Vitreoretinal interface

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Author Contributions

Tomas Andersen – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Charles G. Miller – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Benjamin J. Kim – Conception of the work, Design of the work, Acquisition of data, Analysis of data, Interpretation of data, Drafting the work, Revising the work critically for important intellectual content, Final approval of the version to be published, Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved

Guarantor of Submission

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Consent Statement

Consent was not obtained because the report does not contain personal information that could lead to patient identification.

Conflict of Interest

Authors declare no conflict of interest.

Data Availability

All relevant data are within the paper and its Supporting Information files.

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