Surgical management of a live intravitreal nematode

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A 35-year-old man of Bangladeshi origin presented with a six-week history of left eye pain, blurriness, photophobia and floaters. On examination, he was found to have a non-mobile nematode suspended within the vitreous humor of his left eye (Fig. 1). While parasitic infections are common in many developing countries, ocular involvement and in particular intravitreal involvement is rare. Previous reports have described using a 20-gauge flute needle to aspirate the nematode; introducing a 19-gauge cut down needle into the vitreous cavity and then raising the intraocular pressure to passively push the worm through the needle into a syringe; or leaving vitreous strands around the worm and grasping these vitreous strands to remove the worm. We describe a novel technique for the removal of an intravitreal nematode.

2. Case report

The nematode, as seen in this video, was removed via a 23-gauge pars plana vitrectomy with chandelier illumination (see Surgical Video, Supplemental Digital Content 1). The nematode was clearly identified in the vitreous cavity (Fig. 2). A limited core vitrectomy was performed to release the nematode from the surrounding vitreous strands. A bimanual approach allowed the nematode to be uncurled using intraocular forceps. A superotemporal conjunctival peritomy was performed to release the nematode from the surrounding vitreous and in particular intravitreal involvement is rare. Previous reports have described using a 20-gauge flute needle to aspirate the nematode, introducing a 19-gauge cut down needle into the vitreous cavity and then raising the intraocular pressure to passively push the worm through the needle into a syringe, or leaving vitreous strands around the worm and grasping these vitreous strands to remove the worm. We describe a novel technique for the removal of an intravitreal nematode.

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1. Introduction

A 35-year-old man of Bangladeshi origin presented with a six-week history of left eye pain, blurriness, photophobia and floaters. On examination, he was found to have a non-mobile nematode suspended within the vitreous humor of his left eye (Fig. 1). While parasitic infections are common in many developing countries, ocular involvement and in particular intravitreal involvement is rare. Previous reports have described using a 20-gauge flute needle to aspirate the nematode; introducing a 19-gauge cut down needle into the vitreous cavity and then raising the intraocular pressure to passively push the worm through the needle into a syringe; or leaving vitreous strands around the worm and grasping these vitreous strands to remove the worm. We describe a novel technique for the removal of an intravitreal nematode.

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Conclusions and Importance: The novel surgical technique described allows for aspiration of an intravitreal nematode in a controlled fashion. This technique can be used to manage this rare, but visually significant condition.

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Unfortunately, the microbiology department was unable to speciate the nematode. A thorough systemic evaluation by the infectious diseases department did not reveal any systemic involvement. As such, a systemic anti-helminthic agent was not initiated.

3. Discussion

There is limited literature on the management of an intravitreal nematode. Our technique builds upon earlier methods by using an angiocath needle connected to the viscous fluid extraction tubing of the Constellation to aspirate the worm in a gentle and more controlled fashion than would be possible with a syringe whose plunger was controlled by an assistant. The use of chandelier illumination allowed for bimanual surgery with the concurrent use of the angiocath needle and the cutter. The vitreous could then be easily removed using the cutter while the worm was protected inside the angiocath needle.

4. Conclusions

The novel surgical technique described allows for aspiration of an intravitreal nematode in a controlled fashion. This technique can be used to manage this rare, but visually significant condition.

Patient consent

The patient consented to publication of the case in writing.

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Authorship

All authors attest that they meet the current ICMJE criteria for Authorship.

Declaration of competing interest

None of the authors have any financial disclosures.

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