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Visual Case Discussion

Elderly man with painful vision loss

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A 65-year-old male presented to the emergency department complaining of eye pain, vision loss, and purulent drainage from the eye. Four days prior to presentation, the patient accidentally sprayed termite insecticide repellent into his eye. Ophthalmology examination revealed periorbital erythema and edema with protective ptosis, corneal clouding, and conjunctival injection (Fig. 1).

1. Diagnosis

1.1. Endophthalmitis with hypopyon

Endophthalmitis is a sight-threatening inflammatory disorder of the aqueous and vitreous cavities of the eye. The cause of endophthalmitis is classified as either exogenous or endogenous. Exogenous endophthalmitis occurs with direct inoculation of the eye, most commonly from intraocular surgery, corneal ulcers, or ocular trauma. Endogenous cases of endophthalmitis are linked to bacterial or fungal dissemination, and are common in patients with a history of intravenous drug use or immunosuppression. Patients may present with vision loss, eye pain, photophobia, corneal edema, or conjunctival injection. Hypopyon, the collection of inflammatory cells in the anterior chamber of the eye, is evident in up to 75% of cases.¹ Ophthalmologic ultrasound may demonstrate thickening of retina and choroid. Patients require emergent treatment and ophthalmology consult to avoid permanent vision loss or loss of the eye. Early medical treatment with intravitreal antibiotics, steroids, and intravenous antibiotics are paramount. Surgical intervention with vitrectomy may be necessary in select cases.^{2,3}



Fig. 1. Pronounced corneal edema and clouding with surrounding conjunctival erythema.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.visj.2019.100570](https://doi.org/10.1016/j.visj.2019.100570).

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Questions

1. What is the abnormality depicted in the above image?
 - a. Acute Angle-Closure Glaucoma
 - b. Anterior Uveitis
 - c. Globe Rupture
 - d. Hyphema
 - e. Endophthalmitis
2. What eye abnormality can occur in up to 75% of endophthalmitis cases?

- a. Hypopyon
- b. Retinal detachment
- c. Central Retinal Artery Occlusion
- d. Iritis
- e. Cavernous Sinus Thrombosis

Answers

1. Endophthalmitis. Explanation: Endophthalmitis is a sight-threatening inflammatory disorder of the aqueous and vitreous cavities of the eye. The cause of endophthalmitis is classified as either exogenous or endogenous. Exogenous endophthalmitis occurs with direct inoculation of the eye, most commonly from intraocular surgery, corneal ulcers, or ocular trauma. Endogenous cases of endophthalmitis are linked to bacterial or fungal dissemination and are common in patients with a history of intravenous drug use or immunosuppression. Patients may present with vision loss, eye pain, photophobia, corneal edema, or conjunctival injection.^{1,2}
2. Hypopyon. Explanation: Hypopyon, the collection of inflammatory cells in the anterior chamber of the eye, is evident in up to 75% of cases. Patients may also experience retinal hemorrhages or retinal vasculitis.¹