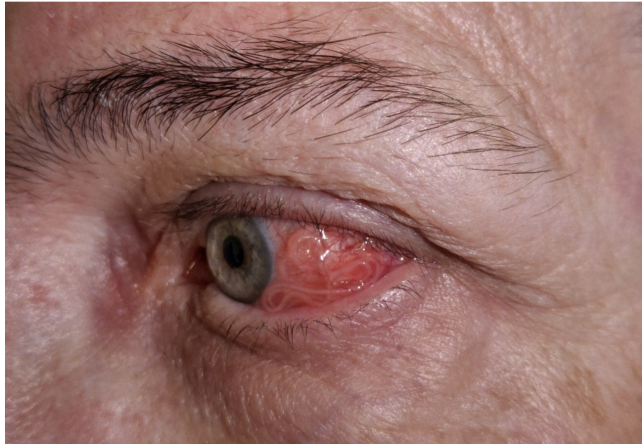


Doctor, something is stuck in my eye!

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A 62-year-old Italian woman presented to our emergency room with complaints of redness and a foreign body sensation in her left eye since the day before. Her vision was unaffected, and she felt well otherwise. She had no previous history of similar episodes, ocular trauma, or foreign body incidents, and there was no record of any systemic illnesses or recent travel. She lived with her pet dog. Laboratory tests, including C-reactive protein and eosinophil count, resulted all normal. On ocular examination, her visual acuity was 20/20 in both eyes. Diffuse conjunctival congestion was noted in the left eye and a large live nematode was visualized in the temporal part of the bulb under the conjunctiva (Video 1). The cornea anterior chamber and the fundus examination were unremarkable.

Question

What is the most likely diagnosis?

1. Nodular scleritis
2. Pseudodrusen
3. Dirofilariasis
4. Keratoconjunctivitis

Answer

The correct answer is dirofilariasis, a zoonotic infection caused by filarial worms of genus *Dirofilaria*. *Dirofilaria* is a parasite that affects both domestic and wild animals, and it can accidentally infect humans. Infections result from bites by mosquitoes of the Culicidae family, in which ingested microfilaria have matured into infectious larvae. The larvae can migrate within the tissues of the host for several weeks to months, and in some cases, even for years after the initial infection has occurred. The genus *Dirofilaria* includes two significant species: *D. immitis* and *D. repens*. *D. immitis* is a common cause of animal disease worldwide, particularly in the tropics and subtropics, and primarily leads to human pulmonary dirofilariasis with the formation of nodules in the pulmonary arteries. *D. repens* is endemic in European countries of the

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Key words: dirofilariasis; conjunctiva; filariasis; microfilariae; nematode; parasites; zoonosis.

Contributions: EP and AD collected details of the case and drafted the manuscript. AV critically revised the manuscript. All the authors read and approved the final version.

Conflicts of interest: EP is a member of the editorial board of Emergency Care Journal. The authors have no conflict of interest to declare.

Availability of data and materials: the datasets used during the current case report are available from the corresponding author on reasonable request.

Ethics approval and consent to participate: as this was a descriptive case report and data was collected without patient identifiers, ethics approval was not required under our hospital’s Institutional Review Board guidelines.

Informed consent: the patient provided consent for the access to medical records at the time of admission.

Received: 27 May 2025.

Accepted: 10 June 2025.

Early view: 22 July 2025.

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Emergency Care Journal 2025; 21:14036

doi:10.4081/ecj.2025.14036

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Mediterranean regions (Italy, southern France, Greece and Spain)¹⁻³ and primarily causes subcutaneous and ocular lesions in humans.⁴ In the last years, there has been an increase in cases of human dirofilariasis caused by *D. repens* in central and northern Europe.⁵⁻⁷ These trends may be attributed to several factors, including global climate change as well as the international movement of people, travel, and trade. The main primary hosts for *D. repens* are wild and domestic canids (as in our case), and cats.⁸ Most dirofilarial infections resolve with mild symptoms or remain unrecognized. Typically, these infections present as a single subcutaneous nodule in exposed sites. The nodules can contain a worm that may migrate through the tissue, causing local swellings, burning or itching. When possible, the nematode should be completely removed to confirm the diagnosis. In our case, unfortunately, the worm could

not be easily removed, and the patient was treated with topic antibiotics and steroids (levofloxacin 5 mg/mL plus dexamethasone 1 mg/mL, 4 drops daily for one week) with complete resolution of her symptoms. One week later, the conjunctiva had healed well, and no other abnormalities were noted in the eye.

Due to the increasing number of human dirofilariasis infections, emergency physicians should always consider dirofilariasis in the differential diagnosis of skin and eye diseases.

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Online supplementary materials

Video