

## Multiple live subconjunctival dipetalonema: Report of a case

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Parasitic infestations of the eye have been reported since centuries, affecting various parts of the eye. Some are subtle, coexisting with vision, while many others damage and destroy, in part or totally, the gift of sight. This report describes a patient with live subconjunctival dipetalonema infestation of the right eye, with 22 parasites removed live in one sitting from one eye.

**Key words:** Conjunctiva, dipetalonema, worm

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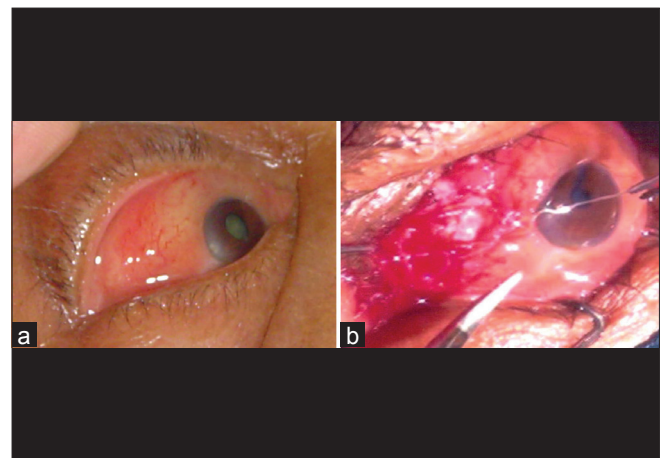
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Filariæ of animals, especially those of mammals, often infect humans and typically produce cryptic infections. These 'zoonotic' infections have been reported from virtually all parts of the world. Typically, these worms tend to occupy tissue sites similar to those occupied in the natural animal host, with the exception of the eyes. Dipetalonema have been previously removed from the anterior chamber, in the USA, by simultaneous irrigation and aspiration<sup>[1]</sup> and from the subconjunctival space in Australia by other authors.<sup>[2]</sup> A medline search revealed multiple hits of parasitic infestation involving the eye, where a solitary parasite was removed, but this seemed to be the only case report of Dipetalonema where numerous parasites were removed from the eye in one sitting. Hence, it is important to seek and explore the surrounding areas to find many smaller versions of the worm in addition to the solitary large one if they may be present.

## Case Report

A 74-year-old male resident, of Koothatukulam, in Ernakulam district (Kerala), presented to the Devamatha Hospital with a history of severe irritation in the right eye since a week. The irritation gradually increased over a few days to

intolerable levels, which eventually brought him to us. Clinical examination [Fig. 1] revealed localized conjunctival chemosis, erythema, pain, no discharge, a clear cornea, and an s-shaped swelling with minimal movement over the superior temporal conjunctiva. Otherwise, both eyes were clinically normal. There was no history of fever or other illness in the recent past. A complete blood count, fasting blood sugar, and SGPT were in the normal range with an ESR of 36 mm/hour. The patient was started empirically on tablet diethyl carbamazine 300 mg at night with an antihistamine tablet chlorpheniramine maleate 4 mg for 21 days, and tablet albendazole 400 mg immediately. In addition, topical gatifloxacin 0.3% four times daily, preoperatively, for asepsis and 1% prednisolone acetate QIH to minimize severe chemosis in response to the parasite were added. The conjunctiva over the swelling was carefully incised after topical anesthesia and the parasites were surgically removed and sent for identification. Twenty-two worms were removed intact, thread like and measuring from 2 cm to the longest being 7 cm in length. The specimen was examined by parasitologists at the Madras Veterinary College, Madras, and provisionally identified as the genus Dipetalonema, a filarial nematode transmitted by mosquitoes. The worm was identified as a sub-adult female Dipetalonema, based on the following features: nematode was with a filariform body [Fig. 2] and the



**Figure 1:** (a) Gross clinical picture of the affected eye (b) Surgical removal of the worm



**Figure 2:** Nematode with filariform body (100 × magnification)

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**Figure 3:** Laterally disposed processes in the trilobed tail (400 × magnification)

tip of the tail had three laterally disposed processes, creating an impression that it was trilobed [Fig. 3].

## Discussion

It is probable that almost any filaria parasitizing animals can, under proper circumstances, infect humans and undergo some degree of development.<sup>[3]</sup> Dipetalonema are filarial parasites of the lower animals like dogs, cats, and so on. Dipetalonema has an indirect life cycle with development of infective larvae that are carried by fleas (genus Ctenocephalides, Pulex), ticks (Rhipicephalus sanguineus), and lice (Linognathus). Dogs are infected when bitten by the fleas. The microfilarium circulates

in the blood as a first stage larva. Fleas, ticks or lice ingest a microfilaria when feeding on an infected dog. The microfilaria develops into an infective larva in seven to 14 days; the larval cycle lasts for 61 – 68 days.<sup>[2]</sup> When the flea again feeds on a dog the infective larva is injected into the skin. The larva develops to the adult stage in the connective tissue of the dog's skin. The female worm lays microfilariae, which find their way into the blood. Other less common sites of infestation include the body cavities and the kidneys.<sup>[4]</sup> In this patient, the subconjunctival s-shaped swelling measuring about two inches in length with suspected motility was removed confirming our doubt about the presence of a worm. As these parasites multiply by the thousands, it was worthwhile in this case to search for additional worms at the same site where one was found. Treatment of this infection includes ivermectin or diethyl carbamazine.

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