

Letters

OBSERVATION

Ocular Pentastomiasis in Human Hosts

Pentastomiasis is a rare zoonotic disease caused by the larval stages of pentastomid parasites.^{1,2} Most human infections occur in the tropics and subtropics. In Africa and Asia, the disease is often caused by *Armillifer* species, which have snakes as their final host, whereas *Linguatula* infections are cosmopolitan, with dogs as final hosts.^{1,2}

Humans are thought to become infected by eating or drinking food and water contaminated with pentastomid eggs or by close contact with parasitized snake hosts and accidental ingestion of their egg-contaminated secretions. Pentastomiasis, which often involves the viscera, is a highly underdiagnosed disease as the majority of infected humans remain asymptomatic. However, symptoms may develop when the larvae grow, migrate, perforate organs, or die, causing a strong immune reaction.¹

Ocular pentastomiasis is a rare but highly symptomatic form of the disease. Very few cases of eyelid, subconjunctival, and intraocular infections have been described.³

Report of a Case | We report a case of subconjunctival pentastomiasis that was observed during a humanitarian mission in Banskusu (Democratic Republic of Congo) in January 2021.

A 28-year-old woman presented with a subconjunctival mass in the inner canthus of the left eye that had been growing for 2 years (Figure 1). The patient did not have any other symptoms. She had no history of ocular trauma. She stated that she had never eaten or handled snakes; however, she was used to eating crocodile meat.

Physical examination revealed a subconjunctival foreign body, motile, but without spontaneous movement, in the inner canthus of the eye. The anterior chamber showed no signs of inflammation. The rest of the examination was unremarkable.

After a conjunctival incision, a 10-mm C-shaped larva, with several annulations, was extracted (Figure 2). The larva was shipped to the National Reference Center of Tropical Pathogens in Germany, where it underwent polymerase chain reaction (PCR) targeting the nuclear 18S rRNA gene of the pentastomid.³ After sequencing, the specimen was identified as *Armillifer grandis*.

Discussion | Ocular pentastomiasis is a rare infection and, to our knowledge, has never been described in ophthalmologic journals. However, ocular infections with *A grandis* have been reported in the Sankuru district (Democratic Republic of Congo).⁴ The treatment of choice is surgical extraction.³ As the dying larvae may release an antigen capable of inducing a strong immune response, the use of antiparasitic treatment does not seem to be a good treatment option. The prevention is mainly based on hygienic measures. Consumption of undercooked reptile meat should be avoided.³

Armillifer infections are usually found in people consuming snake meat or after ingestion of food or water contaminated with snake feces.⁵ Our patient reported never having had contact with snakes but regularly consumed the meat of small crocodiles. No case of *Armillifer* ocular infection has ever been reported in individuals who eat crocodile meat, but crocodiles can be infected by pentastomids.⁶ We therefore recognize the possibility that the infection occurred after the consumption of crocodile meat contaminated with pentastomid eggs. This meat could also have been contaminated via infected snake meat on a market stall.

Figure 1. Subconjunctival Annulated Mass



Photograph of the left eye showing a well-circumscribed, subconjunctival, white, and annulated C-shaped mass with mild local conjunctival inflammation.

Figure 2. Larva After Extraction



C-shaped larva, measuring 10 mm, with typical annulations (arrowhead) surrounded by its exuvia (transparent cuticle). The larva did not show any spontaneous movement after extraction. It was stocked in 70% ethanol solution and shipped to the National Reference Center of Tropical Pathogens in Germany for further analysis.

No serological test currently exists, and in most cases, the final diagnosis is still made on the basis of morphological criteria or histopathology.^{2,3,5} PCR tests targeting the parasite's 18S rRNA gene and mitochondrial cytochrome oxidase subunit genes are reliable diagnostic methods with restricted availability to high-resource laboratories, rendering these methods often difficult to access in rural endemic regions.⁴

Ocular pentastomiasis is a rare infection. Ophthalmologists should consider the diagnosis in patients coming from endemic countries. Our case suggests that crocodile meat could be a source of infection. Higher awareness for this rare but sometimes heavily symptomatic disease seems warranted.

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