

# Red Eye due to Leech in the Eye

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## Abstract

A 65-yr-old man referred for an ocular discomfort and red eye. The clinical diagnosis was leech in the left eye and its species confirmed as being *Limnatis nilotica*. Ocular leech infestation should be considered in patients with a history of swimming or washing their face in streams and lakes. Attention should also be given to ocular leech infestation in the differential diagnosis of ocular trauma with iris prolapse.

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**Keywords** • Red eye • leech • *Limnatis nilotica* • fresh water

## Introduction

Leeches (Hirudinea) are a class of segmented invertebrates, related to earthworm, inhabitant of aquatic (both freshwater and marine) to terrestrial environments.<sup>1</sup> But unlike other worms they have a sucker at each end—one small anterior for feeding, the other larger posterior one; for hanging on while they feed.<sup>2,3</sup> They are primarily freshwater annelids, but some live in the ocean and some in moist soil or vegetation.<sup>3</sup> Many leeches have a proboscis used for swallowing the prey or for sucking its fluids. Others have jaws for biting and by the help of an anticoagulant, hirudin, they keep the engorged blood from clotting.<sup>3,4</sup> Aquatic leeches, particularly *limnatis nilotica*, may enter the body in drinking water, and some may enter the excretory openings of those who bathe in infested waters.<sup>5</sup>

## Case report

A 65-yr-old man referred for an ocular discomfort in the left eye as well as red eye to the Ophthalmology Clinic of Vase'ee Hospital affiliated to Sabzevar University of Medical Sciences, Iran. Pen light examination revealed red eye and hemorrhage in the left eye and a large dark mass in the nasal canthus area. Differential diagnosis included normal visual acuity and intact cornea, but prolapsed uveal system, due to scleral rupture, and global perforation because of glaucoma.

Slit Lamp Examination revealed a dark and segmented live foreign body, a leech, attached to the nasal limbus of the left eye (Fig 1). The leech was gently removed by a forceps, after using 0.5% tetracain eye drop and its species identified as *Limnatis Nilotica*. The leech was extracted, and the patient began using 1% dexamethasone and chloramphenicol eye drops (three times a day) for reducing the inflammation, congestion, and prevention of conjunctivitis. Three days after extraction, except for a limited subconjunctival hemorrhage, the patient did not have any obvious signs and symptoms.

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Fig 1: Leech held by forceps during extraction.

### Discussion

In the 19th century the leech, especially *limnatis nilotica*, was indispensable and medically used for bloodletting, a practice that believed to be a cure for anything from headaches to gout. Leech was used in Europe in medieval times for certain illnesses because doctors believed that sucking out some of their patients' blood would help them to recover. It is surprisingly, as reported by Nichols and colleagues, to mention that modern medicine has stated using leeches to cure some illnesses too.<sup>2</sup> However, leech was the cause of red eye in our patient he had thought that showering in the morning was the cause of his ocular discomfort. After reviewing his history it was found that the cause of red eye was washing

his hands and face in aqueduct water 3-4 days before feeling discomfort in his left eye and he was cured after extraction of the leech. Since the species of the leech was *limnatis nilotica* it guided us to the conclusion that vasodilatation and hemorrhage should be the cause of red eye. In a similar report Alcelik and colleagues described manifestations of ocular leech infestation in a child.<sup>6</sup>

Therefore, due to the prevalence of *limnatis nilotica* in Iran, particularly in desert and mountainous regions, in cases of red eye or foreign body in the eye, ear or nose, the physician should consider the probability of leech infestation in patients with the history of swimming or washing their face in streams and lakes.

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