

Ocular leech infestation initially misdiagnosed as conjunctival pigmented nevus

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Dear sir,

I am Dr. Wen-Wei Li, from the Department of Ophthalmology, Zhejiang Provincial People's Hospital, Hangzhou, China. I write to present a case of ocular leech infestation initially misdiagnosed as conjunctival pigmented nevus.

Although human interaction with leeches is not uncommon in China, there is little documented literature on ocular injuries as a result of contact with a leech. Symptoms of the suffered eye usually include red eye, slight pain and occasional foreign body sensation. Due to similarities in the signs and symptoms with conjunctivitis with conjunctival nevus, the two conditions can easily be misdiagnosed by clinicians.

Here we report a case of ocular leech attachment initially being misdiagnosed and the method of removal.

A 32-year-old man visited our Department of ophthalmology, with complaints of red eye, slight pain and occasional foreign body sensation in his left eye during the past week. He had ever visited two local clinics where he was treated unsuccessfully. One doctor said it was conjunctivitis with conjunctival nevus and prescribed some antibiotic drops and corticosteroid ointments. In spite of the drugs given, the patient's condition didn't get improved in the next 24h. So he saw another doctor who subsequently referred him to our hospital after failing to judge the cause of his ocular inflammation. There was no history of trauma or

any other chronic eye disorders.

The patient exhibited visual acuity of 0.8 and IOP of 12mmHg in the left eye. Slit-lamp examination showed conjunctival congestion, and something brown with cambered shape was seen attached to the bulbar conjunctiva near the inner canthus. The rest parts of the eye were in normal state. Close and constant observation under high power slit-lamp showed it was intermittently stretching and shrinking (Figure 1). Touching it with cotton applicator revealed that it was a living worm sucking into the bulbar conjunctiva. The result of the right eye examination was unremarkable.

We asked him for a thorough history and wondered if there was any chance that he might contact with some worm or something like that. At first, he denied. But after careful recollection, he told us the following: About a week ago, he visited an old friend, who made a living by feeding and selling the leeches. He remembered that some water splashed into his left eye when visiting the breeding farm accompanied by his friend. Immediately towel was used to clean the water and after that no more attention was paid.

We tried to get it out with cotton swab and forceps, but failed because of its firm adhesion to the conjunctiva. Then three drops of 0.4% oxybuprocaine hydrochloride was instilled into the left eye and after a few minutes the worm became numb and curled up. With a non-toothed forceps, the worm was gently grasped and completely removed. Tiny bleeding and congestion were found around the bulbar conjunctiva beneath the worm. Then the eye was irrigated with saline.

The worm was observed under microscopy. Clearly we can see the outline and the suckers (Figure 2). Then it was sent to the parasite lab and finally identified to be a leech.

Topical antibiotic (chloramphenicol every 4h) and steroid (flouromethonol every 6h) were administered. Three days later, the patient came again without complaints. Slit-lamp examination showed regression of the subconjunctival hemorrhage and congestion.

Leeches belong to the phylum annelids and there are over 650 species worldwide, extending from the tropics to the arctic regions. Different types of leeches are grouped according to the different ways they feed. The most common one in our region is *hirudo nipponia*, as in this case. It has suckers armed with teeth with which they bite the host. The

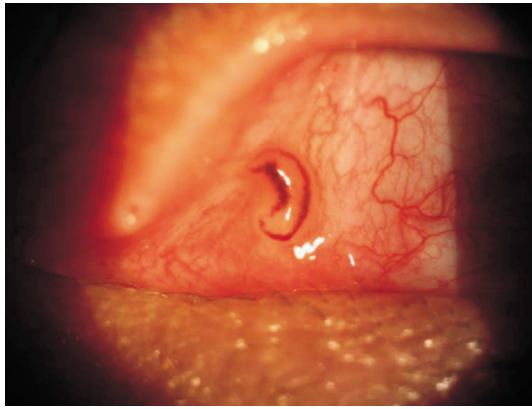


Figure 1 Slit –lamp examination showed conjunctival congestion. Something brown with cambered shape was seen attached to the bulbar conjunctiva near the inner canthus. At first glance, it bears a strong resemblance to the conjunctival nevi.



Figure 2 The worm was put on the medical gauze and checked under high power microscopy. The head sucker, midbody segments and tail sucker can be observed.

use of medicinal leeches has lasted for over 2500 years^[1,2]. They play a useful role in modern plastic surgery, transplant surgery, cardiovascular and cerebrovascular disease because of their superb decongestant properties.

There is only a little literature on ocular leech infestation and most of them are about adult leech^[3-8]. Alcelik *et al*^[3] reported a case of child suffering from ocular leech infestation after washing face with stream water; Lewis and Coombes^[4] presented a case of adult ocular leech infestation after a foreign body hit the eye while attaching a hammock to a tree in the Borneo jungle; Partyka and Fogg^[5] covered a 66-year-old woman who was diagnosed with leech infestation after some moist soil flicked into her left eye while gardening in her suburban backyard. And they concluded that ocular adult leech infestation should be

regarded as a differential diagnosis of ocular trauma with scleral perforation with prolapse of uveal tissue.

While in our case, the leech splashed into the eye by accident was a larva. It was most likely to be neglected or misdiagnosed without careful check because of its tiny size. Conjunctival nevi should be kept in mind as a differential diagnosis. And a thorough and constant ocular examination can exclude it.

The methods reported for removal include applications of eucalyptus oil, tropical strength insect repellent (50%-100% DEET), lemon juice, heat from cigarettes, flames from lighters, tiger balm, moist tobacco, or salt. There are potential risks by these methods especially applied in case like this because the worm is so small that it is likely to hurt the eye. Removal of the leech with forceps after instillation of local anesthetic is the safest method. It is very important to ensure that the leech's jaws do not detach from its body, otherwise it will be a source of infection.

Subconjunctival hemorrhage which is commonly observed after leech bites because of its production that prevents blood from clotting does not require special measures as it disappears with time. Usually antibiotic and low potent steroid are prescribed post-intervention. Most patients are reported to be symptom-free by the third day after extraction, as in our case.

To summarize, the treatment of ocular larva infestation requires: Firstly, inquiring the detailed history and suspicion of the disease; Secondly, examining the eye under the slit lamp thoroughly; Thirdly, removing the worm with fine forceps after topical anaesthesia; Finally, checking carefully to make sure that no part of the worm is left.

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