

Case Report

Otorrhagia bleeding due to leech bite

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Abstract

Leeches are blood-sucking hermaphroditic parasites that attach to vertebrate hosts, bite through the skin, and suck out blood. When leeches feed, they secrete an anticoagulant (hirudin), which helps them get a full meal of blood. This is the first report of leech removal from external auditory canal. Previous leech involvement cases were explained in nasopharynx, larynx, pharynx, eye, and gastrointestinal tract. Prominent sign of all cases was active bleeding from the leech attachment site; that stopped with leech removal. A 24-year-old man was presented to Al-Zahra hospital with left otorrhagia and otalgia from 2 days ago. After suction of ear a small soft foreign body was seen in the external ear near the tympanic membrane, then the ear filled with glycerine phenice, the patient explained decreased movement of foreign body. Four hours later the bloody discharge stopped and otalgia decreased. After suction of clots, a leech was extruded from external auditory canal by alligator. Leech infestation is a rare cause of otorrhagia and should be suspected in the endemic region in all of unusual bleeding; it can be diagnosed and treated by exact inspection and removal.

Key Words: Ear, external, leeches

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INTRODUCTION

Leeches belong to the *phylum Annelida* of the class Hirudinea. They are blood-sucking hermaphroditic parasites that attach to vertebrate hosts, bite through the skin, and suck out a blood. When leeches feed, they secrete an anticoagulant (hirudin), which helps them obtain a full meal of blood. Leeches have different shapes from elongated and cylindrical to broad or ovoid. Their color may be black, brightly colored, or mottled; they have muscular suckers at both their anterior and posterior ends. Their length varies from 5 mm to 45 cm.^[1]

Leeches such as the *Hirudo medicinalis* have been historically used in medicine to take blood from patients.

Due to the anticoagulant hirudin that leeches secrete, bites may bleed more than a normal wound after the leech removal. The effect of the anticoagulant will wear off several hours after the leech removal and the wound become cleaned.^[2]

Leeches are usually taken into the human body while bathing or drinking unfiltered water or while swimming in contaminated water. They localize on the mucosa of the oropharynx, nasopharynx, tonsils, esophagus, or nose so the patient can presented with hematemesis, hemoptysis, and epistaxis.^[3]

CASE REPORT

A 24-year-old man was presented to Al-Zahra hospital with left otorrhagia. He complained of bloody discharge from 2 days ago. He had no history of the head trauma

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or previous ear disease. He was employed in a tropical region, and had history of swimming in river and springlet in summers (last time 3 days before). Before admission, three times ear washing was done, but it had no benefit. Despite packing by antibiotic coated ribbon gauze, he had active bleeding from the left ear [Figure 1].

On examination, vital sign was normal. The ribbon gauze was removed and after suction of ear a small soft foreign body was seen in the external ear near the tympanic membrane, but immediately the lumen of the external ear was filled by blood, and removal of foreign body was impossible. As suspicious alive foreign body, ear was filled with Lidocaine 2% but it had no benefit and otorrhagia continued. The patient explained a motile foreign body in his ear. Then ear was filled by hypertonic saline (5%), but it had no benefit again.

After filling the ear with glycerine phenice, the patient explained decreased movement of foreign body. Four hours later the bloody discharge was stopped completely and otalgia decreased. After suction of clots, a leech was extruded from external auditory canal by alligator [Figure 2].

No other foreign body was seen. External auditory canal was traumatized. We followed the patient 3 days later; he had no otalgia or otorrhagia. Some clots were seen on his external ear and tympanic membrane.

DISCUSSION

This is the first report of leech removal from external auditory canal. Previous leech involvement cases were explained in nasopharynx,^[4] larynx,^[5] pharynx,^[6] eye,^[7] and gastrointestinal tract.^[3] Prominent sign of all cases

was active bleeding from the leech attachment site, that stopped with leech removal. Leech should remove completely to stop bleeding. Active hemorrhage limits field of vision, and make it difficult to remove the leech easily. It has been demonstrated that Lidocaine 4% make the leech immobile in eye and facilitate removal,^[8] but in our case active bleeding diluted Lidocaine and it had no effect.

Leeches on the surface of skin drop off after they have enough blood, but removal is facilitate by gentle traction or by application of alcohol, insect repellent, vinegar, salt, or a flame or heated instrument to the leech. Leeches attached to mucosal surfaces may detach on exposure to saline or could be removed by proper forceps.^[9] In this case, hypertonic saline did not remove leech attachment.

The patient referred to the emergency department with recent otorrhagia. Recent otorrhagia or otalgia with no history of ear disease may suspect a foreign body in the external ear. An alive foreign body (ants, scorches, worms, insects, so on) have lots of otic pain without any systemic symptoms.

Bleeding from the external ear might be due to traumatization of ear canal from previous effort of extruding the foreign body or from the site of leech attachment. Hirudin in leech saliva inhibits thrombin and factor IXa and hementerin, a plasminogen activator so bleeding can go on. The most common cause of otorrhagia is trauma but in the absence of traumatic injury, other diagnosis such as infections (bollous myrangitis, otitis media), and tumors should be considered. The sense of moving object in the ear can lead us to a live foreign body.

Leeches are divided in two types: leeches living on land or in water.^[10] We assume because some leeches



Figure 1: Active otorrhagia from the left ear



Figure 2: Dead leech after removal

live in wet and watery circumstances, they can be resist more in watery solutions, as in our case, so we can kill them by using an oil environment (like glycerine).

Leech infestation is a rare cause of otorrhagia and should be suspected in the endemic region in all of unusual bleeding; it can be diagnosed and treated by exact inspection and removal.

REFERENCES

1. Fooanant S, Puntasri W, Manorot M, Niwasabutra S. A leech in the nasal cavity: Case report. *Chiang Mai Med Bull* 2006;45:27-30.
2. Fooanant S, Puntasri W, Manorot M, Niwasabutra S. Available from: http://www.en.wikipedia.org/wiki/Hirudo_medicinalis [Last accessed on 2011 Nov 09].
3. Al B, Yenen ME, Aldemir M. Rectal bleeding due to leech bite: A case report. *Ulus Travma Acil Cerrahi Derg* 2011;17:83-6.
4. Ugur KS, Gunduz M. Leech in the Nasopharynx: An Uncommon Cause of Epistaxis. *Otolaryngol Head Neck Surg* 2011;145:176-7.
5. Tufek A, Karaman H, Yıldırım ZB, Celik F, Tokgöz O, Akdemir MS, *et al.* Unexpected foreign bodies in larynx: two cases report. *Paediatr Anaesth* 2011;21:467-8.
6. Çoban S, Tatal E, Alpay D, Köklü S. An unexpected cause of severe anemia in an adult patient: A pharyngeal leech (with video). *Gastrointest Endosc* 2011;73:360-1.
7. Tenkir A, Tibebe T. Leech on the eye in a child. *Ethiop Med J* 2010;48:177-80.
8. Dey R, Dey S. Ocular leech infestation. *Arch Iran Med* 2010;13:440-2.
9. Maguire J, Splielman A, Braunwald E, Faci A, Kasper D, Jameson L, Harrison S. Ectoparasite. In: *Principles of internal medicine*. Vol. 4, 15th ed. New York: McGraw Hill; 2005. p. 2624.
10. Guerrant RL, Walker DH, Weller PF. *Essentials of tropical infectious diseases*. Philadelphia: Churchill Livingstone; 2001. p. 607-8.

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