

Case report

A LEECH IN THE NASAL CAVITY: CASE REPORT

Supranee Fooanant, M.D.,¹ Worapan Puntasri, M.D.,¹
Maleeya Manorot, M.D.,² Shamaporn Niwasabutra, B.Sc.³

¹Department of Otolaryngology, ²Department of Pharmacology, Faculty of Medicine, ³Department of Biology, Faculty of Science, Chiang Mai University

Abstract An 11-year-old boy from Chiang Mai province presented with congestion in the left nasal cavity and occasional epistaxis. He had gone swimming in a pond three days before. On endoscopic examination, a leech was found in the nasal cavity. It was removed with alligator forceps, using a local anesthetic. The leech was phylum Annelida, class Hirudinea, order Rhynchobdellida. Leeches must be considered as a cause of nasal obstruction and occasional epistaxis in children, who should be endoscoped. An infestation of leeches should be considered for patients presenting with epistaxis and a history of recent immersion in fresh water lakes or streams in tropical regions. **Chiang Mai Med Bull 2006; 45(1):27-30.**

Keywords: Leech, nasal cavity

Leeches belong to the phylum Annelida of the class Hirudinea.⁽¹⁻³⁾ They are blood-sucking hermaphroditic parasites that attach themselves to vertebrate hosts, bite through the skin, and suck out a quantity of blood. When leeches feed, they secrete an anticoagulant (hirudin), which helps them obtain a full meal of blood.⁽¹⁻²⁾ Leeches vary in shape from elongated and cylindrical to broad or ovoid. They may be black, brightly colored, or mottled; they have muscular suckers at both their anterior and posterior ends.⁽³⁾ Their length varies from 5 mm to 45 cm.⁽¹⁻²⁾ Many different types of leeches occur worldwide. Those that attack

man may be divided into two classes: land leeches and aquatic leeches.^(1,4) Land or terrestrial leeches commonly live in tropical rain forests, where they may be found on stones, shrubs, and leaves.^(3,4) Aquatic leeches have a worldwide distribution; they live exclusively in fresh water, infesting people in muddy-bottomed rivers or ponds.^(1,4) When leeches attach themselves to the external surface of a host, it is called external hirudiniasis, and the leech is called an external leech. Some leeches attach themselves to an internal surface of a host when the host drinks contaminated water, and they infest the upper digestive or

respiratory tract. This is called internal hiru-diniasis, and the leech is called an internal leech. The internal leech, *Limnatis nilotica*, is found in western Asia; it attaches itself to the mucous membranes of the pharynx, nasal cavity, nasopharynx, and esophagus. Patients infested with *L. nilotica* often present with epistaxis, hemoptysis, or hematemesis.⁽⁴⁾

We report a case in which the patient complained of nasal congestion and occasional epistaxis caused by a nasal cavity leech, which was removed by forceps, using 10% xylocaine nasal spray.

Case report

An 11-year-old boy came to the Ear, Nose, and Throat Outpatient Department at Maharaj Nakorn Chiang Mai Hospital after complaining for three days of left nasal obstruction and occasional epistaxis. He had been swimming in a pond three days before. On physical examination a black object was seen in the left nasal cavity. After the patient was given a local anesthetic, the object was removed using alligator forceps and a rigid endoscope. It was

a black leech, 3 mm in diameter and 3.5 cm long (Fig. 1). There was minimal bleeding of the left middle turbinate. After removal of the leech, the bleeding stopped immediately and the patient felt comfortable. Microscopic examination of the leech revealed that the jaw was missing. The leech was identified as belonging to the phylum Annelida, class Hirudinea, order Rhynchobdellida.

Discussion

This pathological condition is extremely rare in urban areas, but endemic in rural regions of Thailand; and it may have serious, even lethal complications. Land leeches have powerful jaws that can penetrate the skin in order to attach themselves anywhere on the external surface of the body. They are in contrast to aquatic leeches, which have weak jaws and require soft tissue, such as the mucous membrane of the upper aerodigestive tract, to feed on.⁽⁵⁾

Aquatic leeches are rare foreign bodies in the upper respiratory tract.⁽⁵⁾ The presence of a leech in the nasal cavity has been reported



Figure 1. Photograph of leech (phylum Annelida, class Hirudinea, order Rhynchobdellida.) removed from nasal cavity (Smallest gradations are millimeters.)

in a limited number of articles. When a leech is present in the nasal cavity or nasopharynx, patients present with epistaxis, nasal obstruction, and/or the sensation of a foreign body moving around in the nose.⁽⁶⁾ Bleeding persists because there are anticoagulants in the saliva of the leech such as hirudin, which inhibits thrombin and factor IXa, and hementerin, a plasminogen activator.⁽⁷⁾ If a foreign body in the nasal cavity is a leech, it presents an emergency that requires immediate attention, because after leeches attach themselves to a mucous membrane, they ingest blood, which weighs on average 8.9 times their weight.⁽⁸⁾ They may cause severe anemia, which may require a blood transfusion.⁽⁵⁾

The possibility of leech endoparasitism should not be overlooked in patients, especially children, presenting with epistaxis and a history of recent immersion in freshwater lakes or streams in areas where aquatic leeches are commonly found. Diagnosis is easy when a leech is in the nasal cavity. However, when it is lodged in the nasopharynx, examination of the patient under general anesthesia may be required, especially in small children.⁽⁴⁾ When an 11-year-old boy presented with congestion in the left nasal cavity and occasional epistaxis, the most probable diagnosis was juvenile nasopharyngeal angiofibroma.⁽⁴⁾ Leech infestation should be suspected in children when they have nasal obstruction and occasional epistaxis.

Techniques for the removal of nasal leeches vary from using forceps for immediate extraction to the use of various substances to tranquilize the leech or relieve pain as the parasite is being removed.⁽⁴⁾ Removal of leeches from the larynx can be performed by direct laryngoscope, with the patient under general or topical/local anesthesia. If a leech is in the nares

or upper pharynx, it can be detached by applying 30% cocaine, 1:10,000 adrenalin, or dimethyl phtalate to it. Another method is irrigation with strong saline, vinegar, turpentine, or alcohol. It is difficult to grasp a leech with forceps because it has a soft and slippery skin, which ruptures easily.⁽⁹⁾ Firm traction should not be used when pulling a leech off because parts of its mouth may remain behind, leading to continuation of bleeding and secondary infection.⁽¹⁰⁾ In this case, we use alligator forceps, which are more appropriate for removing a leech in the nasal cavity.

The well-known medicinal leech, *Hirudo medicinalis*, was often used therapeutically in the eighteenth century to bleed patients.⁽¹⁾ They have recently been used to treat a wide range of conditions, including periorbital haematomas,⁽¹¹⁾ severe macroglossia,⁽¹²⁾ and purpura fulminants.⁽¹³⁾

In conclusion, nasal leeches should be included in the differential diagnosis of patients with nasal congestion and epistaxis, especially patients with a history of immersion in muddy-bottomed rivers or ponds. Leeches can be paralyzed with cocaine and then extracted immediately. As an alternative to cocaine, topical anesthetics such as lidocaine are effective for paralyzing leeches, as in this case. Cases such as this should be considered as emergencies, and all measures should be taken to avoid epistaxis and severe anemia.

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ปลิงในช่องจมูก

สุปราณี พูอนันต์, พ.บ.,¹ วรพันธุ์ พันธศรี, พ.บ.,¹ มาลียา มโนรณ, พ.บ.,²
ฉมาภรณ์ นิวาตะบุตร, วท.บ.³

¹ภาควิชาโสต ศอ นาสิกวิทยา, ²ภาควิชาเภสัชวิทยา คณะแพทยศาสตร์,
³ภาควิชาชีววิทยา คณะวิทยาศาสตร์ มหาวิทยาลัยเชียงใหม่

บทคัดย่อ เด็กชายอายุ 11 ปี อาศัยอยู่ในจังหวัดเชียงใหม่ มีอาการคัดจมูกด้านซ้ายและมีเลือดกำเดาไหลเป็นครั้งคราว สามวันก่อนผู้ป่วยไปเล่นน้ำในลำห้วยจากการตรวจด้วยกล้องเอนโดสโคปพบปลิงในช่องจมูกซ้ายบริเวณ middle meatus ได้ให้ยาชาเฉพาะที่และคีบปลิงออกด้วยอัลติเตอร์ฟอเซป จากการตรวจพบว่าปลิงอยู่ใน phylum Annelida, class Hirudinea, order Rhynchobdellida เด็กที่มีอาการคัดจมูกและมีเลือดกำเดาไหลเป็นครั้งคราวควรนึกถึงปลิงและควรตรวจด้วยกล้องเอนโดสโคป ผู้ป่วยในประเทศเขตร้อนที่มีประวัติเล่นน้ำในคลองและมีเลือดกำเดาไหลควรนึกถึงสาเหตุจากปลิงด้วย
เชียงใหม่เวชสาร 2549;45(1):27-30.

คำสำคัญ: ปลิง ช่องจมูก