

Leech as an Unusual Foreign Body in the Subglottis: A Case Report

Srijana Adhikari,¹ Shyam Thapa Chhetri,¹ Sudeep Mishra¹

¹ Department of Otorhinolaryngology, BPKIHS, Dharan, Nepal.



Abstract

Background

Leeches, hemophagic parasites with distinctive striped bodies, infest hosts by attaching to fish, amphibians, or mammals. Human infestation can occur through water exposure, potentially leading to severe respiratory complications.

Case Presentation

We present a case of a 67-year-old man who presented with a persistent nonproductive cough, voice fatigue, and crawling sensation after drinking water from an open channel bamboo system in a hilly area.

Conclusions

Rare airway infestations, like leeches, demand prompt diagnosis and intervention. Endoscopic methods, particularly nasofibroscope and rigid bronchoscopy, prove crucial. Preventive hygiene measures, including avoiding untreated water, remain essential.

Keywords: *Airway Foreign Body, Bronchoscopy, Case Report, Leech.*

Introduction

The leech is a hemophagic parasite, living on occasional meals of blood obtained by attaching to fish, amphibians, and mammals. Infestation occurs by drinking water from quiet streams, pools, and springs. They attach to their hosts and remain there. Leeches possess 34 body segments, featuring a distinctive brown and red striped pattern on an olive background. They have two suckers—posterior for leverage and anterior, housing the jaw and teeth, for feeding.¹ They can enter the human body when people swim in contaminated streams or drink infested water. Leech infestation may cause serious complications like lethal dyspnoea, hemoptysis, or haematemesis. A

leech has been found in the nose, post-nasal space, and oropharynx, but rarely in the hypopharynx or larynx. A few cases of leeches in the hypopharynx or larynx have been reported in the literature during the past years.² This case report is intended to give clues for considering leeches as a cause of unexplained upper airway obstruction.

Case Report

A 67-year-old man resident of a hilly area came to OPD of our Institution with complaints of persistent nonproductive cough, voice fatigue, and persistent crawling sensation 2 months after he had quenched

his thirst from an open channel bamboo system for drinking water. On the same day, one of the leeches was coughed out immediately after drinking water. However, his symptoms were persistent in the subsequent days.

Because of persistent symptoms, he visited our center. He was a well-nourished man with normal vital parameters and saturation was 96% at room air. Chest radiograph (CXR) was unremarkable. On doing a nasopharyngolaryngoscopy, a black, mobile, live leech, just below the glottis was visualized.

We planned to remove the leech with a rigid bronchoscope. After obtaining full informed consent and after appropriate 'nil-oral' hours, he was sedated with general anesthesia. An adult rigid bronchoscope was inserted orally to visualize and negotiate the glottis. The 'foreign body' was confirmed to be a leech indeed.

With the tip of the scope at the level of the glottis, a forceps was inserted via bronchoscope and the wiggly leech was grasped successfully. The leech was 6 cm in length. His airways were reevaluated to rule out the distal residence of other leeches. Both of his bronchial trees were normal up to the subsegmental level.

The procedure was uneventful and he noted a marked relief in symptoms and was discharged a day later.

Discussion

Leech is a common name for over 650 species of carnivorous, blood-sucking annelid worms that make up the class Hirudinea of Phylum Annelida. They are equipped with a large and small sucker. The mouth is located on the small sucker and has three jaws with sharp teeth that make a Y-shaped incision in the flesh.

The leech can ingest an amount of blood approaching 10 times its own weight and may not require feeding for up to one year after its last meal. This occurs after biting the host; a process that is pain-free due to a local anesthetic in the leech saliva.¹ Leeches saliva contains an anticoagulant enzyme named hirudin and a histamine-like vasodilator that both promote bleeding which manifests clinically as epistaxis, hemoptysis, or hematemesis.³ Leeches are segmented worms that are generally found in streams, pools, and springs.

Exposure leading to their attachment to one or the other parts of the human body (also called hirudiniasis) is a common occurrence in the wilderness.⁴ The diagnosis is made sooner if the history includes drinking from infested waters, as in our case he reported to us that he drank water from a bamboo channel system and also gave a history that one of the leeches was coughed out immediately after drinking water.

A foreign body in the respiratory tract should be considered an emergency condition that requires immediate measures against the possibility of hypoxia and even death. Internal attachment of leeches in different areas of the human body such as the pharynx, larynx, bronchi, nose, and rectum have been reported in the literature. Agin et al. reported nasopharyngeal leech infestation with epistaxis and hematemesis.⁵

The treatment of choice for laryngeal leeches is removal under general anesthesia with sevoflurane for induction. It is crucial to remove the parasite in a single piece. If the head of the leech remains in the mucosa, the hirudin enzyme may still be active leading to blood loss and subsequent anemia.

To that end, the leech is first anesthetized with sevoflurane and then removed gently from a hypopharyngeal or laryngeal location avoiding trauma or mucosal edema. Lidocaine can also be used to relax the head suckers and substantially facilitates removal.⁶⁻⁸

The last maneuver of the procedure should be a meticulous inspection of the entire laryngeal region

Conclusion

Alive creatures in the airway are infrequent occurrences. Presentation can be delayed. Endoscopic measures are useful in diagnosis and treatment. Leeches should be suspected as an airway foreign body in patients with a recent history of drinking river or stream water, it should be diagnosed and treated promptly to avoid disastrous outcomes. Nasofibroscope makes a definite diagnosis to detect a leech in the larynx. Rigid bronchoscopy is the procedure of choice to extract it. Prevention remains the best treatment for such cases based simply on hygiene measures like not drinking river water directly and drinking only filtered water.

References

- 1 Adam R, Zakrzewski P. Therapeutic use of leeches. *University of Toronto Medical Journal*. 2001;79(1):65–67.
- 2 Labadi MH, Jamal MN. Leeches in the larynx. *J Laryngol Otol*. 1997;111:980–981.
- 3 Bilgen C, Karci B, Uluöz U. A nasopharyngeal mass: leech in the nasopharynx. *Int J Pediatr Otorhinolaryngol*. 2002;64(1):73–76
- 4 Joslin J, Biondich A, Walker K, Zangi N. A comprehensive review of Hirudiniasis: from historic use of leeches to modern treatment of their bites. *Wilderness Environ Med*. 2017;28(4):55-61
- 5 Agin H, Ayhan FY, Gulfidan G, Cevik D, Derebasi H. Severe anemia due to the pharyngeal leech *Lim-natis nilotica* in a child. *Turkiye parazitolo derg* 2008;32:247–8
- 6 Shitaye N, Shibabaw S. Severe anemia due to pharyngeal leech infestation; a case report from Ethiopia. *BMC Surg*. 2017;17(1):102
- 7 Rajati M, Irani S, Khadivi E, Bakhshae M. An unusual cause of dysphonia with hemoptysis: a laryngeal live leech. *Iran J Otorhinolaryngol*. 2014;26(76):181–183.
- 8 Kuehnemund M, Bootz F. Rare living hypopharyngeal foreign body. *Head Neck*. 2006;28(11):1046–1048.