

Multiple Leeches in the Nasal Cavity: A Rare Case Report

Pradeep Rajbhandari¹, Bikash Lal Shrestha²

¹Final year resident, ²Associate Professor & HOD, Department of ENT-HNS, Dhulikhel Hospital, Kathmandu University Hospital, Kavre, Nepal

Corresponding author: Pradeep Rajbhandari

ABSTRACT

A 4 year old boy from remote district of eastern Nepal was presented to ENT OPD of Dhulikhel Hospital with complain of bleeding from right nostril for 1 week. He had history of drinking water from natural spring one week back. On anterior rhinoscopy, a pair of leech was seen in right nasal cavity. It was removed with alligator forceps, using a local anesthetic. The leech belongs to phylum Annelida, class Hirudinea, order Rhynchobdellida. Leech infestation should be considered as a cause of epistaxis in patients with history of recent immersion in fresh water lakes or drinking water from streams in leech-endemic areas. More than one leech in single nasal cavity is rarely seen.

Key words: Epistaxis, Leech, Nasal Cavity.

INTRODUCTION

Leeches are blood-sucking hermaphroditic parasites belonging to the phylum Annelida of the class Hirudinea. Leech infestations occur more commonly in tropical regions like Asia, Mediterranean countries and Africa. [1] 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. [2] Their length varies from 5 mm to 45 cm. [3,4] Land or terrestrial leeches commonly live in tropical rain forests, where they may be found on stones, shrubs, and leaves. [5,6] Aquatic leeches have a worldwide distribution; they live exclusively in fresh water, infesting people in muddy-bottomed rivers or ponds. [2] Leeches enter through the nose and attach themselves on the upper respiratory system or digestive system mucosa. They feed on

blood of host by sucking blood from the surface of attachment. These locations are mostly the nose, nasopharynx, oropharynx, tonsils, esophagus, lower genitourinary tract (urethra and vagina), rarely in larynx and even eyes. [7-9]

This is a case of 4 year old male presented with epistaxis caused by pair of leech in right nasal cavity.

CASE REPORT

A 4 year old male from eastern hilly region of Nepal presented to Otorhinolaryngology out Patient Department of Dhulikhel Hospital complain of bleeding from right nostril for one week. There was history of drinking water from natural spring one week back. On anterior rhinoscopy there was a leech attached to the lateral wall of right nasal cavity and it was removed immediately with the help of alligator forceps. On re-examining nasal cavity after removal of leech surprisingly there was another leech attached to the posterior end of lateral wall, which was also removed using alligator forceps. There was minimal bleeding from right nasal cavity for few minutes which stopped after application of nasal decongestant and pinching. Both leeches were around 5 cm in length (Figure 1).

DISCUSSION

Leeches are blood-sucking hermaphroditic parasites belonging to annelida species of helminths. Common species infesting humans are *Dinobdella ferox*, *Hirudinea granulosa* and *Hirundinea viridis*. Both aquatic and land leeches attack humans. Land leeches have powerful jaws

that can penetrate the skin in order to attach themselves anywhere on the external surface of the body. In contrast, aquatic leeches have weak jaws and require soft tissue, such as the mucous membrane of the upper aerodigestive tract, to feed on. [10] Infestation into the body occurs by drinking infected water from, or taking bath in, stagnant streams, pools and springs. Leeches attach to the mucosal surfaces by two muscular suckers, having three teeth inside their anterior sucker for biting and blood is sucked into stomach by peristalsis. [2]

Leeches can ingest blood up to 8 to 9 times of their body weight, and may cause severe anemia in the host. [11] Because of anesthetic property of saliva, bites from leeches are painless. So it may remain asymptomatic and unnoticed for long period of time. [12] 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. [13] Persistent bleeding is due to presence of anticoagulants in the saliva of the leech called hirudin, which inhibits thrombin and factor IXa, and hementerin, a plasminogen activator. [14] Leech infestation may cause severe anemia, which may even require blood transfusion. [7,8]

Multiple leeches in single nasal cavity are very rare even in the endemic regions. This is our first encounter of multiple leeches in single nasal cavity at our hospital till date. Satyawati et al [15] reported a case of multiple leeches in nasal cavity.

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 and drinking water from springs. Leech infestation should be considered as a cause of unexplained hemoptysis, epistaxis or anemia in leech- endemic areas. Endoscopic evaluation of nasal cavity should be done for the definitive diagnosis. Due to contamination risks, people living in endemic areas should be educated to avoid

drinking water directly from natural spring and encouraged to use boiled and filtered water. In most of the cases leech can be removed manually using forceps after local anaesthetic spray. Moreover, even after successful removal of leech from nasal cavity, careful re-examination should be done to rule out multiple leech infestations.

Conflicts of Interest: The authors declare that there are no conflicts of interest regarding the publication of this article.



Figure 1. Two leeches removed from right nasal cavity of 4 year old boy

REFERENCES

1. Guerrant RL, Walker DH, Weller PF. Essentials of tropical infectious diseases. Philadelphia: Churchill Livingstone; 2001. p. 607–8.
2. Stickland G. Hunter's tropical medicine and emerging infectious disease. 8th ed. Philadelphia: W.B. Saunders company; 2000. p. 895.
3. Guerrant RL, Walker DH, Weller PF. Tropical infectious diseases, Principles, pathogens, & practice. Philadelphia: Churchill Livingstone; 1999. p. 1341.
4. White GB. Leeches and leech infestation, in Cook GC, Manson's Tropical Diseases, 20th ed. London: Saunders; 1998. p. 1523-5.
5. Adhikari P. Nasal leech infestation in children: comparison of two different innovative techniques. Int J Pediatr Otorhinolaryngol 2009;73(6):853-5.
6. Bilgen C, Karci B, Uluoz U. A nasopharyngeal mass: leech in the nasopharynx. Int J Pediatr Otorhinolaryngol 2002;64(1):73-6.

7. Butt T, Saeed F, Chohan MA. Leech infestation in oropharynx. *Pak J Pathol* 2006; 17: 42-4.
8. Fooanant S, Puntasri W, Manorot M, Niwasabuttra S. A leech in the nasal cavity. *Chiang Mai Med Bull* 2006; 45: 27-30.
9. Ahmad R, Baharuddin KA, Zaidin H, Mohidin MA, Kheng CP, Sidek N. An unusual case of urethral hiriduniasis. *Southeast Asian J Trop Med Public Health* 2008; 39(2): 319-323.
10. Pandey CK, Sharma R, Baronia A, Agarwal A, Singh N. An unusual cause of respiratory distress: live leech in the larynx. *Anesth Analg* 2000; 90: 1227- 8.
11. Uygur K, Yasan H, Yavuz L, et al. Removal of a laryngeal leech: a safe and effective method. *Am J Otolaryngol* 2003; 24:338-40.
12. Labadi MH, Jamal MN. Leeches in the larynx. *J Laryngol Otol* 1997;111:980-1
13. Chow CK, Ho ACW. Unilateral epistaxis after swimming in a stream. *Hong Kong Med J* 2005; 11 No 2. 55-7.
14. Menage MJ, Wright G. Use of leeches in a case of severe periorbital haematoma, *Br J Ophthalmol* 1991; 75:755-6.
15. Satyawati, Singhal SK, Dass A. *Indian J Otolaryngol Head Neck Surg* 2002; 54:154-5.

How to cite this article: Rajbhandari P, Shrestha BL. Multiple leeches in the nasal cavity: a rare case report. *Galore International Journal of Health Sciences & Research*. 2018; 3(2): 1-3.
