

## “Doctor, My Nose is Bleeding with Leech Crawling Out!” Nasal Hirudiniasis: A Rare Cause of Unilateral Epistaxis

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### Abstract

**Introduction:** Nasal hirudiniasis is rare and usually manifest as unilateral epistaxis, nasal blockage or foreign body sensation. Leech infestation predominantly occurred in children and elderly who lives in tropical areas, who adopted the habit of drinking polluted water from or swim in the streams or stagnant ponds. Diagnosis can be ascertained with endoscope. Treatment is to remove by forceps or negative suction.

**Report:** Hereby, we report a healthy teenager Burmese gentleman who gave a history of drinking drain water two weeks ago with complaint of left nostril recurrent epistaxis and foreign body sensation. Further history, the leech crawling out from patient's left nostril on and off when he slept and witnessed by his roommate. On physical examination misting over left nostril was nil, anterior rhinoscopy findings noted left inferior turbinate is severe hypertrophy and pale with pooling of clear nasal discharge. Rigid nasoendoscopy identified the leech was reside in the middle meatus, surrounding mucosa was pale and hypertrophied. Leech was successful removed as a whole with negative suction and Tilley's forceps. Post procedure patient was well and discharged with tab augmentin and alkaline nasal douching for 1 week. No residual symptoms in the follow up.

**Conclusions:** In conclusion, medical practitioner should suspect nasal hirudiniasis in patients present with unilateral foreign body sensation, epistaxis or nasal block who gives history of unsafe water drinking habit or bath in infested water. Education to the population to prevent recurrence is important.

**Keywords:** Nasal Hirudiniasis; Children; Nose; Bleeding

### Introduction

Orifice hirudiniasis is defined as accidental introduction of leech through host natural orifices and infestation on the mucous membranes such as upper airway, alimentary tract, urethra, vagina, rectum or even bladder.

Nasal hirudiniasis is rare and usually manifest as unilateral epistaxis, nasal blockage or foreign body sensation. Leech infestation predominantly occurred in children and elderly who

lives in tropical areas, lower socioeconomic status or in those living in rural area, who adopted the habit of drinking polluted water from or swim in the streams or stagnant ponds. Diagnosis can be ascertained with endoscope. Treatment of nasal hirudiniasis is to remove it by forceps or negative suction.

### Report

Hereby, we report a healthy teenager Burmese gentleman who experienced recurrent epistaxis of the left nostril with foreign body

sensation given with a history of drinking drain water by cupping of his palm two weeks ago. He complaint of profound epistaxis but may stopped intermittently, with unilateral nose blocked. His housemate witnessed there’s black leech on and off came out from patient’s left nostril and return back while patient was sleeping. Otherwise, patient denied inserted any foreign body into the nose or any daily nasal symptoms prior to this incident.

Upon physical examination, patient’s nasal misting was absence over left nostril, while anterior rhinoscopy findings noted there’s pooling of clear mucoid discharge over left nasal cavity with moderate inferior turbinate hypertrophied, right nasal cavity findings was unremarkable.

Endoscopically further revealed a pale and hypertrophied left inferior turbinate with a live dark coloured leech wriggled and reside within the middle meatus (Diagram A). The leech was successfully removed as whole with negative suction (Fugeson) assisted with Tilley’s forceps, approximately 8cm in length. No leech fragment was left (Diagram B). Post procedure patient was well and discharged with antihistamine. During the subsequent follow up, patient was well and deny any epistaxis, nose block or foreign body sensation, he was discharged from our clinic.

**Diagram A:** Shown left nasal cavity with endoscope (rotated): NS-nasal septum; MT- middle turbinate; orange arrow -leech; red arrow-suction tip.

**Diagram B:** Shown the leech post removal: orange arrow-leech.

### Discussion

Leeches are belongs to the species of segmented parasitic (phylum Annelida) and comprise the subclass Hirudinea, thus leech infestation are commonly known as hirudiniasis, it’s one of the uncommon example of animate foreign body [1,2].Leech usually lives in stagnant streams, rice fields, pools and springs, infestation occurs by poor and unhygienic drinking habit or taking bath in the infested water [1-4]. It is endemic in tropical climate zone for example in Mediterranean countries, Africa and Asia.

Leeches have a sucker located at each end of the body, the anterior sucker is smaller, comprised of 3 semicircular jaws and used to slice through the host’s skin and mucous membranes for blood suction and left a characteristic “Y-shape” incision. Posterior sucker is bigger with disc-shape and mainly for locomotion function [3,6]. Ideally, leeches preferred environment with high moisture level, warm surfaces with abundant blood supply, therefore nasal cavity always appear to be one of the frequent infestation location.

Leech’s saliva contains hirudin and other bioactive substances which exemplify vasodilatation (thus increase blood flow to the local area), anaesthetic with antithrombin anticoagulant effect. Therefore, leech bites are usually painless and patient mainly complaint of recurrent unilateral epistaxis, nasal obstruction with foreign body sensation while the leech is wriggling in the nasal cavity [1-4]. According to Lent CM study, leech can consume blood meals averaging 890% of their weight [5], there’s few cases

reported extended bleeding in patient due to leech infestation resulted in severe anaemia and warranted for blood transfusion [3,6-8].

Multiple authors suggested to spray with local anaesthesia (example 10% xylocaine nasal spray, cocaine or 1% tetracaine) to anaesthetize nasal mucous membrane and paralyse the leech prior removal. In view that leeches are soft and slimy if grab with forceps might result in slipped away or fragmentation with incomplete removal [3].

Methods for leech removal were mentioned:

- Remove with forceps (ex: artery forceps) endoscopically, but risk of fragmentation during removal and left the mouth part might result in continuous blood loss, foreign body sensation and secondary infection [1,6].
- Remove the leech with negative suction endoscopically could remove the leech intact [3]. This is highly recommended by most of the author.
- Wait and watch policy by placing a kidney dish filled with water 1cm under nasal vestibule of patient, once the leech approaching the water, to grab and retrieve it with artery forceps. It is time consuming but gentle compare with others [1,4].
- Irrigate with strong saline, turpentine oil, alcohol or vinegar to remove leech however these can cause leech regurgitation to the wound [4].

In our patient, we adopted both first and second methods by gentle gripping the leech with Tilley’s forcep assisted with negative suction pressure, leading to removal of whole leech. This would speed up the process of intact leech removal and shortened the traumatizing experience for the patient as well.

## Conclusion

In conclusion, medical practitioner should suspect nasal hirudiniasis in patients present with unilateral foreign body sensation, epistaxis or nasal block who gives history of unsafe water drinking habit or bath in infested water. Education and awareness to the population on good hygiene of water drinking and bathe, seek immediate medical attention to prevent further complication and recurrence is crucial.

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## Bibliography

1. Verma Rohit., *et al.* “Nasal Hirudiniasis: An Uncommon Cause of Unilateral Nasal Obstruction and Epistaxis”. *Clinical Rhinology An International Journal* 4 (2011): 51-52.
2. Santanu Dutta., *et al.* “Epistaxis Due to Leech Infestation in Nose: A Report of Six Cases and Review of Literature”. *Indian Journal of Otolaryngology and Head and Neck Surgery* 68.1 (2016): 42-45.
3. Qian Cai., *et al.* “Negative suction approach to remove living leeches from the nasal cavity”. *American Journal of Otolaryngology* 36.5 (2015): 657-659.
4. Kalra Sarathi. “Nasal leech infestation causing persistent epistaxis”. *Journal of Emergencies, Trauma, and Shock* 4.3 (2011): 413-414.
5. Charles M Lent. “Serotonergic modulation of the feeding behavior of the medicinal leech”. *Brain Research Bulletin* 14.6 (1985): 643-655.
6. Shitaye N and Shibabaw S. “Severe anemia due to pharyngeal leech infestation; a case report from Ethiopia”. *BMC Surgery* 17.1 (2017): 102.