

NASAL HIRUDINIASIS – A CASE REPORT

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ABSTRACT

INTRODUCTION

Epistaxis is a common presentation in ENT practice, with anterior nasal bleeding comprising the majority of cases. Foreign bodies in the nasal cavity are a known cause, with leech infestation being a rare but documented occurrence. Leeches, particularly sanguivorous species, can attach internally and cause persistent bleeding due to their saliva containing potent anticoagulation factors such as hirudin..

CASE REPORT

A 19-year-old male presented with a 12 day history of left-sided epistaxis associated with nasal swelling and foreign body sensation. Initial treatment with nasal drops and antihistamines was ineffective, and subsequent examination revealed a live leech in the left nostril. The leech, approximately 7-8 cm in length, was successfully removed under nasal endoscopy after initial difficulty due to its slippery nature. The patient's symptoms resolved post-removal and follow-up showed no recurrence.

DISCUSSION

Internal leech infestations can present with nonspecific symptoms like recurrent bleeding and discomfort, complicating diagnosis and treatment. Hirudin, the active anticoagulant in

leech saliva, prolongs bleeding, posing challenges during extraction. Management strategies include direct visualization for removal and consideration of complications such as infection or hemorrhage. Awareness of potential habitats and avoidance of stagnant water are crucial preventive measures. History of drinking from or bathing in such habitats should raise suspicion for possibility of leech infestation.

KEYWORDS

Epistaxis, Nasal bleeding, Foreign body, Leech

INTRODUCTION

One of the most frequent cases encountered in ENT OPDs and emergency is nasal bleeding. Epistaxis can be further classified into anterior and posterior nasal bleed, with anterior nasal bleed constituting to over 90 percent of the cases. Foreign body in the nasal cavity is one of the common local causes of anterior epistaxis. Non-organic and vegetative foreign objects are most commonly found culprits with parasitic infestation being a rare cause.

A class of segmented worms known as leeches comprises over 600 species, among which only a minority are sanguivores. Leeches are frequently encountered in wilderness environments, typically by explorers and travelers, owing to their propensity for external

attachment. Leech attachments can result in minor inconveniences or, in more severe cases, can lead to complications such as bleeding and infections. Saliva from leeches contain potent biologically active anticoagulation factors such as hirudin which precipitate bleeding due to the blockade of the coagulation process. Symptoms associated with internal leech attachments usually presents as bleeding from the orifice associated, along with obstructions and foreign body sensation/ movement. The documented case reports for internal leech attachments range from nasal hirudiniasis causing recurrent epistaxis, and oesophageal hirudiniasis causing chest discomfort, hematemesis, and malena to rectal and vaginal hirudiniasis causing rectal bleeding and abnormal vaginal bleeding –

CASE REPORT

A 19 year old patient presented in the ENT OPD at an urban tertiary care hospital with a history of epistaxis from left nostril for 12 days, it was intermittent throughout the day, gradually progressing with time. Epistaxis was associated with swelling on left side of the nose, frequent bouts of sneezing and left sided stuffy nose with difficulty in breathing when right nostril was occluded. Initial exam revealed blood in left nostril, and the patient was prescribed Xylometazoline nasal drops along with oral fexofenadine. He visited the emergency department 2 days later with a video recorded at home showing a wriggling creature peaking out of the left nostril after instilling the Xylometazoline nasal drop. The patient was admitted with stable vitals and planned for diagnostic nasal endoscopy in the operation theatre on coming morning. Routine blood investigations revealed a hemoglobin of 15.4 mg/dl, with platelets 1,82,000/mm³, and WBC

count of 5,900/L.

Anterior Rhinoscopy revealed a soft, fleshy, reddish brown material between the base and the inferior turbinate on the left side. The patient was taken to the operation theater and nasal endoscopy was performed under sedation. The foreign body was identified in left nostril in the inferior metal. arch. Attempt was made to grasp the foreign body using the blacksley forceps, but due to the slippery nature of the foreign body multiple attempts were made. The foreign body was identified as leech and was found attached to the mucosa. After a couple of minutes of maneuvering the leech was dislodged and extracted alive. The leech was 7-8 cms in length and put in a sterile container with normal saline. The left nostril was further examined and no signs of bleeding or other foreign material was found. He was discharged in the evening with topical decongestant, oral cefixime, and oral Fexofenadine. He was given intramuscular Tetanus Toxoid at the time of admission. Other otolaryngological examination did not reveal any sign of leech infestation.

A detailed history later revealed that the patient had swam in stagnated water of a waterfall in a hill station while on vacation 4 days prior to the commencement of symptoms, and the cause of epistaxis was thought to be due to the temperature change after traveling from a cold area to the hotter region. He was advised not to take baths in stagnant water bodies. He was educated about the red flags and was advised to come to the emergency department immediately at the appearance of any red flag signs or symptoms. The patient was followed up after 5 days in the ENT OPD, and Anterior Rhinoscopy at the

follow-up did not show any signs or residual or recurrent bleeding.

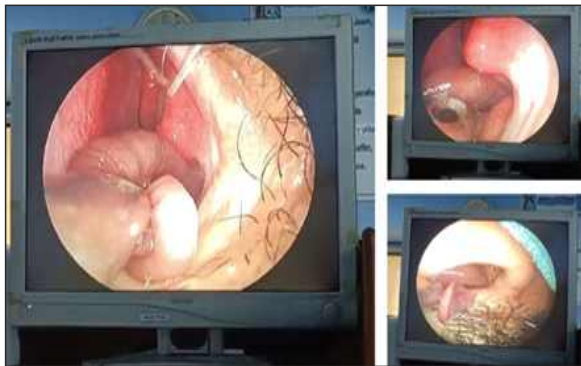


Fig.1: Endoscopic leech extraction from left nostril.



Fig.2: Post-operative live extracted leech.

DISCUSSION

Leech attachments whether internal or external can cause significant persistent bleeding due to the presence of an active anticoagulation compound known as hirudin in their saliva. Hirudin affects the coagulation process by inhibiting thrombin which in turn stops the conversion of fibrinogen to fibrin clots. The inhibition of thrombin makes internal attachments of leeches troublesome, gives rise to complications and mortality. Hirudin is known to be biologically active in the blood for around 15 minutes, but due to other active anticoagulation factors present in the saliva the wound can bleed up to 10 hours.

Leeches can be found in a wide array of environments, they have been found in all continents and water bodies with the exception of terrestrial Antarctica. Over 600 species of leeches can be classified on the basis of their habitat. The notorious "blood sucking leeches" which constitutes to around half of the known species are usually found in tropical and subtropical habitats. They feed on the blood by assistance of either their jaws or teeth or with the help of proteolytic enzymes. Along with the anticoagulation properties the saliva of leech also contains histamine like chemicals, and anti-inflammatory compounds which dilate the blood vessels causing increased bleeding.

Hirudiniasis has been studied extensively in medicinal context, and the best practice for treatment aims at removal of the attached leech. The removal however poses its own set of difficulties, especially in the cases of internal attachments. Difficult to access locations and the strength of their bite pose the greatest challenge in the removal of the parasite. Leeches tend to be slippery in nature and grasping them with surgical instruments is not an easy task. Many cases adopt a wait and watch policy as aggravating the leech while attempting to remove them can cause significant bleeding and risks damaging the surrounding structures. So far we have talked about bleeding as the major cause of concern but it is not the only factor, in cases of orificial hirudiniasis possible infections, significant edema, anemia, and other possible complications should not be overlooked. Treatment options for hirudiniasis apart from extraction include various strategies. Historic remedies found in the literature are local application of salt, vinegar, turpentine, alcohol,

tobacco, along with finger nail under the sucker while applying counter-traction. Chemical compounds such as cocaine, Lidocaine, 1:10,000 adrenaline, bicarbonates, bipolar electric shocks can be used to kill or incapacitate the parasite for easy removal. Use of specific strategies for removal from certain parts include the use of topical anaesthetic along with normal saline irrigation for ocular attachments, use of glycerinephenice for ear attachment, xylocaine spray along with forceps extraction in the case of nose with special care to be taken to prevent the organism from accidentally falling into the airway, invasive surgical procedures such as lapratomy for peritoneal attachments, and so forth. It is recommended that any attempts to remove the parasite from internal attachments should be done under direct visualization.

CONCLUSION

Nasal hirudiasis as a cause for unilateral epistaxis and nasal stuffiness is a rare case scenario. As the teaching – look for horses and not zebras, is true, and all possible the causes for bleeding should be evaluated. The nasal cavity is not easily visualised thus rhinoscopy should be performed for better visualization, but it may not be option in emergency, or rural setups lacking infrastructure or trained individuals. History of drinking polluted water, or swimming and bathing in, stagnated water bodies, should be met with high index of suspicion for leech endoparasitism as a cause persistent unilateral epistaxis.

DECLARATIONS

Ethics approval and consent to participate:
Approved by IEC

Author's contribution: All the authors

contributed to the study conception and design.

Competing interests: The authors declare that they have no competing interests

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