An uncommon cause of unilateral nasal bleeding

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ABSTRACT

Leeches are segmented worms that belongs to phylum Annelida and Hirudinea subclass. They are commonly found in stream water, land and sea. Leech infestation is seen in people swimming or drinking water inhabited by leech. The most common symptom of nasal leech is unilateral nasal bleeding. In this case report, a ten-year-old Chinese boy went swimming in the river in countryside prior to the incident. On examination, he was found to have a leech in his left nostril. The leech self-extruded after irrigation with 5ml of normal saline. Health workers must be aware of the possibility of a leech as the differential diagnosis for unilateral nasal bleeding, especially in a rural area where leeches are prevalent.

Keywords: **Leech, unilateral nasal bleeding**

Introduction

Nasal bleeding is common in children[1]. About 56% of children aged 6-10 years have at least one episode of epistaxis[2]. The most common causes of nasal bleeding are trauma, mucosal irritation, upper respiratory tract infection, and tumors. 90% cases of nasal bleeding are anterior and 10% are posterior [3]. Nose picking is the most common cause of traumatic nasal bleeding[4]. Foreign body is the most common cause of the unilateral nasal bleeding[5]. Leech is the most uncommon cause of nasal bleeding; only a few cases have been reported till date..

Case report

A 10-year old Chinese boy came to the emergency department of Chongqing Medical University's first affiliated hospital with the history of nasal stuffiness and intermittent unilateral nasal bleeding from the left nostril for 3 days. There was no history of trauma, nasal picking, rhinorrhea or recent drug intake. Upon further questioning, he revealed that he had gone swimming in a river prior to the incident during the weekend in the countryside. He didn't have any significant past surgical or medical history or history of bleeding disorders in his family.

The patient was average in built, well-nourishwed and with normal growth for his age. Although the patient was a little scared, his vital signs were normal. The cardiovascular, respiratory and abdominal examination was normal.

On local examination of his nose with ENT Otoscope, something blackish was seen in the left nostril near the inferior turbinate. The object was mobile and slow oozing of blood was evident. Inspection of right nostril was normal. An artery forceps was used to attempt a pull out, but the procedure was not successful as the mobile object was slippery and seemed to be tightly adhered to the nasal mucosa.

About 5 ml of normal saline was used to irrigate the left nostril. A moment later, about 1.2 cm long leech self-extruded from the nostril. The wound was cleaned and re-examined. The nostril was clear with no obvious bleeding point. Following the procedure, complete blood count was sent, which came back normal. The patient was discharged after a short period of observation post procedure.

Discussion

Epistaxis due to leech is an uncommon case in urban China, although few cases have been reported from South Asia and Africa. Leeches are ectoparasite found mostly in freshwater environments such as ponds, rivers, and lakes, but can also be found in the ocean and moist soil or on plants[6]. Leech endoparasitism is common in the rural area and rare in urban areas[7]. Infestation by leech occurs while taking bath or drinking water inhabited with leeches. In the past, Hirudo medicinalis leech was used to treat high blood pressure and various other diseases by removing blood[8]. Epistaxis due to leech may be anterior - in the nose or posterior - into the throat although blood loss is not huge at once but keep flowing intermittently or persistently that may require blood transfusion[9].

Leeches can be red, black, green, or brown and belong to the phylum Annelida and the subclass Hirudinea[10]. Leeches length varies from 1–20 cm. A leech has a small anterior sucker, which helps in crawling forward and in feeding with the jaw and teeth. A large posterior sucker is mainly for support. They have 3 jaws with about 100 sharp teeth which help to feed by making a Y-shaped incision. Saliva of leech contain hirudin (anti-coagulant), hyaluronidase, histamine (local vasodilating agent) and has an anesthetic property, due to which the patient does not feel pain during bite and bleed without being noticed[11].

A leech bite can bleed for 24-48 hours due to an anticoagulant effect of hirudin, which is a potent inhibitor of thrombin[12]. Adult's leech which can live for many years with single feeding can suck up to 10 times their body weight in a single meal, with 5-15 ml being the average volume taken[13]. A leech attached to the external skin usually falls off in about 20 minutes of feeding[14] however internal leeches such as in the nose, vagina or other natural orifices are hard to remove. There are many studies explaining various methods to remove leech. In 1928 Salzberger removed leech with the sharp end of the hook after injecting procaine[15]. One study from India used nasal drops containing 10% tartaric acid, some other studies used ethanol, vinegar, turpentine oil, 30 percentage cocaine, 1:10,000 adrenaline or dimethyl phthalate, 10 % lidocaine spray etc[16-18]. These solutions were not available in the Emergency Room at the time in our case.

We searched for a simple solution and used 0.9% Normal Saline which is easily available in any healthcare center. Saline caused the leech to quickly detach and self extrude. Sometimes forceps can be used to pull after paralyzing the leech, as done in few studies[18]. A similar method was applied in a case report with vaginal leech[14].

Dutta et al. with a reort of 6 cases have recommended using forceps on the middle of the body of leech and to pull it out quickly[19]. In our opinion, leech should not be pulled out during sucking because leeches have numerous sharp teeth and jaws, which grasps the human tissue tightly. Forceful pulling of leech could cause human tissue tear or tearing of the leech into two parts, which would make it is even more difficult to remove later and also cause further complications like wound infection.

After removal of the leech, the wound was cleaned with soap and water. Leech bite can cause swelling, pain and itching because of the chemicals secreted. Antihistamine and ice pack can be used in such scenarios. The patient in the present case had no such symptoms so no further treatment was needed. In some rare occurrences, the patient may exhibit symptoms of anaphylactic reactions such as severe itching all over the body, red rash, severe swelling of lips, eyes and rest of body parts, shortness of breath and fainting, in which case, emergency medical intervention is required.

Conclusions

In patients with unilateral nasal bleeding, detailed history and meticulous local examination is mandatory. Pulling leech during feeding may result in nasal tissue breach which can cause complications. Using normal saline for irrigation is a non-invasive viable method to paralyze the parasite which can then be removed easily.

References

1. Traboulsi H, Alam E, Hadi U. Changing trends in the management of epistaxis. Int J Otolaryngol. 2015. 2015:263987.

2. Petruson B. Epistaxis in childhood. Rhinology.1979;17(2):83-90.

3. Snow JB Jr. Surgical disorders of ears, nose, paranasal sinuses, pharynx and larynx. Textbook of surgery 151h ed. Philadelphia. 1997;1275-97.

4. Seward GR. The teeth and gums, jaws, nose, ear. Bailey and Love's Short practice of Surgery 22nd ed. ELBS. 1995;450-69.
5. Abou-Elfadl M, Horra A, Abada RL, et al. Nasal foreign bodies: Results of a study of 260 cases. Eur Ann Otorhinolaryngol Head Neck Dis. 2015;132(6):343-6.
6. Fogden SCL, Proctor J. Notes on the feeding of land leeches in Gunung Mulu National Park, Sarawak. Biotropica.1985;17(2):172–4.
7. Kumar S, Dev A, Kochhar LK, Singh AM. Living leech in nose and nasopharynx. Indian J Otolaryngol. 1989;41:160-1.
8. Payton B. Neurobiology of the leech.2nd ed. Cold Spring Harbor Laboratory; 1981.
9. Uygur K, Yasan H, Yavuz L, Dogru H. Removal of a laryngeal leech: A safe and effective method. Am J Otolaryngol. 2003;24(5):338–40.
10. Buchsbaum R, Buchsbaum M, Pearse M, Pearse V. Animals without backbone. 3rd ed. Chicago: The University of Chicago Press; 1987.
11. Chow CK, Wong SS, Ho AC, Lau SK. Unilateral epistaxis after swimming in a stream. Hong Kong Med J. 2005;11(2):110-2.
12. Faust EC, Russel PF, Jurg RC. Craig and Faust's Clinical Parasitology. 8th ed. Philadelphia: Lea & Febiger; 1970:563–70.
13. Demiroren K, Caliskan U. Unexpected result in the etiological approaching to an anemic case: A leech infestation. Pediatr Hematol Oncol. 2003;20(7):547–50.
14. Ibrahim A, Gharib H B, Bidin MN. An unusual cause of vaginal bleeding: A case report . Internet J. Gynecol. Obstet. 2003; 2(2):2-7
15. Salzberger, M. Leeches as foreign bodies in the upper air passages in Palestino. Laryngoscope. 1928;38:27-32.
16. Bilgen C, Karci B, Uloz U. A nasopharyngeal mass: Leech in the nasopharynx. Int J Pediatr Otorhinolaryngol. 2002;64(1):73–6.
17. El-Award ME, Patil K. Haematemesis due to leech infestation. Ann Trop Paediatr. 1990;10(1):61–2.
18. Ghimire A, Acharya A. Unusual cause of unilateral epistaxis: nasal leech infestation. JNMA J Nepal Med Assoc. 2008;47:38-40.
19. Dutta S, Saha S, Pal S. Epistaxis due to leech infestation in nose: A report of six cases and review of literature. Indian J Otolaryngol Head Neck Surg.2016;68(1):42–5