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Malsawmtluangi Ralte

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Koushik Paran Bordoloi

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Elone Lucy

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Dilip Nama

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Palash Jyoti Sonowal

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Athokpam Donin

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Champak Deka

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Dhruba Das

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Kalyan Sarma

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Bedanga Konwar

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Corresponding Author:**Malsawmtluangi Ralte**

Department of Teaching Veterinary Clinical Complex College of Veterinary Sciences and Animal Husbandry Central Agricultural University Selesih, Aizawl, Mizoram, India

Management of nasal hirudiniasis in a hunting dog

Malsawmtluangi Ralte, Koushik Paran Bordoloi, Elone Lucy, Dilip Nama, Palash Jyoti Sonowal, Athokpam Donin, Champak Deka, Dhruba Das, Kalyan Sarma and Bedanga Konwar

Abstract

A 6years old male dog used for hunting was presented in Teaching Veterinary Clinical Complex, College of Veterinary Sciences & A.H., CAU, Selesih, and Mizoram with the history of anorexia, retching and epistaxis from both the nostril. The case was diagnosed as Nasal hirudiniasis by the clinical examination. Haematological analysis revealed anaemia (normocytic, normochromic) with mild leukocytosis and neutrophilia. Red blood cell counts (RBCs) and haemoglobin (Hb) and packed cell volume (PCV) were below the normal range, but the biochemical data were within the normal range. The aim of the case report is to present attachment of nasal leeches in a hunting dog that was successfully managed by using saltwater and removed with tissue forceps.

Keywords: Hirudiniasis, leech, management, hunting dog

Introduction

Leeches, a blood-sucking, hermaphroditic parasite are causing problems when it comes in contacts with humans and animals. The leeches mainly inhabit in ponds, lakes, and streams. Leech infestation is also known as Hirudiniasis, usually occurs through contact with water containing leeches when the animal is swimming or taking water in rural streams. These leeches live in hosts and can cause anaemia and may act as vectors of animal pathogens [1]. Leeches has been reported to cause a list of clinical manifestation depending on the site of infestation. In human and veterinary medicine, leech infestation has been reported to inflict different organs including the eye, the urinary bladder, external ear canal, peritoneum, external vagina, nasal passages causing a variety of clinical signs depending on the organ infected [2]. The saliva of leech contains hirudin, which inhibits thrombin in the clotting process; and histamine-like substances cause continuous bleeding by causing vasodilatation the main symptoms include haemoptysis, snoring, dyspnea, cough, dysphagia, recurrent epistaxis, foreign body sensation and nasal obstruction [3]. The bite is generally painless, but the wounds bleed for a long time and unlikely to scar formation at the site of a healing wound. The invertebrate enters through the mouth or the nostrils and sucks blood from mucosal membranes of the pharynx, larynx or nostrils, often causing the death of their victims [4]. Leech infestations have been reported in the veterinary literature in cats [5] and dogs [1]. To the authors' knowledge, this is the first report in Mizoram of naturally occurring leech infestation of the nasal cavity of the dog.

Case history

A 6-year-old male mixed breed dog weighing 29.1kgs, used for hunting, presented to Teaching Veterinary Clinical Complex, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University, Selesih, Aizawl, Mizoram with the history of anorexia, retching and epistaxis from both the nostril for one month. There was a history of drinking water from natural spring when the dog entered in the forest and from that onward nasal bleeding observed. On anterior rhinoscopy, four leeches were found to attach to the lateral wall of the right and left nasal cavity. The dog displayed discomfort, with little appetite, abnormal breathing, and respiratory sounds. The case had no background in any disorder. Examination of the case showed slightly increasing temperature (102.8°F), heart rate (87/minute) and respiratory rate (43/minute) bleeding from the nose (Fig. 1A), pale mucous membrane (Fig.1B), and weakness. After the final diagnosis of hirudiniasis, a 5ml blood sample (without the coagulative substance) and a 2ml blood sample (with EDTA) for complete blood cell count

(CBC) were taken from the cephalic vein of the dog and the samples were centrifuged at 3,000 rpm for 10 min for serum separation. The haemato-biochemical data are shown in Table 1. CBC results showed mild anaemia (normocytic, normochromic) with mild leukocytosis and neutrophilia. Red blood cell counts (RBCs) and haemoglobin (Hb) and packed cell volume (PCV) were below the normal range, but the biochemical data were within the normal range.

The dog was sedated with Diazepam and Ketamine combination and attempts were done to take out the leeches crawling inside both the nostrils with the help of a forceps (Fig.1C) but failed. Then a tub filled with salt water (Fig.1D & E) placed 1 cm below nasal vestibule and this way four leeches could be well appreciated and seen to hang out of the nostrils and at that time leeches were carefully taken out with the help of a forceps. Then apply nasal decongestant to stop bleeding and prescribed feritas injection @ 2ml intramuscularly every alternate day for 10days. All the leeches were around 5 cm in length (Figure1F).

Table 1: Haemato-biochemical values of the affected dog

Parameter	Value	Normal range ^[6]
Hb g/dl	8.5	11.9 to 18.9
RBC $\times 10^6$ / μ l	4.84	4.95 to 7.87
PVC %	27	37 to 55
WBC $\times 10^9$ /L	14.50	5 to 14.1
Platelets $\times 10^9$ / μ l	213	210 to 450
MCV fL	56	60 to 77
MCH pg	16.7	19.5 to 24.5
MCHC g/dL	30.9	32-36.3
Lymphocytes %	25.5	25-75
Granulocytes %	71.2	55-70
Monocytes- %	3.3	0-8
TP (total protein) g/dl	7.2	5.0-7.4
Albumin g/dl	2.7	2.7-4.4
ALT U/L	112	12-118
Creatinine mg/dl	1.2	0.5-1.6
BUN mg/dl	15	6-25



Fig 1: Nasal hirudiniasis in a dog

- A. Nasal bleeding
- B. Pale mucous membrane
- C. Manual removal of leeches with the forceps
- D. Removal of leeches when the face of the dog immersed in water
- E. 5cm length leeches

Discussion

Orificial hirudiniasis is a condition in which a leech enters the body orifices, most often the nasopharyngeal region. Leeches are blood-sucking hermaphroditic parasites attached to the vertebrate hosts when they come in contact, bite through the skin and suck out blood. Both aquatic and land leeches are known to attack humans and animals. Infestation occurs by drinking infected water from or taking a bath in, stagnant streams, pools and springs. Leech infestation may cause serious complications like airway obstruction, severe respiratory distress, hemoptysis or hematemesis ^[7]. Leech bite may cause severe anaemia in the host ^[8] which was also observed in the present case. Because leech bites are painless, the infestation may remain symptomless until a warning sign appears. Epistaxis, nasal obstruction and sensation of a moving foreign body are common presenting complaints of leech infestation in the nose. The saliva of leech contains hirudin, which inhibits thrombin in the clotting process ^[9]; and histamine-like substances cause continuous bleeding by causing vasodilatation ^[10]. When a patient is diagnosed with nasal leech infestation, it should be removed as soon as possible direct removal of leech might be difficult because of its powerful attachment to the nasal mucosa and its slimy and mobile body ^[11]. Many ways to remove nasal leeches are reported but there is currently no standard procedure. Most of the clinicians removed nasal leeches under the local anaesthetic spray, but the removal of leeches under general anaesthesia may be safer. Some clinicians also suggest spraying diluted chloroform, turpentine oil ^[12], 5% cocaine solution ^[13] or hypertonic saline ^[14] into the nasal cavity before removal of nasal leeches. Various innovative techniques have been used for the treatment of nasal leech infestation. These include anterior rhinoscopy along with suction; and wait-and-watch policy with water is taken in a kidney tray and placed with water level 1 cm below nasal vestibule ^[15]. The same technique was also applied in this case. As soon as a leech is seen coming out from the nasal vestibule towards the water, it is caught with artery forceps and gently pulled out. The haematological signs showed normocytic normochromic anaemia that was the same as the presented case ^[16]. Some of the literature mentioned that after removing the leeches prescribing iron supplement could help to relieve anaemia ^[3].

Conclusion

This case report details the infestation of oral leeches in a dog with nasal bleeding and mucous membrane pallor associated with anaemia. A high index of suspicion is required in a patient presenting with unilateral epistaxis who gives a history of drinking polluted water from or bathing in ponds and puddles or moving in the forest.

References

1. Bahmani M, Nekouei SH, Parsaei P, Saki K, Banihabib E K. Case report infestation with *LimnosNea* Persian male dog from Shahrekord. *Journal of Food Microbiology*. 2011; 2:29-32.

2. Nett CS, Arnold P, Glaus TM. Leeching as initial treatment in a cat with polycythaemia Vera. *Journal of Small Animal Practice*. 2001; 42:554-556.
3. Bani Ismail ZA, Al-Majali A, Ababneh H, Al-Omari. Laryngeal leeches causing exercise intolerance, respiratory distress and hemoptysis in a hunting dog. *The Internet Journal of Veterinary Medicine*. 2007; 3(1):1-5.
4. Bulent A, Ilknu RO, Beray S, Tulin C, Ulku T, Yildiz D. An unusual cause of hemoptysis in a child: live leech in the posterior pharynx. *Tropical biomedicine*. 2010; 27:208-210.
5. Chang SC, Cheng FP, Tung KC, Yang CH, Lee WM. Nasal infestation with the leech *Dinobdella ferox* in a domestic shorthair cat. *Veterinary Record*. 2006; 21:99-100.
6. Klaassen JK. Reference Values in Veterinary Medicine. *Laboratory Medicine*. 1999; 30(3):194:197.
7. Singh M, Naim AF. Respiratory obstruction and haematemesis due to leech. *Lancet*. 1979; 2:13-74.
8. Hadrani AAL, Debry C, Faucon F, Fingerhut A. Hoarseness due to leech ingestion. *The Journal of Laryngology and Otology*. 2000; 114:145-146.
9. Will RB. Hirudin and the role thrombin: lessons from leeches. *Trends in Pharmacological Sciences*. 1988; 9:425-427.
10. El-Award ME, Patik K. Haematemesis due to leech infestation. *Annals of Tropical Pediatrics*. 1990; 10:61-2.
11. Pandey CK, Sharma R, Baronia A, Agrawal A, Singh N. An unusual cause of respiratory distress: Live leech in the larynx. *Anesthesia & Analgesia*. 2000; 90:1227-1228.
12. Gupta SC. Nasal hirudiniasis in Kumaon Hills, India. *Tropical and Geographical Medicine*. 1980; 32:303-305.
13. Keegan HL, Radke MG, Murphy DA. Nasal leech infestation in man. *The American Journal of Tropical Medicine and Hygiene*. 1970; 19:1029-1030.
14. Rao KP, Grover YK, Mitra AK. Nasal hirudiniasis. *Journal of Indian Medical Association*. 1986; 84:55-56.
15. Adhikari P. Nasal leech infestation in children: Comparison of two different innovative techniques. *International Journal of Pediatric Otorhinolaryngology*. 2009; 73:853-5.
16. Rajaei SM, Khorram H, Ansari MM, Mashhadi SR, Williams DL. Oral infestation with leech *Limnatis nilotica* in two mixed-breed dogs. *Journal of Small Animal Practice*. 2014; 55:648-651.