

## Case reports

# Sublingual vein infestation with leech *Limnatis nilotica* in a hunting dog

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**ABSTRACT.** Leech infestation of the oral cavity is uncommon parasitic infestation of dogs that can cause life threatening haemorrhage and anaemia. The aim of the case report is to present unusual sublingual attachment of leech in a hunting dog that was successfully managed by using table salt.

**Key words:** leech, sublingual, table salt, dog

### Introduction

Stomatorrhagia can be defined as bleeding from any part of the oral cavity. It is considered a serious manifestation of bleeding from three main sources including the oral cavity, upper respiratory and gastrointestinal tract. Stomatorrhagia can occur upon coughing (hemoptysis), or during vomiting (hematemesis) or from the nose (epistaxis) which may indicate the most likely source of the bleeding. Stomatorrhagia can be a life-threatening condition where owners seek urgent veterinary attention particularly when bleeding is with no identifiable etiology. Localization of the source of bleeding can be challenging and may require performing a range of diagnostic tests including advanced diagnostic imaging modalities.

Medicinal leeches have been recently resurfaced in the medical field particularly to manage complications of reconstructive surgery [1]. Leeches are segmented slippery blood-sucking hermaphroditic parasites that belong to the phylum Annelids [1]. Leeches attach to mucosal tissues using muscular suckers to ingest large amounts of blood potentially predisposing infested animal to life-threatening anemia [1]. They do vary in their conformation, color and habitat [2,3]. In Australia and South East Asia, leeches are reported to live in earth while in other parts of the world including the Middle East, leeches are reported to live in the

stagnant water [4]. There are more than 650 species of leeches described in the World; only about 15 of those are classified as medicinal leeches being used to manage different acute and chronic conditions in both human and veterinary medicine [3]. Leeches have been reported to cause a list of clinical manifestations 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 [2,5–10].

### Case presentation

A 2-year old male intact hunting German Pointer dog was referred to Veterinary Teaching Hospital for further evaluation of a primary complaint of ten days history of episodic bleeding from the mouth and possible sublingual mass. The dog had failed to respond to unknown dose of long-acting injectable Amoxicillin started ten days prior to referral. The dog did not undergo meticulous oral examination or blood work analysis by the referring veterinarian. The owner stated no previous medical or surgical history of illness. The dog was current on the required vaccinations. Owner did not recall whether his dog was current on deworming treatment.

Upon presentation, the general examination was

unremarkable. The dog was bright alert and responsive and appeared to be hemodynamically stable. The temperatures, pulse rate, respiratory rate, color of oral mucus membrane (pink), capillary refill time (<2 seconds) were all within normal ranges. Complete blood counts and serum biochemistry were performed. All serum biochemistry parameters were within normal reference ranges. A mild leukopenia was found. The dog was sedated using intramuscular injection of 0.5 mg/kg Xylazine HCL (Xyla-jet, Phoenix Pharmaceuticals Inc, St Joseph, MO, USA) and 0.04 mg/kg Atropine sulfate (Bimedia-Mtc Animal Health Inc., Vetoquinol Canada Inc., Canada). A mouth speculum was applied and the mouth was thoroughly inspected. Upon palpation and inspection of the presumable mass, the presumable mass was contracting, segmented, dark in color, slippery to feeling and appeared to be glistening. Based on the gross findings and the hunting duty of the dogs, a presumptive diagnosis of live leech attached to the sublingual area near the base of the tongue was made. Manual attempts to detach the leech were unsuccessful due to the contacting and slippery nature of the leech. A pinch of "table salt" was sprinkled into the contacting leech. The leech then released itself and was easily removed. After leech removal, the sublingual area was rinsed with lactated ringer solution. The dog made uneventful recovery. The leech measured about 3.5 cm in length as shown in Fig. 1. The leech was placed in formalin for teaching purposes. It is possible that the infestation with leech described in the case report is associated with contaminated water given the hunting nature of the dog. The dog was discharged with instructions of using clean water source for drinking and avoiding stagnant water areas during hunting. Follow up communication with the owner and the referring veterinarian reported that the clinical signs resolved.

## Discussion

Traditionally, leeches have been reported to be successfully removed using manual methods. In here, the author is reporting a case of sublingual leech attachment that was uneventfully removed using "table salt" in a hunting dog. Leeches have a tendency to enter through body orifices with potentially causing life-threatening consequences including anemia, hemorrhage and respiratory distress depending on the site of leech infestation [5-13]. Leeches prefer mucus membranes probably due



Fig. 1. Leech removed from the sublingual area fixed in formalin

to the moist nature of such habitats. In human medicine, there have been several described methods to remove leeches including manual traction, removal using forceps, application of topical anaesthetic agents, application of vinegar or flame or hypertonic saline [1-6,13]. In dogs, there is minimal literature on the occurrence and management of leech infestation particularly sensitive organs such as eyes. In dogs, leech attachment on the larynx of a hunting dog has been reported to cause respiratory distress [13]. In a recent report, oral leech infestation of two mixed breed hunting dogs causing bleedings and drooling were removed using forceps [13].

Leeches were reported to produce few chemicals including proteolytic inhibitors that decreases clot formation and promote blood flow, anesthetics which make the bite of the leech painless, histamine like substances that also promote blood flow [1]. In this case report, the sublingual attachment of the leech did not seem to annoy the dogs and did not seem to cause pain. The author was concerned that manual removal of the leech might inflict injury to the highly vascularized sublingual area causing uncontrollable bleeding. Recently, an ocular case of leech was successfully removed using hypertonic saline [4]. In here, application of the table salt on the

inflicting leech seemed to release the leech successfully avoiding unnecessary complications. Prompt and accurate diagnosis of leeches is of paramount importance. It is uncommon condition and it may appear difficult to diagnose for some veterinarians depending on the geographical locations. However, the contacting nature of such parasite in addition to the described leech characteristics might help in making the accurate diagnosis and prompt management. In conclusion, suspicion of leech infestation should be kept in mind when faced with intermittent or severe bleeding from any orifice.

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