

NASAL INFESTATION WITH LEECH *DINOBDELLA FEROX* IN A NON-DESCRIPT DOG

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A five year old dog was presented with the history of sneezing and unilateral epistaxis from right nostril. Animal was seen with frequent sneezing and pawing the muzzle region. Clinical examination revealed the presence of a live leech in the right nostril. Parasitological examination divulged the leech as *Dinobdella ferox*. The occurrence of leech in the nasal cavity of a dog and its successful management has been reported and discussed in the present communication.

Key words: Dog, *Dinobdella ferox*, leech, epistaxis

Dinobdella ferox is an invertebrate blood-sucking parasitic leech belongs to the phylum Annelida and class Hirudinea (Labadi and Jamal, 1997). It is classified as an aquatic type of leech and has a worldwide distribution and lives exclusively in fresh water (White, 1998). *D. ferox* has characteristic weak jaws and requires soft tissue such as the mucosa of the upper respiratory and digestive tract to feed on. The common clinical manifestations include epistaxis, haemoptysis and in heavy infestations host asphyxia and anaemia leading to death (Foonant *et al.*, 2006). Upon entering the host, the parasite attaches to the pharynx and larynx using its posterior sucker (Chang *et al.*, 2006). The parasite is not host-specific and is reported to occur in monkeys (Pryor *et al.*, 1970), swans (Hosie, 1989), goats, sheep, cattle and buffaloes (Mahato, 1989). Because of uncommon occurrence of leech infestations in dogs, very few reports exist (Hatherill 1967; Gothe *et al.*, 1991; Rajaei, 2014; Bahmani *et al.*, 2014). To the authors' knowledge, this is the first report of nasal infestation of a dog by the blood sucking parasitic leech *D. ferox* from Indian Veterinary Research Institute, Izatnagar.

Case history and Treatment

A five year old non-descript male

dog presented with a history of anorexia, sneezing and unilateral epistaxis from right nostril since two days. Anamnesis revealed that the dog had access to contaminated water near house. On physical examination, the heart rate and rectal temperature were within the physiological limits with slight increase in respiratory rate. Clinical examination revealed blood tinged mucoid nasal discharge along with the presence of live leech whose exposed end appeared from the right nostril and gently moved in and out (Fig 1). The posterior end of the leech was seen attached at the septum of nasal opening. The dog was sedated by using combination of 0.3 mg/kg of diazepam and 10 mg/kg ketamine for complete examination. Normal saline was applied over the area where the posterior end of leech was attached and with the help of Adson tissue forceps, leech was gently detached and removed from the nostril. The nostril was then rinsed with normal saline (0.9% Sodium Chloride) and the oral cavity, oesophagus and upper airways were examined for the presence of leeches. No abnormalities were detected on the radiographic examination of the thorax. A course of antibiotics with 20 mg/kg of amoxicillin and clavulanic acid for 5 days was given along with anti-inflammatory meloxicam at the dose of 0.5 mg/kg for 3 days. Supportive treatment with oral supplementation of iron and multivitamin

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was given for one month and the dog recovered without any complications.

The leech species isolated from the dog was dark brown in colour, covered with mucin and measured 6 cm in length. The body was cylindrical with the absence of stripes or spots. Two muscular suckers



Figure 1: Presence of live leech from the right nostril

were seen at both ends of the body, small anterior sucker and the prominent posterior sucker. The width of the posterior sucker was larger than that of the body (Fig 2). Based on these morphological characteristics the leech was identified as *D.ferox*.



Figure 2: Removed leech showing typical stripes in the body

Results and Discussion

Orificial hirudiniasis is a condition in which leech enters the body orifices most often the nasopharyngeal region; however some cases of leech infesting urethra, vagina, rectum or even eyes as has been reported by Sarathi (2011). In animals leeches attaches on mucosa of nasopharynx, oropharynx, tonsils, oesophagus and nose. Infestations occur when animals drink from water bodies inhabited by leeches as also reported by White (1998). Presence of leech in larynx causes epistaxis, hemoptysis, snoring, dyspnoea and cough in animals as also mentioned by Sarathi, (2011).

The ability of leeches to cause severe anaemia, which can even lead to the death of the patient as also mentioned by Cundall *et al.* (1986) may occurs due to the anti-coagulatory salivary gland secretion of blood-feeding leeches and/or the ability of leeches to ingest large amounts of blood even up to over ten times their body weight also reported by Moser *et al.* (2009). The anticoagulant agents cause bleeding and subsequent severe prolonged blood loss in infested animals. In the present case, haematobiochemical profile of the dog did

not show anaemia, might be due to early diagnosis and removal of leech.

Diagnosis of leech infestation in the nasal cavity is relatively easy whereas radiography, endoscopy and bronchoscopy are some of the diagnostic methods used for diagnosis of leeches present in oesophagus, nasopharynx and respiratory system as narrated by several workers. In present case, after removal of the leech from the nasal cavity the radiographic examination was done to rule out the presence of other leeches in the oesophagus and upper airways.

Various ways of removing the leech from the mucous membranes have been described such as the use of an insecticide spray; cocaine drops; topical lidocaine; suction; distilled water; , lidocaine; forceps with or without bipolar electrocautery; normal saline and vinegar as have been reported by several authors from all over world.. In present case removal of the leech was done gently by using forceps after flushing the nasal cavity with normal saline which facilitated its easy removal without detachment of its mouth parts.

Various reports suggested that contact with water infested with leeches to

be the most important risk factor for oropharynx and nasopharynx infestation of aquatic leeches in animals and also confirmed by Chang *et al.* (2006). In the present case also the dog had access to contaminated water leading to leech infestation. Therefore the use of clean and safe water is recommended to prevent leech infestation in companion animals.

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