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Endoscopic diagnosis and retrieval of bone causing partial esophageal obstruction in a dog

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Abstract

A two-year-old Nondescriptive dog was presented to the Small Animal Referral unit Veterinary Clinical Complex Namakkal with a history of intermittent vomiting, hyporexia and lethargy in dog. Lateral radiography of the thorax showed a Radioopaque foreign body in the caudal esophagus. Oesophagoscopy revealed obstruction of the caudal esophagus by a bone and bone was retrieved by using a foreign body retrieval snare. An uneventful recovery was noticed after retrieval of a foreign body along with the supportive therapy for esophagitis.

Keywords: Esophageal foreign body, Endoscopic retrieval, Bone

Introduction

Highlights

- The foreign body more commonly lodges in the caudal esophagus due to narrowing of the lumen.
- Endoscopy is an alternative tool for the removal of esophageal and gastric foreign bodies.
- The endoscopic snare used in this case was effective in grasping and retrieving the bone fragment.

Oesophageal foreign bodies are among the most common emergencies in canine medicine. The diagnosis and removal of foreign bodies can be challenging and it is crucial to remove esophageal foreign bodies properly. Bekkerman *et al.* (2016) [1] recommended using retrieval net, forceps or a polypectomy snare for the endoscopic removal of foreign bodies from the esophagus stated that foreign bodies including sticks, sewing needles, toys, plastic, metals and household items can be found. In the current study, esophagoscopy was found to be an effective method for diagnosis and retrieval of esophageal foreign body without surgical intervention.

A two year old Nondescriptive dog was presented to the Small Animal Referral unit Veterinary Clinical Complex Namakkal with the history of intermittent vomiting, hyporexia and lethargy in dog. Clinical examination showed mild to moderate dehydration. In haematobiochemical examination haemoconcentration and leukocytosis was noticed. Lateral radiography of the thorax showed a radioopaque foreign body in the caudal esophagus. (Fig.1). An esophagoscopy was performed under general anaesthesia with Inj. Diazepam @ 0.5 mg/kg Body weight - I/V. and inj. Propofol @ 4 mg/kg Body weight- I/V and obstruction of a bone fragment in the caudal esophagus was diagnosed. The bone fragment was removed successfully from the caudal esophagus by using endoscopic snare (Fig.2). Endoscopic examination of the esophagus after retrieval of bone revealed mild ulceration in the esophagus.



Fig 1: Thoracic radiography showing reveals a bone in caudal esophagus.



Fig 2: Endoscopic retrieval of foreign body using endoscopic snare.



Fig 3: Retrieved bone from the esophagus



Fig 4: Uneventful recovery of the animal

Bone was retrieved with the help of foreign body retrieval snare (Fig.3). Dog was administered with Ringers Lactate – 10ml /kg I/V Ceftriaxone – 10mg/kg Body weight – I/V, Pantoprazole – 1mg/kg Body weight -I/V for three days. The

animal recovered uneventfully and recovery was complete after treatment. (Fig.4). The initial screening of the presence, type and location of foreign body was evaluated with plain radiographs (Fossum, 2012) [2]. Endoscopic removal of a sewing needle and a metal bottle cap from the stomach using long alligator forceps and endoscopic snare respectively was reported by Mohanambal *et al.* (2018a) [3] and Mohanambal *et al.*, (2018b) [4]. Previous studies had reported endoscopic removal of linear foreign body (Ravi *et al.*, 2019) [5], Sweing needle (Sravanti *et al.*, 2023) [7]. Tams and Spector, 2011 stated that retrieval of the foreign body from the stomach depends on the ability to grasp the foreign body and withdraw the object through cardia.

The endoscopic snare used in this case was effective in grasping and retrieving the bone fragment, and it did not result in any complications. Therefore, surgical intervention for the removal of the oesophageal foreign body is not necessary.

Conclusion

Rodenticide, particularly bromadiolone, is used to control rodents in households. Bromadiolone is a potent second-generation anticoagulant rodenticide, known as super warfarin. It is 100 times more potent than warfarin and has a long half-life of up to 56 days. Bromadiolone's high lipid solubility allows it to cross the blood-brain barrier, leading to central nervous system toxicity and organ haemorrhages in dogs. Diagnosis includes prolonged prothrombin time and aPTT. Treatment involves decontamination measures, vitamin K1, and supportive care. A case of accidental ingestion in a Spitz was treated with activated charcoal, fluids, and vitamin K1, resulting in clinical improvement.

Conflict of interest: Authors have no conflict of interest in this study.

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