

Endoscopic retrieval of oesophageal foreign body in a dachshund

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Abstract

Four-year-old male Dachshund dog was presented to Madras Veterinary College Hospital with the history of gradual weight loss and chronic vomiting for more than twenty days. Previously the dog was treated in several places with anti-emetics, proton pump inhibitors, H2 blockers, fluid therapy and antibiotics but there was no improvement. On clinical examination the dog was severely dehydrated, increased skin tenting time and increased capillary refill time. Hematobiochemical assessment revealed mild hypoproteinemia and hypoalbuminemia. Radiographic examination of thorax and abdomen revealed no radio-opaque foreign body in the gastrointestinal tract and ultrasound examination also confirmed the same. Contrast radiographic examination revealed absence of megaesophagus and foreign body in gastrointestinal tract. Hence upper gastrointestinal endoscopy was performed and which revealed presence of plastic thread twine along the esophagus from the level of pharynx to cardia and the foreign body was retrieved using endoscopic forceps. Further the animal was treated with fluid therapy alongwith other supportive therapy. The dog was shown the clinical improvement after third day.

Keywords: Dog, Endoscopy, Esophagus, Linear foreign body

Introduction

Gastrointestinal foreign body is more common in dogs and cats (Tams and Rawlings, 2011). The nature of foreign body, degree of obstruction (complete or partial) and presence of perforation have an influence on clinical presentation and treatment. The most frequently reported esophageal foreign body in companion animals are bones, treats (dental chews), trichobezoars and sharp objects like needles and fish hook (Hayes, 2009). Animals with acute signs of vomiting, dysphagia, retching, coughing, ptyalism and regurgitation should have the presence of foreign body in esophagus (Thompson *et al.*, 2012). Foreign bodies lodged in esophagus, stomach and proximal duodenum can be removed through endoscopy. Upper gastrointestinal endoscopy is a minimally invasive treatment with high success rate (Poggiani *et al.*, 2020). Endoscopic procedures are the first choice of removing foreign bodies from esophagus and gastric region of gastrointestinal tract. The present case report describes unusual plastic thread twine foreign body was retrieved through endoscopic procedures.

Case history and clinical observation

Four-year-old male Dachshund reported to MVC Hospital with the history of gradual weight loss and chronic vomiting for more than twenty days. Previously

the animal was treated with antibiotics, anti-emetics, proton pump inhibitors, H2 blockers and fluid therapy but there was no improvement. On clinical examination the dog was found to be severely dehydrated.

Results and discussion

Hemato-biochemical examination revealed mild hypoproteinemia and hypoalbuminemia. Survey radiographic examination of thorax and abdomen shown no evidence of megaesophagus and radiopaque foreign body in gastrointestinal tract (Fig. 1A and 1B). Ultrasound examination revealed the absence of foreign body. Contrast radiographic examination using barium meal was taken immediately, 2hrs and 24hrs after administration and it also revealed no evidence of megaesophagus and radiolucent foreign body in gastrointestinal tract (Fig. 1C, 1D, 1E and 1F). Hence the upper GI endoscopy was performed with prior fasting. The animal was medicated with xylazine (1 mg kg⁻¹) i/m. Anesthesia was induced by injection ketamine @ (7.00 mg kg⁻¹) and diazepam @ (0.20 mg kg⁻¹) i/v. Endotracheal intubation was done and anesthesia was maintained with ketamine (3 mg kg⁻¹) and diazepam (0.1 mg kg⁻¹). The animal was kept in left lateral recumbency and upper GI video-gastroscope with 130 cm long, 9.8 mm diameter insertion tube with a 2.2-mm working channel was inserted and found a radiolucent linear

foreign body (plastic thread twine) in the esophagus at the level of pharynx which extends to cardia of the stomach and it was retrieved using alligator forceps

(Fig. 2A, 2B and 2C). The dog was administered with antibiotic, pantoprazole and ondansetron for a week. The dog showed uneventful recovery after a week.

Table I: Hemato-biochemical parameters

Parameters	Observed value	Reference value
PCV (%)	38.4	35 – 57
Hb (g/dL)	11.5	11.9 – 18.9
RBC ($\times 10^6/\mu\text{L}$)	5.03	4.95 – 7.87
WBC ($\times 10^3/\mu\text{L}$)	8.8	5.0 – 14.1
Platelets ($\times 10^3/\mu\text{L}$)	265	211 – 621
Neutrophils	72	68 ± 2
Lymphocytes	22	25 ± 2
Monocytes	4	3 – 5
Eosinophils	3	2 – 5
ALT (IU/L)	41	21 – 102
ALP (IU/L)	96	20 – 156
Creatinine (mg/dL)	1.08	0.5 – 1.5
Total Protein (g/dL)	5.2	5.4 – 7.1
Albumin (g/dL)	1.9	2.30 – 3.8

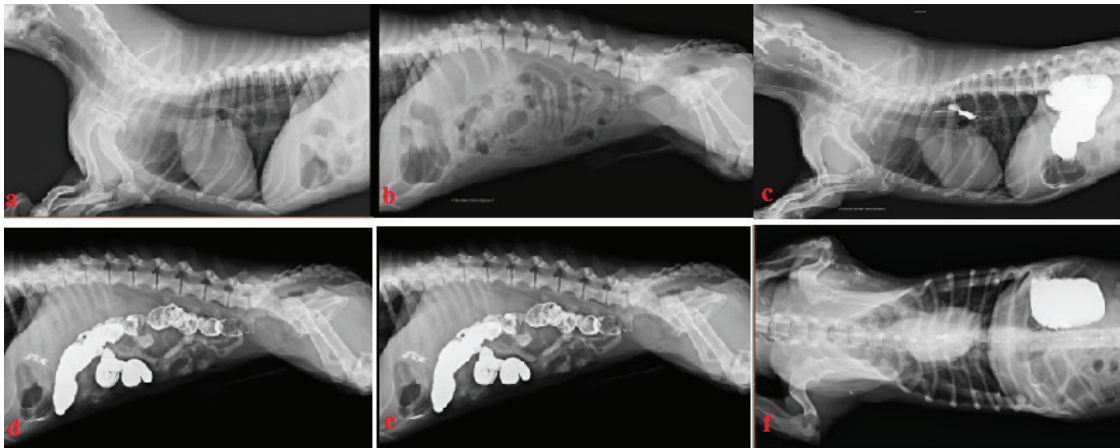


Figure 1: (a and b) survey radiography shows no foreign body in GI tract. (c) contrast radiography image taken 2hrs after barium meal. (d and e) left lateral view taken 24hrs after barium meal shows impacted feces only. (f) dorsoventral view which also taken 24hrs after barium meal.

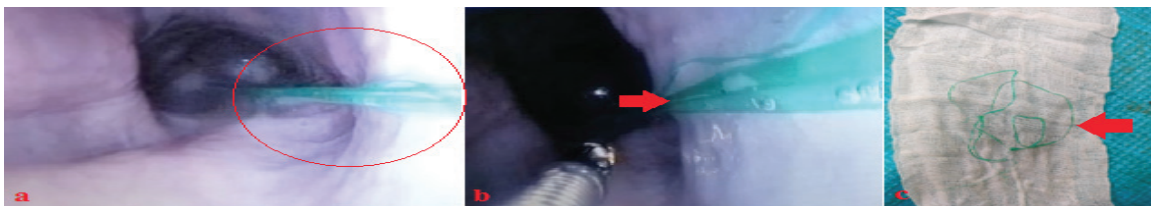


Figure 2: Red circle and arrow indicate the presence of linear foreign body in esophagus at the level of pharynx which extends to cardia of the stomach. (c) the retrieved foreign body (plastic thread twine) from the esophagus.

FB ingestion was associated with behavioral disorders, such as anxiety, attachment and hypersensitivity–hyperactivity syndrome, which occur more commonly in male than female dogs. Thoracic inlet, the base of heart and diaphragmatic hiatus are the most common sites where EFBs are trapped (Palma, 2022). In the present study, linear foreign body was removed from the esophagus and no postoperative complications were observed after endoscopic procedure. Linear foreign bodies were rarely discovered under the tongue during physical examination of affected dogs and most were lodged at the pylorus. The types of linear foreign body removed were more variable in the dog; fabric, carpet, string, and plastic were the most common (Evans *et al.*, 1994). The unusual foreign body of plastic thread twine lodged throughout the entire esophagus was diagnosed through endoscopy and retrieved successfully by using endoscopic forceps.

Conclusion

To make the diagnosis of presence of foreign body, it is essential to use imaging resources like ultrasound and radiography that help in the clinical confirmation of the existence of foreign body in esophagus and stomach. Compared to radiography and ultrasound, endoscopy has the advantage of making tissue analysis feasible and being curative in cases of gastrointestinal foreign bodies (Thompson *et al.*, 2012). Thus, it is inferred that endoscopy is considered a standard procedure in the identification of foreign bodies in the esophageal and gastric lumen. Most of the

time the linear foreign body was undiagnosed with other imaging sources.

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