

FIBER OPTIC ENDOSCOPY ASSISTED RETRIEVAL OF THORACIC OESOPHAGEAL FOREIGN BODY IN A PUP

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A four month old pup was presented to the Department of Veterinary Clinical Complex, College of Veterinary Science, Proddatur, with the history of swallowing a bone piece five days ago. Radiological examination confirmed the presence of radio opaque foreign body in oesophagus near base of the heart. The bone piece was retrieved with the help of endoscope through oesophagotomy near thoracic inlet. Pup made uneventful recovery on 7 post operative day.

Keywords: Endoscopy, Foreign body, Oesophagotomy.

Oesophageal foreign body in young canine is common due to their playful nature. Malnutrition and mineral deficiencies leading to pica also results in indiscriminate ingestion resulting in esophageal obstruction. It has been reported that foreign bodies may be seen in any part of oesophagus, viz, pharyngeal oesophagus, thoracic inlet, base of the heart and cardia of oesophagus (Houlton *et al.*, 1985). Most commonly observed location of obstruction is caudal oesophagus in between base of heart and diaphragm (Leib and Sartor, 2008; Thompson *et al.*, 2012).

The common foreign bodies, like bone, fishhooks, needles and linear foreign bodies like cotton thread and wool fibres are reported. Clinical signs vary with type of oesophageal obstruction. Hyper salivation, gagging, regurgitation or vomiting, frequent attempts to swallow are common signs. In partial obstruction, animal takes only liquid diet and on feeding solid diet they will regurgitate, chronic weight loss, lethargy and

distress were common clinical signs (Juvet *et al.*, 2010; Thompson *et al.*, 2012).

Oesophageal obstruction can be diagnosed plain and contrast radiography based on type of foreign body. In suspected cases of oesophageal perforation, it is safe to use iodine based water soluble contrast materials (James *et al.*, 1975).

Materials and Methods

A 4 month old Rottweiler pup was presented with the history of foreign body ingestion five days back. Since then pup feeding only liquid diet. Upon solid diet pup showing vomiting. The animal was subjected to detailed physical examination and found negative for foreign body. Upon radiography, radio opaque foreign body was detected at the level of base of heart (Fig.1). The animal was prepared for endoscopic retrieval of the foreign body. General anaesthesia was induced with Inj. Xylazine Hcl @ 1mg/kg body weight intramuscular and Inj. Ketamine Hcl @ 10mg/kg body weight intramuscular.



Fig.1: Radio opaque foreign body at the level of base of heart



Fig.2: Attempt to retrieve the foreign body with Endoscope basket

Animal was placed on, under right lateral recumbency; the endoscope was passed into oesophagus. The foreign body was located at caudal oesophagus at the level of base of heart and it was attempted to retrieve with help of foreign body collecting basket (Fig.2). The limited space around the



Fif.3: Attempt to retrieve the foreign body with endoscopic grasping forceps

foreign body did not allow unfolding of the basket and so the retrieval was tried with grasping forceps (Fig.3). The grasping forceps was very tiny and could not the hold the foreign body with strong grip. Further the bone edges were lodged in the oesophageal wall, making retrieval difficult.



Fig.4: Retrieval of foreign body with regular haemostatic forceps through Oesophagotomy site with endoscopy visual assistance

Oesophagotomy was performed at the level of thoracic inlet and the endoscope was passed through the incision site. With the visual guidance of endoscope, straight haemostatic forceps was introduced through the oesophagotomy incision to grasp the foreign body (Fig.4) and it was brought to incision site. Since the bone was too large to retrieve through the incision, the bone was made into pieces with the help of bone cutter

and removed (Fig.5). The oesophagotomy incision was opposed with simple continuous suture pattern using catgut No: 0 and skin incision with cross mattress pattern using silk No: 1. The surgical site was dressed regularly with povidone iodine solution. Inj. Cefotaxim @ 25mg/kg body weight was administered intravenously for 5 consecutive days and Inj. Meloxicam @ 0.3mg/kg body weight intramuscular for 3 days.



Fig.5: Retrieved bone pieces

Results and Discussion

The pup was maintained with intra venous fluids for five days. On sixth post operative day the pup was fed with liquid diet. The pup made uneventful recovery. The

retrieval of the foreign body through the oral cavity was unsuccessful due to very small jaws of the grasping forceps, But, successfully oesophageal foreign body was removed by using endoscopy and

oesophagotomy. This procedure is minimally invasive when compared to trans thoracic oesophagotomy. It has been postulated that the application of trans thoracic oesophagotomy has some complications such like pyothorax, mediastinitis, pleural effusion as also reported by Sale and Williams (2006), hydrothorax, pleuritis and continued non-healing wound or gall duct as also mentioned by Speilman *et al.* (1992). oesophagotomy at the level of thoracic inlet will facilitate the use of regular haemostatic forceps, the later method can be employed for successful outcome.

Conclusions

Successful retrieval of thoracic oesophageal foreign body in a pup, by minimally invasive endoscopy guided cervical oesophagotomy.

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