The Pharma Innovation Journal 2022; 11(11): 2687-2689

www.ThePharmaJournal.com

The Pharma Innovation

ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; 11(11): 2687-2689

www.thepharmajournal.com
Received: 06-09-2022
Accepted: 07-10-2022

Venkatesakumar E
Associate Professor, Veterinary Clinical Complex, Veterinary College and Research Institute, Salem, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Vijayakumar G
Professor and Head, Department of Clinics, Madras Veterinary College, Chennai, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Ponnu Swamy KK
Professor and Head, Veterinary Clinical Complex, Veterinary College and Research Institute, Salem, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Corresponding Author:
Venkatesakumar E
Associate Professor, Veterinary Clinical Complex, Veterinary College and Research Institute, Salem, Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu, India

Endoscopic guided retrieval of linear foreign body causing partial oesophageal obstruction in a dairy Cow: A case report

Venkatesakumar E, Vijayakumar G and Ponnu Swamy KK

Abstract
Oesophageal obstruction is a common emergency in cattle and may be intraluminal or extraluminal. A six year old crossbred dairy cow was presented with anorexia, salivation, regurgitation and cough for four days. Stomach tube was able to passed only up to mid cervical oesophagus and further advancement was difficult and inducing cough and restlessness of animal. Endoscope was introduced through nasal cavity and advanced in to nasopharynx, oropharynx and oesophagus. Transnasal oesophagoscopy revealed red-coloured rope entangled around the arytenoid cartilage was seen and other end of rope reached up to mid cervical oesophagus which was holding partially chewed feed materials. A mouth gag was applied and the linear foreign body along with partially chewed fodder material was successfully retrieved through oral cavity by introducing gloved hand. The animal was treated with streptopenicillin, flunixin meglumine and fluids for three days and the cow had uneventful recovery.

Keywords: Endoscopy, transnasal oesophagoscopy, linear foreign body, choke, dairy cow

Introduction
Oesophageal obstruction is one of the most frequently encountered clinical presentation in cattle and may be intraluminal or extraluminal (Haven, 1990; Smith, 2008) [1, 2]. Oesophageal obstructions can be acute or chronic and occurs when the esophagus is blocked by food or foreign objects. The clinical signs are dysphagia, regurgitation of feed materials and water, salivation, and bloat in ruminants (Constable *et al*., 2017) [3]. It is a frequently observed surgical emergency in ruminants (Marzok *et al*., 2015) [4]. Administration of medicinal bolus or ingestion of corn cobs, potatoes, apples, carrots, stones, or wood fragments are associated with esophageal obstructions in cattle (Blikslager and Jones, 2008) [5]. Oesophageal obstructions in bovine commonly occur at the pharynx, the cranial aspect of the cervical esophagus, the thoracic inlet, or the base of the heart (Smith, 2008) [2]. External palpation may be used to confirm those located in the cervical esophagus (Haven, 1990) [1]. Apart from external palpation and clinical signs, the additional diagnostic tools such as manual oral examination, passing stomach tube, oesophageal endoscopy, ultrasonography and radiography may be used for diagnosis (Constable *et al*., 2017) [3]. The flexible endoscopy is useful in the foreign body removal mainly because it permits direct visual evaluation of foreign objects and allows assessment of esophageal integrity (Arantes *et al*., 2008) [6]. Linear foreign body which is causing oesophageal obstruction in cattle is rare and occurs mainly because of indiscriminate feeding in the grazing land. The present study is focusing on endoscopic guided retrieval of linear foreign body entangled at arytenoid cartilage in a dairy cow.

Case history and Observation
A six year old crossbred dairy cow was presented to Large Animal Medicine outpatient unit of Veterinary College and Research Institute, Namakkal with the history of anorexia, salivation, regurgitation and cough for four days. The animal was not responded to the field level treatment. Clinical examination showed ptyalism, dysphagia and cough. No abnormality was observed with oral cavity examination. Stomach tube was passed and reached up to mid cervical oesophagus. Further advancement could not be made and induced cough and restlessness of animal. Palpation of cervical part of oesophagus revealed a semisolid mass. Vital signs such as temperature (38.5 °C), pulse rate (68/min) and respiratory rate (30/min) and haemotological parameters were within the normal range. Transnasal oesophagoscopy was performed under standing sedation (Xylazine - 0.05 mg/kg IV).

Olympus™ [CF type V70L] flexible Video endoscope (1680 mm length and 12.9 mm diameter) was introduced through the ventral meatus of nasal cavity and advanced through nasopharynx. Pharyngeal area, larynx and oesophagus were evaluated using endoscope. A red-coloured loop of rope entangled around the arytenoid cartilage was noticed (Fig. 1) while other end with a matrix of fodder material reached up to mid cervical oesophagus (Fig. 2). The case was diagnosed as partial choke due to linear foreign body. As it was not possible retrieve through nasal cavity by endoscope, the gloved hand was introduced through oral cavity after placing and securing the Gunther's mouth gag. The linear foreign body entangled over arytenoid cartilage was focused by the endoscope and the linear foreign body was pulled through oral cavity by gloved hand. The linear foreign body along with partially chewed feed material was successfully retrieved (Fig. 3). The animal was treated with streptopenicillin (@ 10 mg/kg IM BID), flunixin meglumine (@ 1.1 mg/kg IM SID), 5% dextrose normal saline (@ 10 ml/kg IV) and ringer's lactate (@ 10 ml/kg IV) for three days. The animals had uneventful recovery. The linear foreign body was a loop of red coloured cotton thread (Fig. 4).

Fig 1: Red colour rope entangled around the arytenoid cartilages

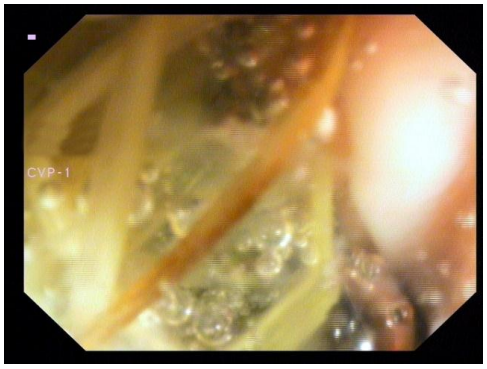

Fig 2: Mid cervical oesophagus with partially chewed feed materials

Fig 3: Linear foreign body along with partially chewed feed material

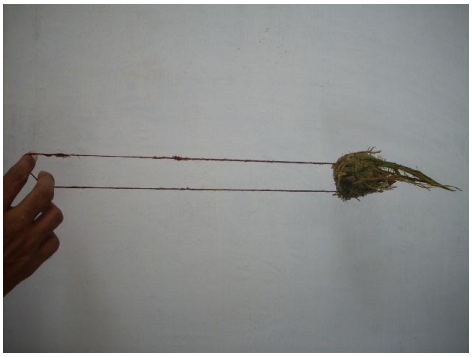

Fig 4: Linear foreign body: loop of cotton thread

Intraluminal obstruction of feed particles at the cervical region observed in the present study was also reported in buffaloes by Marzok *et al.* (2015) [4]. The clinical signs including ptyalism, dysphagia, cough and difficult in passing stomach tube beyond mid cervical oesophagus associated with linear body choke in the present study were also reported by Ravi *et al.* (2019) [7] in a cow with linear foreign body entangled around epiglottis. However, in the present case the linear foreign body was seen entangled around the arytenoid cartilages. External palpation might be useful to locate the foreign body in the cervical oesophagus (Haven, 1990) [1]. Oesophagoscopy helped in cases in which the clinical examination did not provide a definitive diagnosis and location of the foreign body (Franz *et al*., 2006) [8]. In the present study, though the clinical signs were suggestive of partial oesophageal obstruction, the oesophagoscopy played a vital role in the identification of site of obstruction, extent of oesophageal damage caused by foreign body and type of obstructed material and allowing the direction of further treatment or re-assessment after foreign body removal (Gomez *et al*., 2014) [9]. In the present study, the linear foreign body associated partial/ incomplete oesophageal obstruction due to feed material at the mid cervical oesophagus in a dairy cow was identified endoscopically and retrieved manually through oral cavity.

Conclusion

Linear foreign body causing choke in the cattle is mostly partial obstruction by feed materials. The endoscopy is one of the best diagnostic tools to be used for identification of type of foreign body, site of obstruction and identification of extent of damage occurred due to foreign body.

References

1. Haven ML. Bovine oesophageal surgery. Veterinary Clinics of North America: Food Animal Practice. 1990;6(2):359-369.
2. Smith BP. Large Animal Internal Medicine. 4th Ed., Mosby- Elsevier, St. Louis, Philadelphia, USA, 2009, pp. 804-805.
3. Constable PD, Hinchcliff KW, Done AH, Grunberg W. Veterinary Medicine. A textbook of the diseases of cattle, horses, sheep, pigs and goats.11th Ed., W.B. Saunders Elsevier, Philadelphia, 2017, 199-202.
4. Marzok M, Moustafa A, El-Khodery S, Müller K. Oesophageal obstruction in water buffalo (*Bubalus bubalis*): a retrospective study of 44 cases (2006-2013). Turkish Journal of Veterinary & Animal Sciences. 2015;39(2):233-240.

5. Blikslager AT, Jones SL. Disorders of the oesophagus. Chapter 32. Diseases of the Alimentary Tract. In: Smith BP, ed. Large Animal Internal Medicine. 4th ed. St. Louis, Missouri: Mosby, 2008, 804.
6. Arantes V, Campolina C, Valerio SH, de Sa RN, Toledo C, Ferrari TA, *et al*. Flexible esophagoscopy as a diagnostic tool for traumatic oesophageal injuries. Journal of Trauma and Acute Care Surgery. 2009;66(6):1677-1682.
7. Ravi R, Reddy BS, Vijayakumar G, Mohanambal K, Sivaraman S. Choke due to linear foreign body in cattle-a case report. Indian Veterinary Journal. 2019;96(3):70-71.
8. Franz S, Gentile A, Baumgartner W. Comparison of two ruminoscopy techniques in calves. The Veterinary Journal. 2006;172(2):308-314.
9. Gomez DE, Cribb NC, Arroyo LG, Desrochers A, Fecteau G, Nichols S. Endoscopic removal of esophageal and ruminal foreign bodies in 5 Holstein calves. The Canadian Veterinary Journal. 2014;55(10):965.