The Haryana Veterinarian (September, 2023) **62(SI-2),** 157-158 ISSN 0033-4359 (P)

Clinical Article

SURGICAL RETRIEVAL OF IATROGENIC THORACIC OESOPHAGEAL FOREIGN BODY IN A COW – A CASE REPORT

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Received: 27.09.2022; Accepted: 06.02.2023

SUMMARY

A five year old female Holstein Friesian cross bred cow weighing 350 kg with the history of retained broken hose pipe in the oesophagus which occurred during the retrieval of choked beet root. Animal exhibited ptyalism, mild respiratory distress and not taking feed and water since 5 hours after foreign body obstruction. The hose pipe was not palpable in neck region however, thoracic radiograph revealed the presence of corrugated radio-opaque foreign body at the level of 6th cervical vertebral space of oesophagus up to hiatus oesophagi. Haemato-biochemical parameters were within physiological ranges. Based on history, clinical findings and radiographic evaluation, the case was diagnosed as thoracic oesophagus obstruction. Under paravertebral nerve block, rumenotomy was done and broken hose pipe of ¾ inch diameter about 3 feet length and beet roots were retrieved. Postoperatively, the animal was treated with fluid therapy, antibiotics and analgesics for 5 days. The animal recovered uneventfully by 10th post-operatively.

Keywords: Choke, Cow, Iatrogenic oesophageal foreign body, Rumenotomy

How to cite: Mounika, C., Parveen, J.A., Kumaresan, A., Sankar, P., Saikumar, B., Vijayakumar, M. and Kathirvel, S. (2023). Surgical retrieval of iatrogenic thoracic oesophageal foreign body in a cow – A case report. *The Haryana Veterinarian* **62(SI-2)**: 157-158.

In cattle, a condition known as a "choke" or "intraluminal esophageal blockage" causes a complete or partial obstruction of the oesophagus. Oesophageal obstruction cause failure of eructation of ruminal gases and develop into bloat which cause severe life threatening if not treated in time (Sankar *et al.*, 2022). Choke may occur due to vegetables, fruits, phytobezoars and various foreign bodies (Tyagi and Singh, 1993; Das *et al.*, 2019). The pharynx, cervical oesophagus, thoracic inlet, base of heart, and cardia are among the typical locations of obstruction in cattle. (Tyagi and Singh, 1993). The current case report details a unique circumstance in which a cow underwent rumenotomy to have a blocked beet root and a retained broken hose pipe removed was surgically.

A five-year-old female Holstein Friesian cross bred cow weighing 350 kg was presented to Outpatient Unit of Large Animal Clinic Surgery Unit, Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the history of retained broken hose pipe in the oesophagus which occurred during the retrieval of choked beetroot. Animal showed inappetence and unable to drink since five hours after foreign body obstruction. Animal exhibited ptyalism and mild respiratory distress. Conjunctival mucus membrane was pink and moist with rectal temperature about 38.5 ºC. The heart rate was 68 beats/min with sluggish rumen motility and mild tympany was also noticed at the time of examination. The other clinical parameters were normal and no abnormality could be detected on rectal examination. Examination of oral cavity and palpation of cervical oesophagus, did not detect the presence of foreign body. Thoracic radiography revealed the presence of corrugated radio-opaque foreign body at the level of 6th cervical vertebral space of oesophagus up to hiatus oesophagi (Fig. 1). Haemato-biochemical parameters were within physiological ranges. Based on history, clinical signs and radiography, the case was diagnosed as thoracic oesophagus obstruction and it was decided to perform rumenotomy to retrieve choked hose pipe and beet root.

Animal was stabilized with fluid therapy and antibiotics. Surgical site was prepared aseptically. Under left paravertebral nerve block using 60 ml of 2% lignocaine, left flank incision about 15 cm length was made equidistant from tuber coxae and last rib beginning 5 cm ventral to the lumbar transverse process. Subcutaneous fascia and abdominal muscles were incised and rumen was exposed and fixed with Weingarth rumenotomy frame. Rumenotomy was performed and one third of ruminal contents were removed. Then the foreign body which was the broken hose pipe of 3 feet length and about ¾ inch diameter (Fig. 2) was removed from the thoracic oesophagus through rumen and along with that a beet root was also removed from rumen. Due to one third contents were removed rumen was replenished with rumen refilling agents like jaggery, bran and probiotics to quickly restore the rumen microbial activity. Rumenotomy closure was done by cushing followed by lambert suture pattern. Peritoneum, abdominal muscle and skin were closed as per standard procedure. Postoperatively, the animal was

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Fig. 1. Lateral thoracic radiographic image showing radiopaque foreign body

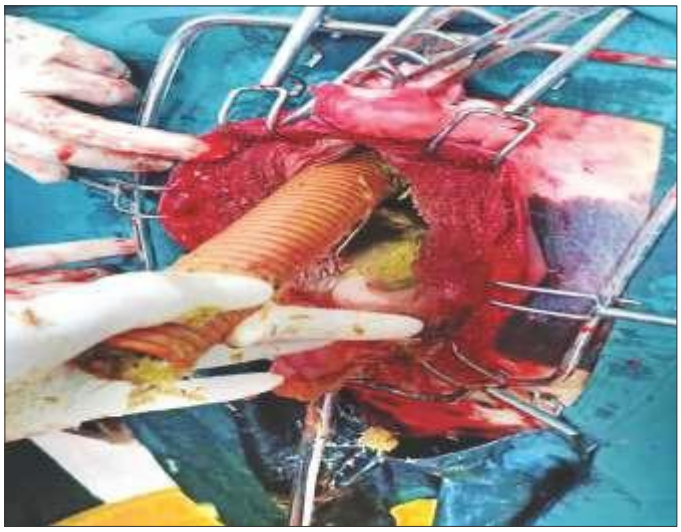

Fig. 2. Retrieval of corrugated foreign body through rumenotomy

withheld food and water for 48 hrs and maintained with fluid therapy. The cow was treated with Inj. Streptopenicillin @ 10,000 units/kg b.wt for 5 days, Inj. Meloxicam @ 0.5 mg/kg b.wt for 3 days, Inj. Chlorpheniramine maleate @ 0.5 mg/kg b.wt for 5 days and probiotics for 3 days. Animal recovered uneventfully without any complication on 10th post operative day.

Compared to other animals, bovines have oesophageal blockage more frequently due to their distinctive indiscriminate feeding habits and hungry disposition (Smith, 2008). Cervical oesophageal obstruction in ruminants is more frequent than thoracic oesophageal obstruction. Common method to diagnose the choke are examination of oral cavity, palpation of cervical oesophagus and passage of stomach tube to determine the level of obstruction (Sankar *et al.*, 2022) and in addition to plain and contrast radiograph. The present case was diagnosed by plain radiograph because the obstruction was present in the course of thoracic oesophagus. Oesophageal obstruction could be relieved easily if the obstruction was in the proximal cervical region by gentle pulling into the oral cavity under sedation using a mouth gag or pushing of foreign body into the rumen after lubrication with liquid paraffin (Sankar *et al.*, 2022). Similarly in present case, the veterinary practitioner tried to push the beet root into the rumen with the help of hose pipe and it was broken and retained in the oesophagus. As the animal was already treated nearby earlier, there may be chances of damage to oesophageal mucosa (Blood *et al.*, 2000), so as a precautionary measure the endoscopic retrieval was not tried in this case. In the present case oesophageal foreign bodies were retrieved through rumenotomy and the animal started taking feed and water on 3rd postoperative day and eventually the animal recovered without complications in present case was reported.

The successful emergency life-saving treatment option for oesophageal obstruction includes early identification, urgent surgical intervention and other supportive care. Selection of good quality stomach tube is very much important to prevent the present case complication.

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