

Oesophageal obstruction with trichobezoar in a heifer

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Abstract

Trichobezoars (hairballs) in heifer originate from the ingestion of hair during periods of excessive licking. The cause of licking in adult animals is usually a skin disease characterized by itching, such as occurs in scabies or pediculosis. One-year old female heifer weighing 80 kg was presented in Veterinary Clinical Complex, Bihar Veterinary College, Patna with the history of depression, anorexia, frequent salivation and obstipation for the past two days. During the physical examination of the animal, a hard, oval-shaped lump was detected in the lower esophageal region. Physiological examinations like temperature, respiration rate and heart rate are normal and in range. Lateral and ventrodorsal radiographs of neck region revealed an oval shaped mass. On the basis of clinical and radiological examination the clinical case diagnosed as trichobezoar esophageal obstruction. Immediately oral examination was performed and a hard-oval bezoar composed of hair fibers was retrieved from the esophagus with help of mouth gag. Animal was treated with fluid therapy, antibiotic, analgesic and multivitamin. The animal started taking normal feed immediately after removal of obstruction without any complications.

Keywords: Heifer, Mouth gag, Radiography, Trichobezoars

Highlights

- Excessive licking from skin irritations or parasites can lead to trichobezoar formation
- A mouth gag is used for the manual removal of esophageal obstructions in ruminants
- Manual retrieval of the trichobezoar can be resolved without surgical procedures
- Lack of complications was observed in cases of manual retrieval of esophageal obstructions
- Animal returned to normal feeding and drinking uneventfully

Obstruction of esophagus is occasionally found in ruminant called choke. It might be found due to vegetable fruits, onion, potato, turnip, apple and any round phytobezoars origin substance and various foreign body. Obstructions are often caused by ingestion of foreign objects or feedstuff, administration of medicated bolus, trichobezoars or esophageal granulomas (Smith, 2008). Radostits *et al.* (2000) had reported obstruction by trichobezoars in lower gastro-intestinal. Trichobezoar indicates animal origin material may be the cause of esophageal obstruction like hair ball, may obstruct the lumen. The animal many times lick their body due to their vices or because of their parasitic infection on their body surface. These hairs forms ball like structure inside the G.I tract similar to looking like coconut kernel is also block the passage of the esophagus. This ball- like structure was coming in esophagus during eructation and blocked the passage. Animal became off fed, shows salivation. Esophageal obstruction in cattle commonly occurred at pharynx, cranial aspect of cervical esophagus, thoracic inlet or base of heart. It may be intraluminal

or extra luminal. Intraluminal obstruction or 'choke' is the most common abnormality (Marzok *et al.*, 2015). Esophageal obstruction in cows is because of their greedy nature of swallowing (Singh *et al.*, 2015). Esophageal obstruction caused by stones (Dilip Kumar *et al.*, 1995), potatoes (Mahesh *et al.*, 2010), tennis balls, mangoes, and pieces of gunny bags (Nigam *et al.*, 1978) has been previously documented. The most common treatment for esophageal obstruction is esophagotomy (Marzok *et al.*, 2015). These findings were observed while managing esophageal obstruction in a heifer without surgery.

A cow was presented with complaint of anorexia, salivation and difficulty in intake of water in Veterinary Clinical Complex but tympany was not observed. Round swelling was observed in the neck area along esophagus manually. Hofmeyr (1974) found that 80% of esophageal obstructions in cattle occur in the cervical region. Normal temperature, heart rate, and respiration rate was observed on clinical examination. Right lateral recumbency confirmed the obstruction of esophagus. Oval shaped obstruction seen on

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Fig. 1. Radiography showed oval shaped obstruction in the neck region

radiograph. Location of object was varying with respect to time due to eructation and deglutition. Radiography showed oval shaped obstruction in the neck region (Fig. 1).

Animal was sedated with the help of xylazine (0.01 mg/kg body wt.). Animal was prepared for removal of obstruction from the esophagus in right lateral recumbency. However, obstruction was visible in left side because of normal site of location of esophagus. Mouth gag is used to open the mouth and hand is introduced inside the mouth cavity to catch the obstructed mass coming towards anteriorly by simultaneously another person push the obstructed mass anteriorly. Finally, oval shaped object like coconut kernel was removed manually through mouth cavity. After dividing in two parts, hairy structure visible from inner side of the object (Fig. 2).

This indicates hair ball formed inside the rumen through hair accumulated inside the rumen gradually transformed into oval shaped hard structure. This may be due to continuous licking of hair coat due to vices or parasitic infection of the body in long time. Later on, hair ball comes in esophagus during eructation and block the passage of esophagus. Hawkins (2021) observed that solid objects can often be freed through massage or may naturally dislodge as their outer surfaces soften from saliva. Incidence of esophageal obstruction in cattle is significant, primarily attributed to their eating habits and nutritional deficiencies (Ramisetty *et al.*, 2024). Our findings confirm previous studies that identify trichobezoars as the primary cause of obstruction of esophagus in heifers. Fluid therapy was given intravenously as well as antibiotic,



Fig. 2. Transverse section of trichobezoar

multivitamin and analgesic was used to recover animal. Animal was recovered uneventfully. Extra luminal esophageal obstruction could result from periesophageal abscesses, cancer, etc (Singh *et al.*, 2020). When cattle have esophageal obstruction (choke), they cannot release ruminal gases, leading to severe free gas bloat, which can be life-threatening if not treated (Prakash *et al.*, 2014).

Esophageal obstruction is a common occurrence in ruminants. On the basis of history and clinical signs the esophageal obstruction can be diagnosed in field condition (Shivaraju *et al.*, 2021). Successful removal of trichobezoar from cervical esophagus of a heifer with continuous insufflations of air through ventilator and manipulation of esophageal area in neck region done exteriorly. Manual removal of the obstruction through the oral cavity using a mouth gag proved effective (Kumar *et al.*, 2024).

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

Author's contribution: MK, RK: Involved in the diagnosis of esophageal obstruction by physical palpation and clinical signs; MK, Aa: Involved in the radiological diagnosis; MK, SS, Ak: Involved in removal of trichobezoar by non-invasive surgical procedure; MK, RK, SS: Involved in draft of the manuscript.

Data availability statement: The corresponding author is willing to provide the data upon reasonable request.

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