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Case Study

TRICOBAZOAR: Surgical Approach for Esophageal Choke in Crossbred Bull

Suresh. Nipane*, Dipak Madikuntawar, Mahendra Chavan and Priya Nagare, Giridhar Vaidya,

District Veterinary Polyclinic, Bhandara, M.S., INDIA

*Corresponding Author: dr_sureshvet12@rediffmail.com

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Abstract:

A free-range grazing 18 month-old cross bred bull was presented to District Veterinary Polyclinic, Bhandara with the history of recurrent bloat, salivation, respiratory distress, and abdominal distension. Clinical examination revealed hard mass noticed in the caudal cervical esophagus on palpation and attempt was made to retrieve with the hand through the oral cavity was unsuccessful. As the obstruction could not be relieved by passing a tube, cervical oesophagotomy was performed and foreign body (Trichobezoar) was retrieved without any complications. The recovery of bull is mainly due to surgical intervention and successful post-operative management.

Keywords: Bull, Trichobezoar, Oesophagotomy

Introduction:

Trichobezoars (hairballs) can cause acute or chronic esophageal obstruction (choke) in cattle, acting as a foreign body that leads to severe bloat, excessive salivation, and respiratory distress. While common in the rumen, these indigestible masses may lodge in the cervical esophagus, requiring immediate medical intervention such as physical, endoscopic removal, or surgical esophagotomy to relieve pressure and restore function. The esophagus is divided into three parts: cervical, thoracic and abdominal esophagus. The common condition of esophagus in ruminants is foreign body obstruction and other less common conditions are esophageal stricture, perforations, diverticulum and mega esophagus (Haven, 1990) Oesophageal obstruction can be intra-luminal or extra-luminal. Intra-luminal oesophageal obstruction may occur due to vegetables, phytobezoars (Krishnamurthy *et al.*, 1997; Tyagi and Singh, 1999), trichobezoar (Patel and Brace, 1995), tricho-phytobezoar (Gangwar *et al.*, 2013), pieces of leather or rubber (Salunke *et al.*, 2003), coconut (Madhava Rao *et al.*, 2009) or palm kernels (Hari Krishna *et al.*, 2011), Fatality and risk associated with complete oesophageal obstruction in ruminants results from the inability of fermentative gases to escape the rumeno-reticulum opening (Borakhatariya and Gadara, 2017).

The primary indication for oesophageal surgery in large animals is to relieve esophageal obstructions

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(choke) which have not responded to conservative treatment (Meagher and Mayhew, 1978).

Cervical part of esophageal obstruction due to a trichobezoar in a cow have been reported and it was regurgitated rather than ingested because of the absence of teeth marks on its outer surface (Jagdish *et al.*, 1995). Trichobezoars have been reported to cause obstruction in the lower gastrointestinal tract in a cow (Radostits *et al.*, 1994). A case of caudal cervical oesophatomy for oesophageal obstruction due to trichobezoar in a Jersey cross bred heifer and its successful surgical management is reported.

Case History and Observations:

An 18 month-old cross bred bull was presented to District Veterinary Polyclinic, Bhandara district of Maharashtra with the history of recurrent bloat, salivation, respiratory distress, abdominal distension and palpable hard mass noticed on caudal cervical oesophagus (Fig.1). Clinical examination revealed normal rectal temperature and heart rate was 82 beats/min and respiratory rate was 68 beats /min. A high pitched ping sound was heard on auscultation and percussion of the left paralumbar fossa suggestive of free gas bloat. On palpation of oesophagus on ventral aspect between 4th and 5th cervical vertebrae revealed the hard mass. An attempt was made to retrieve the obstructive foreign body but could not be relieved by passing a stomach tube and it was decided to perform caudal cervical oesophatomy to retrieve the foreign body.



Fig.1. Cervical Oesophageal swelling

Surgical Intervention:

Pre operatively animal was administered with 1.5 lit of Inj. Ringers lactate intravenously and inj. Flunixin meglumin 1.1 mg/Kg Bwt intravenously. The animal was sedated with 0.1 mg/ kg Xylazine hydrochloride and restrained in right lateral recumbency with extended neck. Following aseptic preparation of the surgical site, 15 ml of 2% Lignocaine hydrochloride was linearly infiltrated around the proposed site of operation to achieve local analgesia (Sankar *et al.*, 2022). A 7.5 cm linear skin incision was made cranial to the obstructing foreign body and cutaneous fascia was separated. The oesophagus was approached between the sterno-cephalicus muscle and trachea. The operative site was packed with a moistened cloth to avoid contamination. The obstructing mass was moved cranially towards the incision site and retrieved (Fig.2 & 3). The esophageal mucosa, submucosa and muscularis layers were healthy and mucosa of esophagus was closed with polyglycolic acid 2-0 in connell suture pattern with knot inside the esophagus lumen. The other layer was opposed in simple continuous pattern with polyglycolic acid 2-0. Skin was sutured with horizontal mattress pattern using No. 1 nylon (Fig. 4). Bisection of the foreign body revealed that it was a trichobezoar with 5 cm length x 4cm height and 3 cm diameter densely packed with hair and with a thin outer shell (Fig. 5).

Post-Surgical Management:

Post-operatively, the animal was administered with Inj. Streptopenicillin or Procaine penicillin G 66000 U/kg IM for every 24 hrs once and Flunixin meglumin 1.1 mg/kg bwt intramuscularly for 5 days. Oral feeding was withheld and animal was maintained with Dextrose normal saline 1.5 lit and Ringer's lactate 3.5 lit daily for 5 days. The owner was advised to give 5 lit waters thrice daily with 1 kg of chopped green fodder daily from 6th post-operative day upto 10 days. Restricted water and concentrate feed and advised chopped green fodder from 4th day onwards up to 10 days. The cutaneous sutures were removed on the 15th postoperative day and animal recovered uneventfully without any complication. Cervical part of esophageal obstruction due to a trichobezoar in a cross bred Jersey bull due to the licking habits of their herd mates have been reported and it was regurgitated rather than ingested because of the absence of teeth marks on its outer surface.



Fig. 2. Oesophagotomy- Foreign body within



Fig. 3. Retrieved foreign body oesophagus



Fig. 4. Skin was sutured with horizontal mattress pattern



Fig. 5. Trichobezoar (5cm length x 4cm height and 3 cm dia)- Hair and outer shell

Conclusion:

The surgical intervention as early as possible was must to save the animal's life.

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Authors Contribution:

All the authors have contributed in terms of giving their technical knowledge to frame the article.

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