

<https://doi.org/10.61308/HAHF2494>

Comprehensive Approach to Oesophageal Obstruction in an Alpaca: From Imaging to Surgery

Miroslav Genov

Multidisciplinary Veterinary Clinic Bulgaria

Corresponding author: miroslavgenov@abv.bg

Citation: Genov, M. (2025). Comprehensive Approach to Oesophageal Obstruction in an Alpaca: From Imaging to Surgery. *Bulgarian Journal of Animal Husbandry*, 62(5), 87-90

Abstract: A 7-year-old alpaca was presented to Multidisciplinary Veterinary Clinic Bulgaria with a history of progressive weight loss, regurgitation, ptyalism, and anorexia. Clinical examination raised suspicion of an oesophageal disorder. Computed tomography (CT) of the cervical region revealed a suspected intraluminal obstruction in the proximal oesophagus. Subsequent gastroscopic examination confirmed the presence of a compact bolus of hay occluding the oesophageal lumen. Endoscopic attempts at removal were unsuccessful due to the density and size of the obstruction. Surgical intervention via a cervical oesophagotomy was performed to extract the impacted material. The procedure was completed without complications, and the patient recovered uneventfully with supportive postoperative care. This case highlights the diagnostic and therapeutic challenges of oesophageal obstruction in South American camelids, emphasizing the importance of a multimodal approach that includes advanced imaging, endoscopy, and surgery for effective case resolution.

Keywords: obstruction; alpaca; CT; gastroscopy; oesophagus; surgery

INTRODUCTION

Oesophageal obstruction, commonly referred to as choke, is a relatively frequent condition in ruminants that requires prompt diagnosis and management to prevent serious complications such as aspiration pneumonia, ruminal tympany, or oesophageal rupture (Zabady et al., 2022, Singh et al., 2021). It is typically classified as intraluminal (due to feed boluses or foreign bodies) or, less commonly, extrinsic (resulting from abscesses, tumors, or pressure from adjacent structures) (Kalvin et al., 2021). The most prevalent condition is the intraluminal obstruction, and it happens when foreign bodies like large feedstuff, tauparlin fabric, trychophytobezoars, etc. become lodged in the lumen of the oesophagus (Kumar et al., 2023). Complete oesophageal obstruction is a medical emergency that necessitates prompt intervention, as it prevents the eructation of ruminal gases. This can rapidly lead to acute tympany

and respiratory distress, posing a serious risk to the animal's life (Franz et al., 2002).

The present study reports on an uncommon case of complete cranial cervical choke caused by phytobezoar in a male alpaca and its surgical management.

Case report

A 7-year-old alpaca was presented to Multidisciplinary Veterinary Clinic Bulgaria with a history of progressive weight loss, regurgitation, ptyalism, and anorexia. Clinical examination raised suspicion of an oesophageal disorder. The animal was housed in a controlled environment alongside three other alpacas and was not kept in contact with any other species.

Advanced diagnostic imaging was performed to investigate the suspected oesophageal pathology. A computed tomography (CT) scan of the cervical region was conducted using a Siemens SOMATOM go. Now scanner. The animal was

placed in sternal recumbency under light sedation, and a helical scan was obtained. The CT images revealed a well-defined intraluminal structure occupying the proximal cervical oesophagus (Fig. 1), consistent with a foreign body or feed bolus. There was no evidence of perforation, emphysema, or external compression.

Following the CT scan, a gastroscopic examination was carried out under general anesthesia using a video endoscopy system (Olympus EVIS EXERA III CV-190) (Shawaf et al., 2017). The endoscope was introduced via the oral cavity and advanced into the oesophagus. Endoscopic visualization confirmed the presence of a dense, compacted bolus of hay (Figures 2 and 3) occluding the oesophageal lumen approximately 30 cm caudal to the oral opening. The mucosa surrounding the obstruction appeared mildly erythematous but intact. Multiple attempts were made to break up and retrieve the obstructive material using grasping forceps and lavage, but they were unsuccessful due to the tightly impacted nature of the mass. Given the failure of conservative and endoscopic methods, surgical intervention was deemed necessary.

Due to the failure of endoscopic management, surgical removal of the oesophageal obstruction

was undertaken. The alpaca was placed under general anesthesia and positioned in dorsal recumbency with slight neck extension to provide optimal access to the cervical oesophagus. The surgical field was aseptically prepared and draped.

A ventral midline cervical approach was selected to access the distal cervical oesophagus. A skin incision was made along the ventral midline,



Figure 2. Gastroscopy, oesophagus

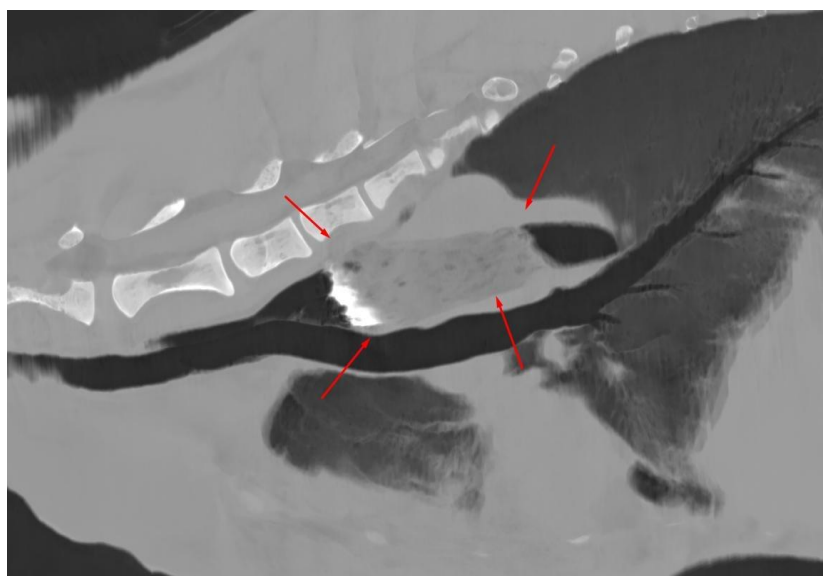
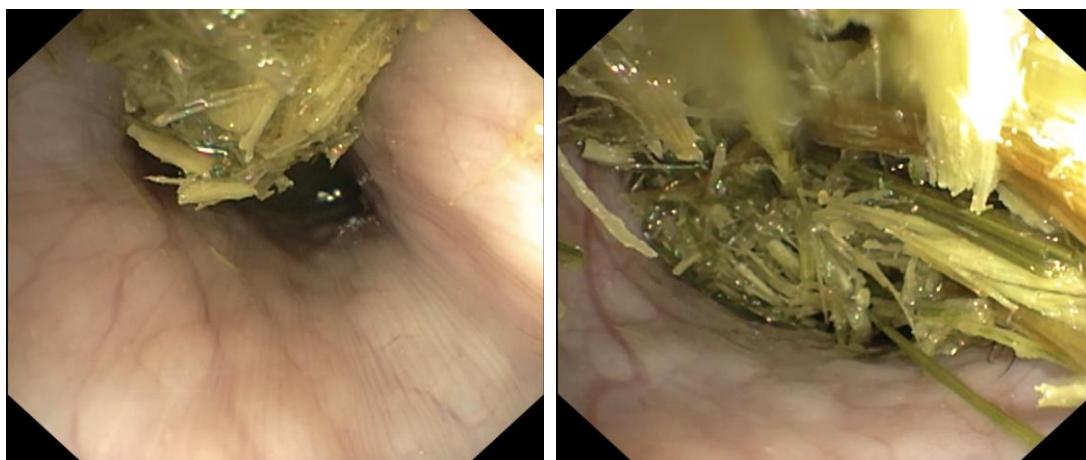


Figure 1. Computed tomography (CT) of oesophageal structure

Figure 3. Gastroscope, oesophagus with obstruction**Figure 3.** Gastroscope, oesophagus with obstruction

beginning just caudal to the mandibular angle and extending caudally toward the thoracic inlet. The paired sternocephalicus and sternothyrohyoideus muscles were carefully bluntly dissected along the midline to expose the trachea. The recurrent laryngeal nerves were identified and preserved throughout the dissection. The esophagus was located dorsolateral to the trachea on the left side and gently mobilized using blunt dissection (Eljalii et al., 2022, Singh et al., 2021).

The impacted bolus was palpated within the oesophageal lumen approximately 5 - 10 cm cranial to the thoracic inlet. A longitudinal oesophagotomy of approximately 3 - 4 cm was performed over the most prominent part of the obstruction. A dense, fibrous phytobezoar composed primarily of dry hay was identified and carefully removed using atraumatic grasping forceps. The oesophageal lumen was flushed with sterile saline to remove residual material and assess mucosal integrity, which was mildly irritated but intact.

The oesophagotomy was closed in two layers: the mucosa and submucosa were opposed with simple interrupted absorbable sutures (e.g., 4-0 polydioxanone), followed by a second layer incorporating the muscularis and adventitia using a simple continuous or Cushing pattern. The

muscular layers and skin were closed in layers routinely. A Penrose drain was not placed due to the clean nature of the procedure and absence of contamination.

Postoperative care included parenteral antibiotics, anti-inflammatory drugs, and withholding of oral feed for 48 - 72 hours, followed by a gradual reintroduction of a soft, slurry diet. The alpaca recovered uneventfully and resumed regular feeding within several days.

DISCUSSION

Oesophageal obstruction in South American camelids, although relatively uncommon, represents a potentially life-threatening condition due to the risk of impaired eructation, acute ruminal tympany, and aspiration pneumonia. In this case, the obstruction was localized in the distal cervical oesophagus and was caused by a compact phytobezoar composed of hay fibers. Such obstructions are typically the result of improper feeding practices, poor mastication, or competition for food. However, in this alpaca, the cause remained unclear, as the animal was housed in a controlled environment with limited access to non-dietary foreign material.

CONCLUSION

This case further emphasizes the importance of early diagnosis and intervention in oesophageal obstruction, particularly in species such as alpacas, where the clinical signs can be subtle and progressive. It also demonstrates the benefits of a multimodal diagnostic and therapeutic approach, combining advanced imaging, endoscopy, and surgery.

REFERENCES

- Eljalii, I., Zabady, M., Elnahas, A. & Shawaf, T. (2022). Esophageal obstruction due to trichobezoar in a she-camel (*Camelus dromedarius*). *Open Veterinary Journal*, 12(6), 855. <https://doi.org/10.5455/OVJ.2022.v12.i6.10>.
- Franz, S. & Baumgartner, W. (2002). A retrospective study of oesophageal endoscopy in cattle – Oesophagoscopy for diagnosis of mucosal disease. *The Veterinary Journal*, 163(2), 205 - 210. <https://doi.org/10.1053/tvj.2001.0653>.
- Kavin, R., Bharathidasan, M., Sivashankar, R., Raj, H. P. & Kumar, V. V. (2021). Surgical management of choke due to trichobezoars in a cow: A case report. *The Pharma Innovation Journal*, 10(11), 205 - 207. <https://doi.org/10.22271/tpi.2021.v10.i11Sd.8703>.
- Kumar, A., Dheeraj, D., Monika & Priyanka. (2023). Surgical management of cervical oesophageal obstruction in a buffalo calf. *International Journal of Veterinary Sciences and Animal Husbandry*, 8(3), 35 - 37. <https://doi.org/10.22271/veterinary.2023.v8.i3a.519>.
- Shawaf, T., Ramadan, O. R., Elnahas, A., Eljalii, I. & Al Salman, M. F. (2017). Oesophagoscopy and endoscopic aided removal of oesophageal foreign bodies in camel calves (*Camelus dromedarius*). *Journal of Camel Practice and Research*, 24(1), 35. <https://doi.org/10.5958/2277-8934.2017.00005.4>.
- Singh, S., Palecha, S., Bishnoi, P. & Gahlot, T. K. (2021). Oesophageal obstruction in dromedary camels: Report of 4 cases. *Journal of Camel Practice and Research*, 28(2), 197 - 200. <https://doi.org/10.5958/2277-8934.2021.00033.3>.
- Zabady, M. K. & Shawaf, T. (2022). A retrospective study of choke (oesophageal obstruction) in 64 one-hump dromedary camels (*Camelus dromedarius*) in Saudi Arabia. *Veterinary Record Open*, 9(1), e53. <https://doi.org/10.1002/vro2.53>.

Received: May 15, 2025; Approved: July 01, 2025; Published: October, 2025