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***Case report***

# Evaluation of cervical esophagotomy for the treatment of chronic perforating esophageal foreign body in a cat

***Mohammad Bayazid Bostami*, Mohammad Tayyabul Hoq Chowdhury, Aparna Datta, Mizanur Rahman, Abdul Mannan, Mir Md. Afzal Hossain***

Teaching and Training Pet Hospital and Research Center, Chattogram Veterinary and Animal Sciences University, Chattogram, Bangladesh

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*Corresponding author:
Cell: +8801625876820

E-mail:bayazid.vet39@gmail.com

ABSTRACT

Esophageal foreign bodies are an emergency medical condition encountered in small animal practice as it can cause mortality if not treated properly. Herein, we narrate an uncommon perforating esophageal foreign body at cervical region of esophagus as well as its diagnostic and treatment protocols along with postoperative complication. A 10 months old vaccinated male intact Persian cat was presented at Teaching & Training Pet Hospital and Research Center after 28 days of incidence with the chronic signs of weight loss, lack of appetite, dysphagia, regurgitation, retching, restlessness, ptyalism and swollen of left lateral throat area. On the basis of relevant clinical history and examination, a tentative diagnosis was made as foreign body ingestion. After completion of initial physical examination, a lateral view of cervical radiography was taken and a bony mass foreign body at the cervical region was confirmed. Forceps based retrieval was attempted but failed due to long lasting and site of lodgment of foreign body. The last option, cervical esophagotomy was performed under general anesthesia and found a sharp small part of fishbone already perforated the esophagus. Removal of the mummified fishbone was achieved successfully. The patient experienced an infection at operation site at 8$^{th}$ days of postoperative and recovered after treatment. Unfortunately, after 6$^{th}$ weeks of surgery, the catdied from unknown acute vomiting and respiratory distress. The study concluded that the early diagnosis and treatment and proper postoperative care is important for good results.

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## 1. INTRODUCTION

Esophagus is a tubular structure where variety of foreign bodies may have stuck and these conditions are accounted as common emergency situations in small animal veterinary practice (Sale and William, 2006). Esophageal foreign bodies are not more common in cat compared with gastrointestinal foreign bodies, but it may create serious problem (Bebchuk, 2002). The most common foreign bodies encountered in cats are needles, toys, balls, fish bones and other bones (Fossum, 2018; Tams, 2003). Long time lodgment of esophageal foreign bodies or enforce extreme pressure causes pressure necrosis of esophageal wall and ultimately, perforation may occur (Fossum, 2018). Food may be regurgitated as cannot pass through the obstruction and result in esophageal distention (Augusto et al., 2005).

Generally, the clinical signs of esophageal foreign body lodgments depend on the site of lodgment, size of objects as well as the degree and length of time of the obstruction (Hayes, 2009). The most common important clinical presentation of esophageal obstruction is regurgitation, dysphagia, discomfort and respiratory distress (Webb, 2014) but occasionally, gagging, ptyalism, discomfort and cyanosis may also be revealed (Abd Elkader et al., 2020). In some cases, serious consequences may be found if the esophageal foreign bodies are not revealed through medical examination (Zoran, 2005) and the possible complications are pleural inflammation, esophagitis, aspiration pneumonia and mortality (Aiello et al., 2016).

Adequate history combined with clinical findings and radiographs are commonly involved in the initial diagnosis of esophageal foreign body in small animals. Palpation of esophageal lodgment site may be indicative for foreign body involvement. To confirm the diagnosis, plain and contrast radiography is mandatory (Tyrrell and Beck, 2006). Detection of bone and other mineral or metal-opacity objects are straightforward in plain radiography but less radio-opaque materials might not be easy and need contrast radiographs. (Thompson et al., 2012). Information about lodgment site and possible complications are revealed in radiography (Tams, 2003). Endoscopy is another important widely used diagnostic tools for justification of esophageal diseases (Zoran, 2005). Possible differential diagnosis can be made for esophageal foreign bodies, and these are rabies, trigeminal neuropathy, periodontal disease, oropharyngeal or tracheal foreign body, oesophageal tumor, oesophageal stricture, diverticula or insect bites (Plunkett, 2013).

The treatment strategy is focused on some factors like size of foreign bodies, site of lodgment and nature of objects (Webb, 2014). Esophageal foreign body surgery is complicated in comparison to other parts of the digestive tract and have greater chance to postsurgical complications because of its structure, topography and function (Monnet, 2020). In veterinary practice, a small number of studies are found providing outcome of esophageal surgical treatment and the results of these studies are varied with mortality of 7%-80% (Ranen et al., 2004; Doran et al., 2008 and Sale and William, 2006). In a study of Sutton et al., 2016, complications of esophageal surgery frequently found in 33.33% of cats and 54% of dogs and these complications were esophageal perforation, esophagitis, wound dehiscence, leakage, stricture formation, aspiration pneumonia, infection, fistulas or abscess formation that can be cured by appropriate treatment and proper surgical management (Neamțu et al., 2021; Abd Elkader et al., 2020; Augusto et al., 2005).Manual traction with forceps may be effective when the foreign body is located in the pharynx or proximal esophagus and is suitably shaped and sized. Endoscopy allows direct visualization and localization of the foreign body, and in most instances enables successful removal without surgical intervention (Birk et al., 2016).

This case report aims to describe a perforating esophageal foreign body in a cat, highlighting the physical and radiological examinations, treatment approaches, and resulting complications.

## 2. MATERIALS AND METHODS

The case study was conducted on a 10 months old male non-castrated cat, Persian breed, 2.1 kg body weight. The patient was presented for treatment purpose at the Teaching & Training Pet Hospital and Research Center (TTPHRC), Chittagong Veterinary and Animal Sciences University (CVASU) after 28 days of illness. Before presenting to the hospital, the patient had received multiple courses of treatment from different clinics. On presentation, the signs were lack of appetite, weight loss, dysphagia, regurgitation, retching, restlessness, ptyalism and swollen of left lateral throat area. From owner statement by questioning, it assumed that the cat was feed with fish bone 28 days before consultation and the presence of a foreign body was suspected and then patient was referred to radiography unit for confirmative diagnosis.

On radiographic examination, a radiopaque foreign body looks like a mummified material was revealed in the proximal part of the cervical esophagus (Figure-2). Radiographic image also

explained that foreign particle mass compressed the trachea ventrally. Due to the high risk of esophageal hemorrhage, the foreign body could not be removed manually with artery forceps; therefore, esophagostomy was chosen as the definitive treatment option.

On the operation day, the patient was sedated with xylazine hydrochloride @ 1mg/kg intramuscularly and induction with ketamine hydrochloride @ 8mg/kg intravenously and anesthesia was maintained by same agent. Then, the animal was restrained in right lateral recumbency, and the surgical area was prepared aseptically. A longitudinal incision was done on the cervical portion of the neck just above obstruction. After skin incision, subcutaneous tissue was separated. Sternocephalicus, jugular vein, carotid artery and vagosympathetic trunk were handled gently to avoid any damage. Intraoperative period, a small sharp fish bone was identified which already pierced the esophageal wall and finally, the esophagus was exposed and revealed the presence of foreign body (Figure-3). A longitudinal incision was made on the oesophagus and the mummified fishbone mass removed successfully (Figure-4).

The esophageal mucosal integrity was reduced as well as the esophageal wall was fibrosed at lodgment site due to long time remaining of foreign body. After wound cleaning with normal saline, the esophageal incision was repaired by suturing with Vicryl 3-0 in a two-layer pattern. Subsequently, muscle, fascia and skin were closed as standard procedure.

**Figure-1:** Foreign body ingested patient

**Figure-2:** Arrow mark indicates foreign body on lateral view of x-ray

**Figure-3:** Subcutaneous tissue dissection to identify the Oesophagus

**Figure-4:** Removal of fishbone from cervical oesophagus

Postoperatively, the patient was restricted from eating food for 5-7 days and received only intravenous fluid with 5% dextrose normal saline and other nutritional supplements (vitamin B complex) twice in a day. In addition, parental antibiotic (ceftriaxone 50mg/kg) intramuscularly for 7 days and anti-inflammatory (meloxicam 0.2mg/kg) subcutaneously for 3 days were given. The owner was instructed about the patient's postoperative care.

## 3. RESULTSAND DISCUSSION

The patient made a full recovery at 1st week of surgery, but complication was identified after 10 days of surgery. Infection (abscess formation) was found and pus revealed after needle aspiration and a small cut on the skin was performed to drain out the pus (Figure-5). After that, wound dressing and antibiotic were advised. On the 25th day after surgery, the surgical incision was healed completely (Figure-6). The cat lives a very happy life with normal appetite. Unfortunately, after 6th weeks of surgery, owner informed that the cat died from acute vomition and respiratory distress. Clear cause behind the death during this time was not clear because owner was unable to bring the patient to the clinic for further investigation.

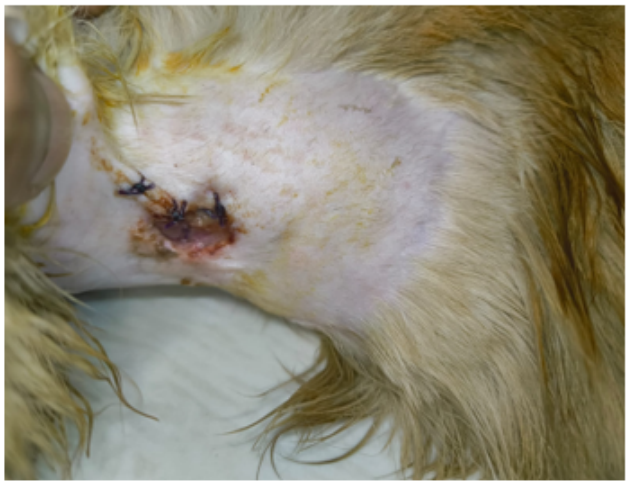

**Figure-5:** Postoperative infection at surgical site

**Figure-6:** Healed skin wound after complication

Mentioned clinical signs and physical findings of this case were similar to the reports of Pratt et al., 2014. These signs are more or less common findings for esophageal foreign bodies in cats but also found in other esophageal diseases and conditions (Webb, 2014). Presumptive diagnosis can be made from the owner complaint that the patient ingested foreign particles (Zoran, 2005).

Clinical signs, together with physical and radiographic examinations, confirmed the diagnosis of an esophageal foreign body in cats. Radiographic examination is most important tool in veterinary practices for definitive diagnosis of foreign body with exact location in cats (Tyrrell and Beck, 2006). Lodgment of foreign bodies at the cervical region of esophagus, may sometimes be detected by palpation. However, a definitive diagnosis sometimes need the combination of different methods (Neamțu et al., 2021). There are several ways for diagnosis of esophageal diseases includes clinical history, clinical signs, imaging techniques (plain or contrast radiography) and/or endoscopy for direct visualization (Fossum, 2018; Harari, 2004).

In this study, the foreign body identified was a fish bone. Generally, a wide variety of foreign body ingested particles found in cats and these includes bones, small toys and needles mostly (Hayes, 2009). The study carried out by Abd Elkader et al., 2020, they identified sewing needles and bones were the main types of foreign body in the esophagus. However, the study by Binvel et al., 2018 reported fishhooks

were the foreign body to lodge in the proximal esophagus whereas another article defined the presence of foreign bodies observed majority in the pharyngeal area, with a few numbers of foreign bodies identified in the caudal esophagus (Michels et al., 1995).

Extraction of esophageal foreign bodies are counted for an emergency protocol in veterinary practice, if longer duration of foreign objects remains in the esophagus, there is the higher risk of aspiration and esophageal wall injury caused by pressure necrosis (Bebchuk, 2002). In this study, esophagotomy treatment plan was performed. Surgical removal of foreign body is an important technique suggested in many articles when the location of lodgment is far from the pharyngeal area and not possible to remove via manually using forceps and also if the size of particles is large enough that does not allow for endoscopic removal. Previous studies stated that esophagotomy performed in 26.7% cats (Abd Elkader et al., 2020) whereas in other reports, surgical intervention was allowed in only 18% of the animals (Binvel et al., 2018). About 17 cats (56%) were taken under a minimal invasive technique for the removal of foreign objects like removal of foreign body via forceps (Abd Elkader et al., 2020).In pharyngeal region foreign bodies, forceps-based extraction has been described as a treatment method for foreign bodies in dogs (Gugjoo et al., 2012), and also forceps based manual retrieval is a common treatment for oral foreign bodies in dogs and cats (Cote, 2015), but in the present case study, forceps based retrieval was unable to performed due to chronic lodgment of foreign body in cervical region. Postoperative care is very important after surgery to achieve better result. The patient was kept off food and water for a period of 5–7 days and instructed for intravenous fluid as well as vitamin supplements. Regarding postoperative care, after surgical removal of foreign objects, the patient should be carefully monitored for 2 to 3 days for signs of esophageal leakage. Aspiration pneumonia results from regurgitation or vomiting, which can be fatal (Johnston et al., 2017). In case of esophagitis, pneumonia, mediastinitis or pleuritic, antibiotics should be administered (Johnston et al., 2017).

The details of surgical site infection (abscess formation) and unexpected death of the patient have already been discussed above. Several types of complications associated with foreign body in esophagus, such as perforation of esophagus, stricture, inflammation and aspiration pneumonia (Sterman et al., 2018). The study of Abd Elkader et al., 2020, have found about 20% (6/30) complications with no deaths in esophageal foreign body removal cases. Esophageal perforation and abscess formation were the main common complications related with esophageal foreign bodies (Aiello et al., 2016). Prognosis and mortality for foreign body lodgment in esophagus depends on the nature of the foreign objects, lodgment site and further complications. Cervical esophagus perforation was found up to 6% mortality in cats and caudal lodgment of foreign body may increases this percentage (Brinster et al., 2004).

## 4. CONCLUSION

Although esophagotomy is a more complex and invasive procedure, it was the only viable option in this study to avoid high risk of esophageal hemorrhage on forceps-based removal. Prompt diagnosis and timely surgical intervention improve outcomes in cases of esophageal foreign bodies by minimizing the risk of complications. Radiographic imaging remains the most crucial tool for locating radiopaque foreign bodies. Effective postoperative care helps reduce complications and promotes smoother recovery

## REFERENCES

Abd Elkader, N.A., Emam, I.A., Farghali, H.A. and Salem, N.Y., 2020. Oesophageal foreign bodies in cats: Clinical and anatomic findings. *Plos one*, *15*(6), p. e0233983.

Aiello, S.E., Moses, M.A. and Allen, D.G. eds., 2016. *The Merck veterinary manual* (p. 3325). White Station, NJ, USA: Merck & Company, Incorporated.

Aiello, S.E., Moses, M.A. and Allen, D.G. eds., 2016. *The Merck veterinary manual* (p. 3325). White Station, NJ, USA: Merck & Company, Incorporated.

Augusto, M., Kraijer, M. and Pratschke, K.M., 2005. Chronic oesophageal foreign body in a cat. *Journal of Feline Medicine and Surgery*, *7*(4), pp.237-240.

Bebchuk, T.N., 2002. Feline gastrointestinal

foreign bodies. *Veterinary Clinics: Small Animal Practice*, *32*(4), pp.861-880.

Bebchuk, T.N., 2002. Feline gastrointestinal foreign bodies. *Veterinary Clinics: Small Animal Practice*, *32*(4), pp.861-880.

Binvel, M., Poujol, L., Peyron, C., Dunie-Merigot, A. and Bernardin, F., 2018. Endoscopic and surgical removal of oesophageal and gastric fishhook foreign bodies in 33 animals. *Journal of Small Animal Practice*, *59*(1), pp.45-49.

Birk, M., Bauerfeind, P., Deprez, P.H., Häfner, M., Hartmann, D., Hassan, C., Hucl, T., Lesur, G., Aabakken, L. and Meining, A., 2016. Removal of foreign bodies in the upper gastrointestinal tract in adults: European Society of Gastrointestinal Endoscopy (ESGE) Clinical Guideline. *Endoscopy*, *48*(05), pp.489-496.

Brinster, C.J., Singhal, S., Lee, L., Marshall, M.B., Kaiser, L.R. and Kucharczuk, J.C., 2004. Evolving options in the management of esophageal perforation. *The Annals of Thoracic Surgery*, *77*(4), pp.1475-1483.

Cote E., 2015. Clinical veterinary advisor: dogs and cats. 3rd ed. USA: Elsevier;

Doran, I.P., Wright, C.A. and Moore, A.H., 2008. Acute oropharyngeal and esophageal stick injury in forty-one dogs. *Veterinary Surgery*, *37*(8), pp.781-785.

Fossum, T.W., 2018. Small animal surgery, 5th Ed., E-Book, Elsevier Health Sciences, 424-441.

Gugjoo, M.B., Ahmad, R.A., Mathew, D.D., Kumar, V. and Ninu, A.R., 2012. Retrieval of pharyngeal foreign body through oral approach in three dogs. *Journal of Advanced Veterinary Research*, *2*(4), pp.299-300.

Harari, J. (2004). Small animal surgery secrets. Elsevier Health Sciences, 37-40, 141-146.

Hayes, G., 2009. Gastrointestinal foreign bodies in dogs and cats: a retrospective study of 208 cases. *Journal of Small Animal Practice*, *50*(11), pp.576-583.

Hayes, G., 2009. Gastrointestinal foreign bodies in dogs and cats: a retrospective study of 208 cases. *Journal of Small Animal Practice*, *50*(11), pp.576-583.

Johnston, S.A. and Tobias, K.M., 2017. *Veterinary Surgery: Small Animal Expert Consult-E-BOOK: Veterinary Surgery: Small Animal Expert Consult-E-BOOK*. Elsevier Health Sciences.

Michels, G.M., Jones, B.D., Huss, B.T. and Wagner-Mann, C., 1995. Endoscopic and surgical retrieval of fishhooks from the stomach and esophagus in dogs and cats: 75 cases (1977-1993). *Journal of the American Veterinary Medical Association*, *207*(9), pp.1194-1194.

Monnet, E., 2020. Esophagectomy and reconstruction. *Gastrointestinal Surgical Techniques in Small Animals*, pp.105-110.

Neamțu Ciubotariu, A., Burtan, L.C. and Drugociu, D.G., 2021. Cervical oesophagotomy in a cat for foreign body removal-case report.

Plunkett, S.J. (2013). Emergency procedures for the small animal veterinarian. Elsevier Health Sciences, 243-247.

Pratt, C.L., Reineke, E.L. and Drobatz, K.J., 2014. Sewing needle foreign body ingestion in dogs and cats: 65 cases (2000–2012). *Journal of the American Veterinary Medical Association*, *245*(3), pp.302-308.

Ranen, E., Lavy, E., Aizenberg, I., Perl, S. and Harrus, S., 2004. Spirocercosis-associated esophageal sarcomas in dogs: a retrospective study of 17 cases (1997–2003). *Veterinary Parasitology*, *119*(2-3), pp.209-221.

Sale, C.S. and Williams, J.M., 2006. Results of transthoracic esophagotomy retrieval of esophageal foreign body obstructions in dogs: 14 cases (2000–2004). *Journal of the American Animal Hospital Association*, *42*(6), pp.450-456.

Sterman, A.A., Mankin, K.M.T., Ham, K.M. and Cook, A.K., 2018. Likelihood and outcome of esophageal perforation secondary to esophageal foreign body in dogs. *Journal of the American Veterinary Medical Association*, *253*(8), pp.1053-1056.

Tams, T.R., 2003. *Handbook of Small Animal Gastroenterology*. Elsevier Health Sciences.

Tyrrell, D. and Beck, C., 2006. Survey of the use of radiography vs. ultrasonography in the investigation of gastrointestinal foreign bodies in small animals. *Veterinary Radiology &Ultrasound*, *47*(4), pp.404-408.

Tyrrell, D. and Beck, C., 2006. Survey of the use of radiography vs. ultrasonography in the investigation of gastrointestinal foreign bodies in small animals. *Veterinary Radiology &Ultrasound*, *47*(4), pp.404-408.

Webb, J., 2014. Gastrointestinal and esophageal foreign bodies in the dog and cat. *The RVT Journal*, *10*, pp.6-10.

Zoran, D.L., 2005. Esophageal foreign bodies and strictures. *Standard Care Emergency Critical Care Medicine*, *7*, pp.1-6.