

ENDOSCOPIC RETRIEVAL OF THORACIC OESOPHAGEAL FOREIGN BODY IN A 4-MONTH-OLD TOM CAT

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SUMMARY

A tom cat was presented to Referral Veterinary Polyclinic (RVP), ICAR-IVRI, Izatnagar, after being treated for clinical signs of inappetence, retching, and abdominal discomfort for 3 days with no improvement in condition. Clinical examination and palpation revealed discomfort in the oesophageal and abdominal regions. A survey radiographic examination of chest and abdomen revealed the presence of a tiny, radiopaque foreign body at the level of the base of the heart in the thoracic oesophagus. Endoscopic examination confirmed it as a ball-point pen. Subsequently, the pen was carefully retrieved using a Doyen clamp, avoiding damage to surrounding tissues. Post-operatively, the cat recovered uneventfully. The use of endoscopy has proved to be highly effective for retrieving the foreign body in the cat.

Keywords: Endoscopy, Foreign body, Oesophagoscopy, Oesophagus

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In veterinary practice, encountering stomach and esophageal foreign bodies (GFBs and OFBs, respectively) is quite common (Deroy *et al.*, 2015). These foreign bodies can vary widely, but the most frequently identified objects include needles, fish bones, and small toys, though various other types have also been detected (Hayes, 2009). To manage these cases, endoscopic retrieval is frequently employed as a minimally invasive technique to retrieve esophageal and gastrointestinal foreign bodies (Deroy *et al.*, 2015). The success rates for endoscopic removal are notably high, ranging from 78-94% for gastric foreign bodies and 68-88% for esophageal foreign bodies, illustrating its efficacy and reliability (Wood and Gallagher, 2021). This report discusses the diagnosis and management of the endoscopic removal of an esophageal foreign body in a non-descript tom cat, highlighting the practical application and benefits of this technique in a real-world scenario.

A 4-month old male non-descript kitten, weighing 2.2 kg, was presented to the Referral Veterinary Polyclinic (RVP) at ICAR-Indian Veterinary Research Institute (IVRI), Izatnagar, U.P., exhibiting clinical signs of inappetence, retching and abdominal discomfort for three days. The owner reported that the cat had been treated for the same condition over the past three days, but there was no noticeable improvement. On clinical examination, the cat displayed signs of dullness, depression, and significant discomfort upon palpation of the esophageal and abdominal regions.

Orthogonal thoracic abdominal radiographs, including lateral and ventro-dorsal views, confirmed the presence of a small, 9 mm radiopaque foreign body at the level of the base of the heart in the thoracic esophagus (Fig. 1).

Subsequently, an emergency endoscopy was performed under general anesthesia using a flexible endoscope (Karl Storz Endoskope®) to provide a more precise diagnosis and to visualize and facilitate the removal of the foreign object. The kitten was premedicated with butorphanol (0.2 mg/kg BW I/V) and Diazepam (0.2 mg/kg BW I/V). Anaesthesia was induced and maintained with ketamine (11 mg/kg BW, IV) and diazepam (0.2 mg/kg BW, IV) in 1:1 ratio.

Endoscopic examination revealed mild esophageal inflammation and the presence of a ballpoint pen, with its tip lodged in the mid-thoracic esophagus and the remaining portion extending into the gastric fundus. Skillful endoscopic retrieval under left lateral recumbency, facilitated by the use of a Doyen intestinal clamp, effectively extracted the foreign object from the animal without injuring the surrounding tissue (Fig. 2). The cat recovered well from anesthesia after the procedure (Fig. 3).

Post-procedure of endoscopy, the kitten was administered Inj. Meloxicam @ 0.2 mg/kg BW, Inj. Ceftriaxone @ 15mg/kg BW, Inj. Ondansetron @ 0.2 mg/kg BW and Inj. Pantoprazole @ 1 mg/kg BW for 3 days, respectively. Oral food intake was resumed on the second postoperative day. The cat was reportedly normal at the last follow-up conversation with the owner 7 months later. The animal recovered uneventfully immediately after the procedure without any complications. The cat immediately regained its diet and exhibited normal behavior following the retrieval.

Foreign bodies commonly get lodged in the esophagus at three constricted anatomical sites: the cricopharyngeal sphincter, the base of the heart and the esophageal hiatus in the diaphragm. They can also stuck at the thoracic inlet, where soft tissues may impede further movement

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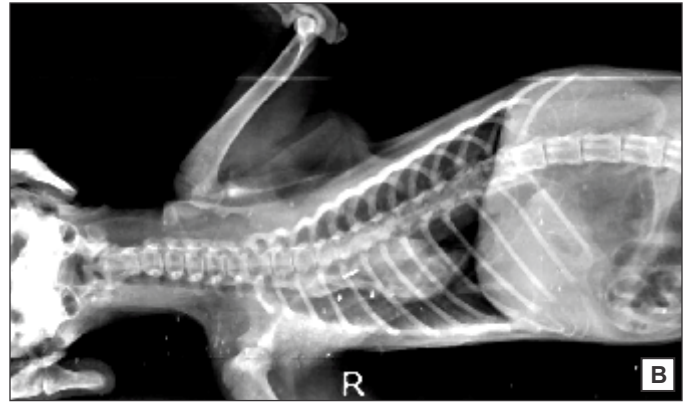


Fig. 1. Thoracic abdominal radiographs, including lateral (A) and ventrodorsal views (B), showing radiopaque foreign body located at the base of the heart in the thoracic esophagus



Fig. 2. Endoscopic retrieval of ball point pen with Doyen clamp

(Gualtieri, 2001). Potential complications from esophageal foreign bodies include aspiration pneumonia, strictures, inflammation, and esophageal perforation (Sterman *et al.*, 2018). Radiography provides valuable information about both the location of the foreign body and potential complications (Tams, 2003). Flexible endoscopy has become widely popular for its dual role in diagnosing (Zoran, 2005) and facilitating the extraction of foreign objects. Due to the radiolucent properties of the plastic pen, determining the nature of the foreign body through radiographs was challenging. However, the final diagnosis was made through endoscopy.

The removal of esophageal foreign bodies is classified as an emergency procedure because prolonged retention of an object increases the risk of aspiration and esophageal wall injury due to pressure necrosis (Bebchuk, 2002). In this case, no complications were observed, possibly due to the smooth nature of the pen.

Endoscopic retrieval of esophageal foreign bodies proves to be a highly effective and minimally invasive technique by significantly reducing the need for surgical intervention, thereby minimizing pain, shortening hospitalization time, and lowering the risk of complications. Endoscopic retrieval not only facilitates the safe removal



Fig. 3. Cat after endoscopic retrieval of foreign body

of foreign objects but also allows for the assessment of mucosal damage, providing a comprehensive approach to treatment.

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