

Clinical Case Report

AN UNUSUAL CASE OF THORACIC FOREIGN BODY IN A CAT

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ABSTRACT: A 10 month old, long hair, female Persian cat weighing 03 kg with radiographic finding of a sewing needle in the thoracic cavity and complaint of vomiting with occasional sneezing for the last two days was referred to Round Lake Animal Hospital, DHA phase-6, Lahore-Pakistan. Assuming that the needle is still in the caudal thoracic esophagus, the referring veterinarian had already performed gastrotomy in a bid to remove the needle through gastroesophageal junction but could not find it. On receiving the cat, radiographs of the thorax and abdomen were again taken to evaluate the abdominal detail and to see the exact location of the needle to decide the surgical plan. The needle was clearly seen in the dorsal third of the thoracic cavity. The abdominal radiographs were unremarkable. The needle along with thread was removed through median sternotomy. The cat recovered without any appreciable postoperative complications.

Keywords: Foreign Body, Sewing Needle, Median Sternotomy, Thoracic Cavity, Gastrotomy.

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INTRODUCTION

It is well known that the cats are naturally curious. However, this curiosity sometimes proves troublesome to them. That is why the saying "curiosity killed the cat". There are numerous reports in the literature about ingestion of discrete and linear foreign bodies in the dogs and cats. Some of the salient clinical and radiographic features of these foreign bodies; such as vomiting, diarrhea, intestinal plications with entrapped air bubbles and even the esophageal, gastric and intestinal perforations are well documented (Neamtu *et al*, 2019 and Pratt *et al*, 2014). Diagnostic accuracies of different techniques have also been discussed with their merits and demerits (Elser *et al*, 2020 and Madany *et al*, 2020). Swallowing of thread and sewing needles by the cats is potentially a life-threatening problem (Madany *et al*, 2020). Successful removal of an esophageal foreign body through gastrotomy has been reported by Davoodi *et al* (2021). Endoscopic removal of ingested sewing needles from the esophagus and stomach in the dogs and cats has been recommended to prevent gastrointestinal tract perforation and associated morbidity (Pratt *et al*, 2014). Foreign body aspiration is also a well-recognized problem in small-animal practice. Tracheobronchial foreign bodies in dogs and cats have been successfully removed with different techniques (Leal *et al*, 2017). These techniques included use of Folly catheters, intercostal thoracotomy, intrathoracic tracheotomy, bronchoscopy and fluoroscopy. A fishhook embedded in the liver of a cat was successfully removed with minimal bleeding by Masashi *et al* (2022) and from the pulmonary artery in two dogs by Dunlap *et al* (2019). However, a

sewing needle along with thread lying entirely in the thoracic cavity seems to have been rarely reported. We are reporting a case where a sewing needle pierced the thoracic esophageal wall to lie in the thoracic cavity without damaging any structure therein. The needle along with thread was removed through median sternotomy and the cat recovered uneventfully without any major postoperative complications.

Clinical and Laboratory Evaluation: Palpation of the esophagus and abdominal cavity did not reveal any abnormal findings. Despite the history of vomiting, sneezing and radiographic evidence of a sewing needle in the thoracic cavity, the cat was reasonably active and responsive. Lateral and V/D views of the thorax and abdomen were taken to evaluate the abdominal details and exact position of the sewing needle. The needle was clearly seen in the dorsal third of the thoracic cavity (Fig-1). The abdominal radiographs were unremarkable. The cat had a normal temperature (101.2 F) with a respiration rate of 25/minute, pulse rate 130 beats/minute, CRT 1.5 seconds, Hb 11.4 gm/dl, WBC value of 15×10^9 /L and PCV 38%. On the basis of radiographic findings, it was decided to perform median sternotomy to remove the needle.

Operative details and postoperative care: Intravenous line was established and the cat was put on 5% Dextrose before the start of surgery. She was anesthetized with Isoflurane and Oxygen inhalation anesthesia and controlled in dorsal recumbent position. The skin and subcutaneous tissues were incised with a scalpel over the midline of the sternum. The pectoral muscles were incised and elevated from the sternbrae. The sternum

was partially split with oscillating saw and then the incision was completed using an osteotome and orthopedic hammer sparing the manubrium and xyphoid for stable closure of the sternum (Julie *et al*, 2019). Care was taken not to penetrate the cavity with saw or osteotome in order to avoid injury to the internal thoracic structures. A self-retaining Finochietto retractor was applied to expose the thoracic cavity and the structures therein. The needle along with thread was seen lying in the dorsal third of the thorax against the vertebral column. It was carefully held in the jaws of a Pean forceps and taken out (Fig.2). The sternotomy incision was closed with simple interrupted sutures using Prolene USP/1 on a curved, strong reverse cutting needle going through partial thickness of the bone (Nenna *et al*, 2022). The pectoral muscles and subcutaneous tissue were opposed in separate layers using USP/0 Polyglycolic acid (PGA) in a continuous manner. The skin incision was closed with horizontal mattress sutures using USP/1 Prolene.

The cat was hospitalized for two weeks and was kept on Rocephin (Ceftriaxone) at the dose rate of 30mg/Kg intravenously every 12 hours for 10 days and Gabapentine (Amitriptyline) as a pain reliever at the dose rate of 05mg/Kg intramuscularly for 3 days.

RESULTS AND DISCUSSION

For the first four days, the cat did not eat or drink anything by herself. Therefore, she was given liquid diet and water orally with a syringe and intravenous fluids as needed. After this, the cat gradually started

taking food and water and was fully active. The temperature kept on fluctuating between 104.2 and 101.8 F during these days with slight leukocytosis. The other CBC parameters were within normal range. Slight exudation from the suture line was also noticed for 5 days that subsided thereafter. The LFT and RFT values did not derange throughout the convalescence period. The skin sutures were removed after two weeks and the cat was discharged from the hospital. Before discharging, a lateral radiograph was taken that showed a clear thorax (Fig.3). The owner was contacted two months after, who told that the cat was doing fine with no complaints.

Ingestion of discrete and linear foreign bodies in cats is a common occurrence. The linear foreign bodies do result in plications and even perforation of the intestines when they rub against the mesenteric border (Neamtu *et al*, 2019 and Pratt *et al*, 2014). No such signs were noticed in the present case, as the needle and thread only pierced the esophageal wall to lie in the thorax and never reached the intestines. Severe respiratory signs as described by Leal *et al* (2017), Dunlap *et al* (2019) and Masashi *et al* (2022) were also not noticed in this case. The most probably reason for the absence of those signs in the present case might be that the needle and thread were lying totally in the thoracic cavity without damaging any organ therein whereas, the foreign bodies reported in these cases were either in the trachea or were invading the liver or the pulmonary artery. Successful removal of the esophageal foreign body through gastrotomy has been reported by Davoodi *et al* (2021); however, the referring veterinarian was unable to accomplish it, as the foreign body in this case was extra-esophageal.



Fig.1: Lateral view of thorax showing sewing needle



Fig.2: Recovered sewing needle and thread.



Fig.3: Lateral view of thorax two weeks' post-surgery.

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