









Sewing thread lodged under a cat's tongue caused an intestinal obstruction: a case report



Roman Mylostyyvi^a  | João Batista Freire Souza-Junior^{bc}  | Djallal Eddine Rahmoun^d  | Marko Samardžija^e  | Marcjanna Wrzecińska^f  | Mohammed Amine Fares^g  | Farooz Ahmad Lone^h  | Bogdan Gutyjⁱ  | Daria Mylostyva^j 

^aDnipro State Agrarian and Economic University, Dnipro, Ukraine.

^bDepartment of Animal Science, Universidade Federal do Ceará, Fortaleza, CE, Brazil.

^cLaboratory of Animal Biometeorology and Environmental Biophysics, Universidade Federal Rural do Semi-Árido, Mossoró, RN, Brazil.

^dLaboratory of Animal Production, Biotechnologies and Health, University of Souk-Ahras, Algeria.

^eFaculty of Veterinary Medicine, University of Zagreb, Zagreb, Croatia.

^fDepartment of Ruminant Science, West Pomeranian University of Technology, Szczecin, Poland.

^gLaboratory of Sciences and Technics of the Livings, Institute of Agriculture and Veterinary Sciences Taoura, University of Souk Ahras, Algeria.

^hSher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, India.

ⁱStepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies, Lviv, Ukraine.

^jState Institution "Institute of Gastroenterology of the National Academy of Medical Sciences of Ukraine", Dnipro, Ukraine.

Abstract A 4-year-old cat was admitted to a private veterinary clinic with complaints of lethargy, intermittent vomiting, and anorexia. A sewing thread was found under the cat's tongue on clinical examination. An abdominal ultrasound confirmed the presence of a linear foreign body in the duodenum. Emergency surgery was performed on the day of the presentation. The sewing thread was successfully extracted by enterotomy. The cat's recovery proceeded without complications.

Keywords: cat, sewing thread, linear foreign body, duodenotomy, ultrasonography

1. Introduction

Ingestion of foreign objects is a common clinical problem in cats. The most commonly ingestible foreign bodies include string, needles, toys, and hair (Bostami et al 2020). The cats can often swallow these types of items without any problem. If the object moves freely through the intestinal tract, it can pass and be cleared in the feces. The issues occur when a linear item becomes anchored in the digestive system. The most common anchor point is the tongue. The item is caught under the tongue and then swallowed, resulting in an anchored linear item descending into the stomach and intestines. Early detection of foreign bodies in the intestines of cats is crucial for successful treatment and a good prognosis for the patient (Parlak et al 2022). However, the presence of linear foreign objects (LFBs), such as threads, tapes, or strings, poses a challenge. If not removed, LFBs can get stuck in the digestive tract, causing obstruction and potentially leading to severe complications, such as perforation or peritonitis. The underlying pathophysiology of gastrointestinal foreign body obstruction results from a failure of the forward flow of gastrointestinal contents secondary to the physical presence of the foreign material (Koenig and Wallace 2022). Clinical signs of gastrointestinal foreign bodies include vomiting, anorexia, lethargy, and abdominal pain (Nandini et al 2017). Typically, surgical intervention is recommended in patients who develop clinical signs or whose foreign body fails to advance after three days (Lee 2018). Ultrasound has become widely used to identify foreign objects or gastrointestinal obstruction in animals, with some suggesting ultrasound may be preferred over survey radiography (Koenig and Wallace 2022). In our case, abdominal ultrasound for a linear foreign body was only an auxiliary diagnostic method, as the sewing thread that had become lodged under the tongue was detected during an examination of the cat's oral cavity.

2. Case description

In late December 2022, a 4-year-old female cat belonging to a client was brought to the Private Veterinary Clinic Kind Doctor in Dnipro with complaints of lethargy, vomiting, lack of appetite and of thirst for several days. On clinical examination, the cat was lethargic, and she sat with her back arched, head lolled towards the ground. The cat was dehydrated, and her hair was unkempt. Rectal temperature was within normal limits, and heart and respiratory rates were elevated.

On opening the cat's mouth, a sewing thread was found lodged in the base of the tongue (Figure 1). On palpation of the cat's abdominal wall, pain was noted. Ultrasound sonography showed a classical "string of pearls" gas pattern in the abdomen consistent with a linear foreign body. Bloodwork showed an elevation in blood urea nitrogen, creatinine, and urea. The



hematocrit was elevated. A complete blood count showed increased white blood cells with the white blood cell formula shift to the left.

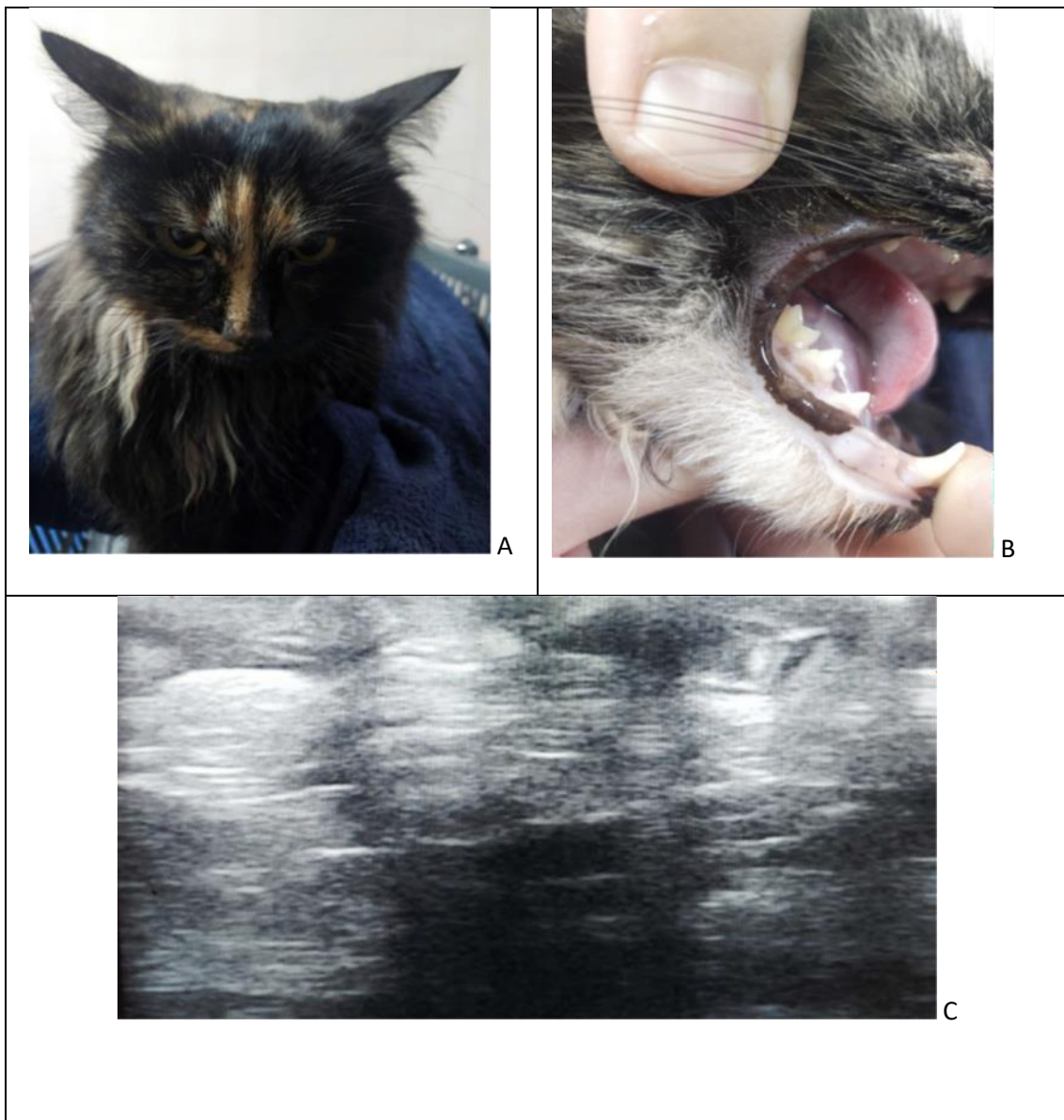


Figure 1 Appearance of the cat on clinical examination (A), sewing thread lodged under the cat's tongue (B), ultrasound sonography showed a classical "string of pearls" gas pattern in the abdomen consistent with a linear foreign body (C).

Based on the history, clinical examination, and abdominal ultrasound, a linear foreign body was diagnosed, and a surgical correction was performed on the presentation day.

3. Treatment and Discussion

The cat was sedated with xylazine hydrochloride, 1 mg/kg body weight (XYLA[®], Interchemie Werken, Holland) and general anesthesia was induced with tiletamine/zolazepam 15 mg/kg body weight and maintained 7.5 mg/kg body weight (Zoletil[®], Virbac Laboratories, France). The cat was premedicated with atropine 0.05 mg/kg body weight (Atropine Sulfate; Darnitsa, Ukraine) 15 min before general anesthesia.

The ventral midline was prepared aseptically for surgery. A ventral midline laparotomy incision was given, and the stomach and intestines were exteriorized carefully. Small incisions on the duodenum were given, and a sewing thread was also found in the intestine cavity (Figure 2). Several long pieces of sewing thread were removed successfully after they had previously been cut under the cat's tongue. The enterotomy wound were closed with a simple interrupted appositional pattern with 4-0 monofilament absorbable suture. Abdominal lavage was performed with warmed Normal saline solution. Abdominal muscles, and skin were sutured in a regular manner.

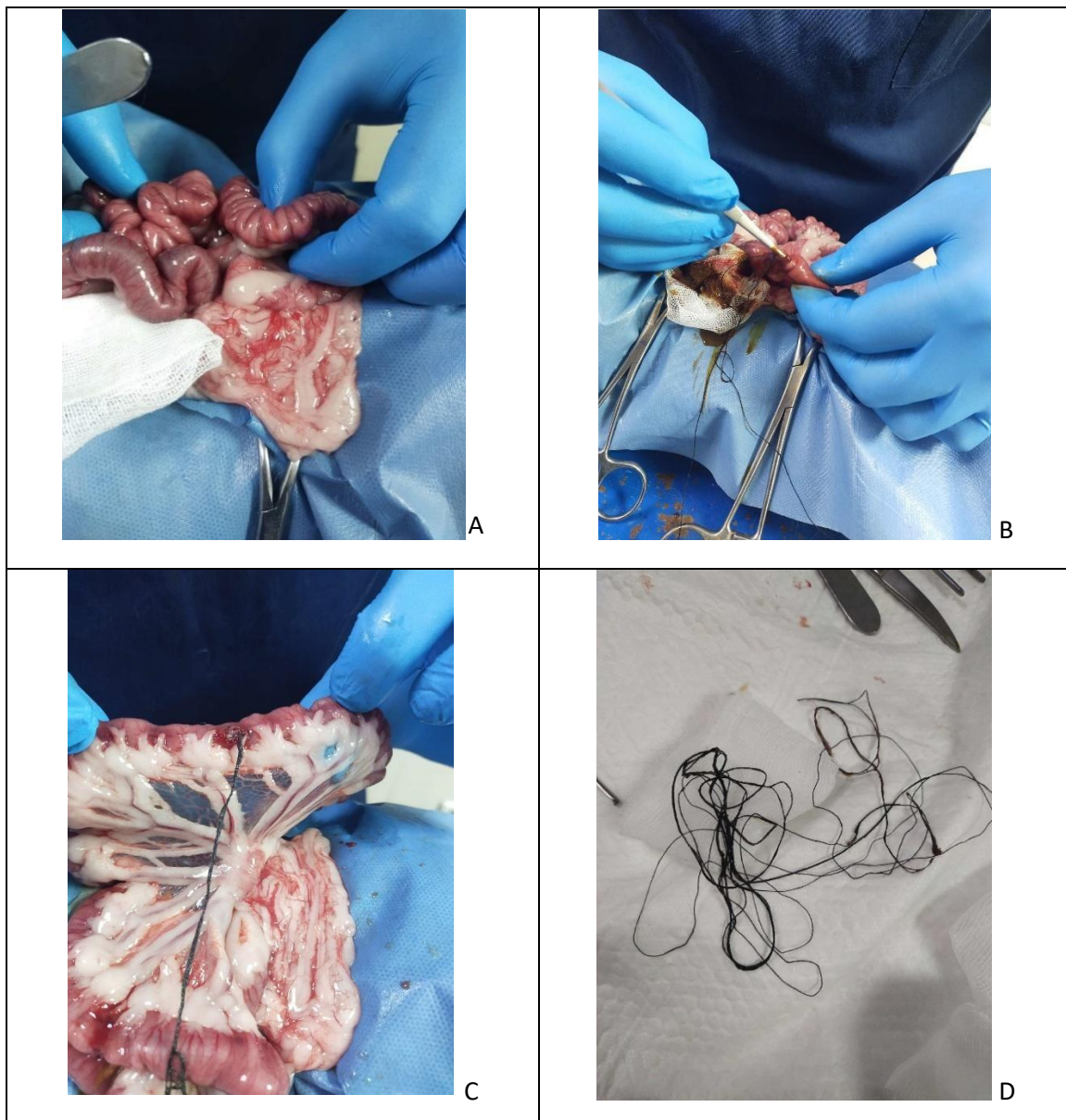


Figure 2 Plicated bowel with a linear foreign body inside (A), excision of bowel sections during surgery (B), removal of sewing thread from the duodenum (C), entire sewing thread removed after surgery (D).

Postoperatively the cat has been treated with ceftriaxone 30 mg/kg body weight (Ceftriaxone-Darnitsa; Darnitsa, Ukraine) for seven days and dexmedetomidine 10 μ g/kg body weight (Dexdomitor®; Zoetis, USA) for three days. Postoperatively food and water were withheld for three days, and the cat was maintained with parenteral nutrition, which included crystalloids and colloids twice daily. Sutures were removed on the 14th day of operation, and successful recovery was noticed. The animal recovered uneventfully.

Although gastrointestinal foreign bodies are a fairly common surgical pathology in pets, linear foreign bodies are more common in cats than dogs. Moreover, in most cases, the foreign bodies are filamentous (Felts et al 1984). These foreign bodies cause a unique intestinal obstruction associated with severe and extensive intestinal tract damage and rarely pass without complications (Nandini et al 2017). Checking under the tongue for the presence of sewing thread is not always possible, and even if a thread is present, it is not always visible. Often the only hint is the presence of an intestinal fold on the radiograph or ultrasound.

The decision about surgical intervention is usually made based on how ill the patient looks by resorting to a diagnostic laparotomy. In a study by Basher and Fowler (1987), approximately one-third of the 24 cats with foreign tongue bodies were able to avoid surgery by simply cutting the string under the tongue. After loosening the string tension in these patients, the remainder of the line could pass without complications. If the cat did not show improved appetite and activity or continued to vomit, or was still more apathetic, only then was a surgical revision performed.

4. Conclusions

Gastrointestinal foreign bodies are a common reason for presenting to veterinary emergency departments. A thorough oral examination should be performed on cats showing gastrointestinal symptoms. An animal examination found that the cat had a sewing thread under the tongue, causing gastrointestinal tract obstruction due to a linear foreign body. The animal recovered without complications after a timely diagnosis and surgical intervention.

Ethical considerations

Animal care and handling procedures followed the Ethics Committee's guidelines on the Use of Animals in Experiments. (The Commission on Bioethics of the Dnipro State Agrarian and Economic University, protocol No. 1/05 dated May 5, 2023).

Conflict of Interest

There was no conflict of interest.

Funding

There was no funding from any agency.

References

- Basher AWP, Fowler JD (1987) Conservative versus surgical management of gastrointestinal linear foreign bodies in the cat. *Veterinary Surgery* 16:135-138. DOI: 10.1111/j.1532-950x.1987.tb00925.x
- Bostami MB, Datta A, Rahman M, Mannan A, Hossain MMA (2020) Duodenotomy in a cat for removal of a sewing needle: a case report. *Bangladesh Journal of Veterinary and Animal Sciences* 8:151-154.
- Felts JF, Fox PR, Burk RL (1984) Thread and sewing needles as gastrointestinal foreign bodies in the cat: a review of 64 cases. *Journal of the American Veterinary Medical Association* 184:56-59.
- Koenig A, Wallace ML (2022) Gastrointestinal foreign bodies. *Small Animal Surgical Emergencies*, 70-80. Portico. DOI: 10.1002/9781119658634.ch5
- Lee JH (2018) Foreign body ingestion in children. *Clinical Endoscopy* 51:129-136. DOI: 10.5946/ce.2018.039
- Nandini MK, Vishwakarma P, Mahesh V (2017) Gastrointestinal obstruction due to linear foreign body in a cat: a case report. *Advances in Animal and Veterinary Sciences* 5. DOI: 10.17582/journal.aavs/2017/5.10.416.418
- Parlak K, Akyol ET, Uzunlu EO, Zamirbekova Boran Çayırılı ÜF, Arıcan M (2022) Gastrointestinal linear foreign bodies in cats: A retrospective study of 12 cases. *Journal of Advances in VetBio Science and Techniques* 7:233-241. DOI: 10.31797/vetbio.1131263