

Surgical Management of Linear Foreign Body-Induced Intestinal Obstruction in Cats

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ABSTRACT

Seven cats comprising four males and three females, aged between 6 months and 3 years, were presented with persistent vomiting for three to four days, accompanied by discomfort, anorexia, and lethargy. All animals were vaccinated and dewormed; however, no clinical improvement was observed despite medical management. Survey abdominal radiography revealed characteristic intestinal plication suggestive of linear foreign body obstruction. Exploratory laparotomy was undertaken to relieve obstruction and prevent further gastrointestinal compromise. Linear foreign bodies were identified in all cases, with thread extending from the stomach into the intestine in six cats; notably, in four of these cats the thread was anchored at the base of the tongue. One cat had a shoelace causing intestinal obstruction. Surgical management involved enterotomy with intestinal anastomosis where indicated. Postoperative recovery was smooth and uneventful in all cats, with complete resolution of clinical signs and restoration of normal feeding behaviour. These findings emphasize the importance of early diagnosis, careful oral & radiographic examination, and prompt, welfare-oriented surgical intervention in cats with suspected linear foreign body obstruction.

Key words: Cat, Case series, Enterotomy, Intestinal plication, Linear foreign body, Tongue anchorage, Vomiting.

Ind J Vet Sci and Biotech (2026); 10.48165/ijvsbt.22.3.29

INTRODUCTION

Gastrointestinal foreign body ingestion is a common cause of acute and persistent vomiting in cats and represents a frequent surgical emergency in small animal practice (Papazoglou *et al.*, 2003; Hayes, 2009). Linear foreign bodies such as threads, strings, yarn, and shoelaces pose a particular risk due to their tendency to become anchored at the pylorus or base of the tongue while extending distally through the gastrointestinal tract (Mathews, 2008; Newton and Tobias, 2008). Continued peristalsis causes the intestine to pleat around the fixed foreign material, leading to intestinal plication, obstruction, compromised blood supply, and, if untreated, intestinal perforation and septic peritonitis (Tobias and Johnston, 2012; Fossum, 2019).

Clinical signs associated with linear foreign body obstruction are often nonspecific initially and include vomiting, anorexia, lethargy, dehydration, and abdominal discomfort (Boag and Hughes, 2005; Burkitt *et al.*, 2009). Radiographic identification of intestinal plication remains one of the most reliable diagnostic features and is considered highly suggestive of linear foreign body obstruction in cats (Riedesel, 2010; Willard, 2012). Once plication is identified or medical management fails, early surgical intervention is strongly recommended to alleviate pain and prevent life-threatening complications. The present case series describes the clinical presentation, diagnostic findings, surgical management, and outcome of seven cats with linear foreign body-induced intestinal obstruction, including cases with proximal anchorage at the base of the tongue.

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How to cite this article: Dar, S. H., Nissar, S., Bhat, M., & Muhee, M. (2026). Surgical Management of Linear Foreign Body-Induced Intestinal Obstruction in Cats. *Ind J Vet Sci and Biotech*, 22(3), 153-156.

Source of support: Nil

Conflict of interest: None

Submitted 19/01/2026 **Accepted** 23/02/2026 **Published** 10/05/2026

MATERIALS AND METHODS

Animals and Clinical History

Seven cats were presented to the Veterinary Clinical Complex of the College in Srinagar with a history of persistent vomiting for three to four days. The study population comprised four males and three females, aged 6 months, 1 year (2), 1.5 years, 2 years, and 3 years. All cats were reportedly vaccinated and routinely dewormed. Prior to referral, all animals had

received medical management including antiemetics and supportive therapy locally; however, no clinical improvement was observed.

Diagnostic Evaluation

Physical examination revealed varying degrees of dehydration, lethargy, and abdominal discomfort. Survey abdominal radiography was performed in all cases and demonstrated characteristic bunching and pleating of small intestinal loops consistent with intestinal plication (Fig. 1), a hallmark feature of linear foreign body obstruction (Riedesel, 2010; Willard, 2012).

A thorough oral cavity examination was performed in all cats. In four cats, thread-like material was identified entangled at the base of the tongue (Fig. 2), confirming proximal anchoring of the linear foreign body as described previously (Newton and Tobias, 2008). In these cases, the oral end of the thread was deliberately not pulled or cut to avoid worsening intestinal injury.

Surgical Procedure

Based on radiographic findings and ongoing clinical distress, exploratory laparotomy was elected as a therapeutic and welfare-oriented intervention. All cats were stabilized prior to surgery and operated under general anaesthesia following routine aseptic preparation. A ventral midline celiotomy was performed to allow systematic exploration of the abdominal cavity, following standard surgical principles for gastrointestinal foreign body removal (Hedlund and Fossum, 2007; MacPhail, 2014).

Intraoperatively, linear foreign bodies were identified in all cases. In six cats, thread extended from the stomach into the small intestine, while in one cat a shoelace was identified as the obstructing foreign body. Marked intestinal plication was evident in all animals (Fig. 3A). Enterotomy was performed at appropriate sites to facilitate removal of the foreign bodies (Fig. 3B, 3C). In cases where bowel viability was compromised, resection of the affected segment followed by end-to-end intestinal anastomosis was carried out (Fig. 3D). The abdominal cavity was lavaged with warm sterile saline and closed routinely.

Postoperative Management

Postoperatively, all cats received broad-spectrum antibiotics, analgesics, antiemetics, and supportive fluid therapy. Particular emphasis was placed on pain management and monitoring for postoperative complications. Oral feeding was gradually reintroduced following the return of intestinal motility.

RESULTS AND DISCUSSION

Exploratory laparotomy confirmed linear foreign bodies in all cats. Thread extending from the stomach into the intestine was retrieved in six cats, while a shoelace was recovered in one cat (Fig. 4A, 4B). Enterotomy, with intestinal anastomosis

where indicated, allowed complete removal of the foreign bodies in all cases. No major intraoperative complications were encountered. Postoperatively, vomiting resolved rapidly, appetite gradually returned, and all cats showed marked improvement in comfort and activity. Surgical wounds healed without complication, and no postoperative adverse events were recorded. All cats made a smooth and uneventful recovery.

Linear foreign body obstruction is a painful and potentially life-threatening gastrointestinal emergency in cats (Hayes, 2009). When anchored at the base of the tongue, linear foreign bodies exert continuous tension along the intestine, leading to severe plication, compromised blood supply, and an increased risk of perforation if intervention is delayed (Newton and Tobias, 2008; Tobias and Johnston, 2012). In the present series, four cats had thread anchored at the tongue, emphasizing the importance of routine oral cavity examination in cats presenting with persistent vomiting.

Radiographic identification of intestinal plication remains one of the most reliable indicators for immediate surgical exploration (Riedesel, 2010; Willard, 2012). The strong correlation between radiographic and intraoperative findings in this study reinforces the diagnostic value of imaging. Importantly, inappropriate manipulation of the oral end of the thread can exacerbate intestinal injury; therefore, leaving the foreign body intact until surgical removal is strongly recommended (Newton and Tobias, 2008).

Early surgical intervention was prioritized to relieve pain, restore gastrointestinal function, and prevent complications such as intestinal necrosis and septic peritonitis. Enterotomy, combined with intestinal anastomosis when required, proved effective in all cases. The favourable postoperative outcomes observed underscore the importance of a welfare-focused approach integrating prompt diagnosis, gentle tissue handling, adequate analgesia, and comprehensive postoperative care (Hedlund and Fossum, 2007; MacPhail, 2014). Owner education regarding restricting access to linear objects such as threads, strings, and shoelaces is essential for prevention and reducing recurrence (Boag and Hughes, 2005).

In short, persistent vomiting in cats unresponsive to medical management, particularly when associated with radiographic evidence of intestinal plication, should raise strong suspicion of linear foreign body obstruction. Thorough oral examination is essential, as linear foreign bodies may be anchored at the base of the tongue. Prompt, welfare-oriented surgical intervention through enterotomy and appropriate intestinal repair is critical for relieving pain, preventing life-threatening complications, and restoring quality of life.

ACKNOWLEDGEMENT

We thank the Dean, Faculty of Veterinary Sciences & Animal Husbandry, SKUAST-K, Shuhama, Srinagar, J&K for the facilities provided.





Fig. 1: Survey abdominal radiograph of a cat showing characteristic intestinal plication with bunching and pleating of small intestinal loops, suggestive of linear foreign body obstruction.



Fig. 2: Oral cavity examination revealing thread entangled at the base of the tongue in a cat with linear foreign body ingestion.



Fig. 3A: Intraoperative view demonstrating marked plication of the small intestine caused by a linear foreign body during exploratory laparotomy.

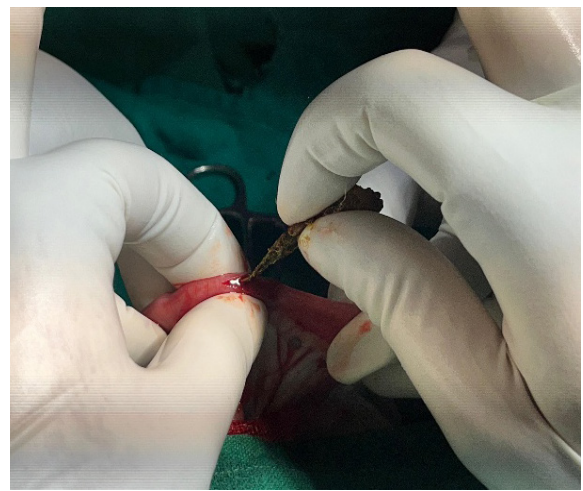


Fig. 3B: Retrieved linear foreign bodies following enterotomy, including thread



Fig. 3C: Retrieved linear foreign bodies following enterotomy, including thread



Fig. 3D: end-to-end intestinal anastomosis performed



Fig. 4 A: Thread foreign bodies Retrieved following surgical intervention



Fig. 4 B: Shoelace foreign bodies Retrieved following surgical intervention

REFERENCES

- Boag, A.K., & Hughes, D. (2005). Emergency management of gastrointestinal obstruction in cats. *Journal of Feline Medicine & Surgery*, 7(2), 73-82.
- Burkitt, J.M., Huber, D.J., & Steiner, J.M. (2009). Linear foreign body obstruction in cats: Clinical findings and surgical outcome. *Journal of Feline Medicine & Surgery*, 11(5), 395-400.
- Fossum, T.W. (2019). *Small Animal Surgery*, 5th edn. Elsevier, St. Louis.
- Hayes, G. (2009). Gastrointestinal foreign bodies in dogs and cats: A retrospective study of 208 cases. *Journal of Small Animal Practice*, 50(11), 576-583.
- Hedlund, C.S., & Fossum, T.W. (2007). Surgery of the digestive system. In: Fossum, T.W. (ed.), *Small Animal Surgery*, 3rd edn., Elsevier, St. Louis, pp. 378-425.
- MacPhail, C.M. (2014). Gastrointestinal surgery. In: Tobias, K.M. and Johnston, S.A. (eds.), *Veterinary Surgery: Small Animal*. 2nd edn., Elsevier, St. Louis, pp. 1535-1605.
- Mathews, K.G. (2008). Intestinal foreign bodies in small animals. *Veterinary Clinics of North American Small Animal Practice*, 38(6), 1237-1253.
- Newton, A.L., & Tobias, K.M. (2008). Linear foreign bodies. In: Tobias, K.M. and Johnston, S.A. (eds.), *Veterinary Surgery: Small Animal*. Elsevier, St. Louis, pp. 1457-1463.
- Papazoglou, L.G., Patsikas, M.N., & Rallis, T. (2003). Gastrointestinal foreign bodies in dogs and cats. *Compendium of Continuing Education in Veterinary Practice*, 25(11), 830-842.
- Riedesel, D.H. (2010). Radiographic diagnosis of gastrointestinal obstruction in small animals. *Veterinary Clinics of North American Small Animal Practice*, 40(2), 275-295.
- Tobias, K.M., & Johnston, S.A. (2012). *Vet. Surg.: Small Anim.*, Vol. 2. Elsevier, St. Louis.
- Willard, M.D. (2012). Diagnostic imaging of gastrointestinal disease in small animals. *Veterinary Clinics of North American Small Animal Practice*, 42(4), 777-798.