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## Retrieval of foreign body through enterotomy in dog: A case report

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### Abstract

A nine-month-old male Labrador retriever was presented to our clinic with a history of vomiting since 24 hours. Abdominal palpation revealed hard round intraabdominal mass, further transabdominal ultrasonography revealed shadowing in the intestine with gas-filled loops. Survey radiograph of the lateral abdomen revealed air-filled intestinal loops. Therefore emergency enterotomy was performed and a foreign body is retrieved and it was an areca nut. The animal recovered uneventfully.

**Keywords:** enterotomy, foreign body, radiography and ultrasonography

### Introduction

Indiscriminate feeding habits of animals is attributed to the ingestion of foreign bodies (Ellison, 1990) <sup>[1]</sup> like stones, plastics or rubber objects, coins, food wrappings, bottle caps, marbles, hairballs, tampons etc. induced obstruction is most common (Koike *et al.*, 1981; Raghunath *et al.*, 2016; Mahesh *et al.*, 2019; Patil *et al.*, 2010) <sup>[2-5]</sup>. Though all age groups of dogs are affected, young dogs are more prone to the same (mean age, 3.5 to 3.7 years), which ingest a variety of nonlinear foreign bodies (Capak *et al.*, 2001; Rasmussen, 2003) <sup>[6, 7]</sup>. Complete or partial obstruction of the gastrointestinal tract being the complication of these foreign bodies and it depends on the size and physical properties of the foreign body. Lethal complications caused by fluid and electrolyte imbalances, hypovolemia, and toxemia may be accompanying with intestinal foreign bodies (Papazoglou *et al.*, 2001). Surgeries related to the treatment of small intestinal obstruction contributes to nearly 0.5-1 per cent of all surgical procedures in dogs (Crha *et al.*, 2008) <sup>[8]</sup>.

### Case history and observation

A nine-month-old male Labrador retriever was presented to our clinic with a complaint of anorexia, acute vomiting and not passing motion since 24 hours. As a part of routine clinical examination, abdominal palpation revealed a hard mass at the mid-abdomen followed by transabdominal ultrasonography revealed shadowing in the intestine with gas-filled loops, survey radiograph (Figure 1) of the lateral abdomen revealed air-filled intestinal loops. Based on clinical signs, ultrasonographic and radiographic findings the condition was diagnosed as intestinal obstruction and it was decided to go for emergency enterotomy for foreign body recovery.

### Treatment

Preoperatively the animal was stabilized with fluid and electrolyte therapy, the surgical site was prepared aseptically by shaving midline. Premedicated with Atropine Sulphate @ 0.04 mg/Kg, BWt. S/C and preanesthetic Xylazine @ 1 mg/Kg, BWt. I/M. After 10 min, induction anaesthesia was done by propofol @ 3 mg/Kg, BWt. I/V. to effect and maintained with Isoflurane. With the animal on dorsal recumbency, a linear ventral midline skin incision was made, followed by subcutaneous tissue, linea alba and peritoneum and the affected intestinal loop was pulled out (Figure 2) of the abdomen near to the incision site as per the standard surgical procedure (Fossum, 2007) <sup>[9]</sup>. At the distal margin of the mass, an enterotomy incision was made at the antimesenteric border and a foreign body was removed and it was an areca nut (Figure 3). The area was thoroughly cleaned and the enterotomy incision was closed by a simple interrupted pattern placing knots inside the lumen by using chromic catgut no. 2-0 (Figure 4). The abdominal cavity was flushed with ample of warm normal saline.

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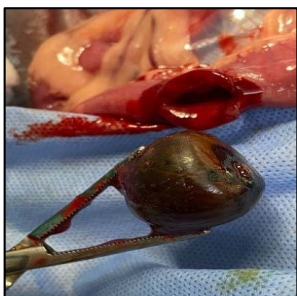
The linea alba closed with polyglycolic acid suture no. 1 by interrupted pattern, subcutaneous by a simple continuous pattern by using chromic catgut no. 1-0 and skin by simple interrupted suture pattern by using polyamide no. 1 (Figure 5) Wound was cleaned and dressed and post-operatively combination of Ceftriaxone and Tazobactam @ 20 mg/Kg. BWt. was given for 7 days. Inj. Melonex® @ 0.5 mg/kg SC postoperatively. Fluid therapy for three days twice daily and Metris® 100 ml daily for 3 days. Orally feeding started on the 4<sup>th</sup> day after surgery with liquid food and slowly semisolids and solids. The wound was dressed every alternate day and skin sutures were removed on the 10<sup>th</sup> day.



**Fig 1:** Survey Radiograph of the Abdomen



**Fig 2:** Exteriorized intestinal loop with foreign body



**Fig 4:** Recovery of Areca nut by enterotomy



**Fig 5:** Sutures placed after enterotomy



**Fig 6:** Simple interrupted sutures on skin

### Discussion and Conclusion

Alimentary tract obstruction was one of the most common ailments noticed in dogs. The incidence rate of GIT obstruction is very high in young male dogs due to their indiscriminate feeding habits and playful nature (Kumar *et al.*, 2000) [14]. The jejunum is the most common location (Hayes G, 2009) [13] of GIT obstruction, in the present case, the areca nut was obstructed in the distal segment of the jejunum. Some small, sharp foreign bodies, such as pins, sewing needles, and fish hooks that are found in asymptomatic animals may be treated conservatively and they may pass uneventfully, because of contact between mucosa of the intestine and foreign body results in local dilation of the intestine called as mural withdrawal reflex (Guilford *et al.*, 1996) [10] help in the identification of the affected intestinal loops, an enterotomy is performed in animals which are nonresponsive to medicines on emergency bases (Horstman *et al.*, 2003) [11] after correcting fluid and electrolyte imbalance especially hypokalemia (Boag *et al.*, 2005) [12]. Vomiting may be intermittent, if the foreign body is small and animals may continue to eat and remain active, vomiting and or sometimes diarrhoea or not passing faeces are almost always the hallmark signs of gastric foreign bodies, if the object is large, they may completely obstruct the outflow and the vomiting may be too common (Patil *et al.*, 2010) [15]. The incision site is closed in a single layer with simple interrupted or continuous suture pattern, by using 3-0 or 4-0 synthetic absorbable sutures such as polydioxanone or polyglyconate (Weisman, 1999) [16]. One of the most common and serious complications after retrieval of a foreign body is dehiscence of the enterotomy incision with subsequent leakage of intestinal contents into the peritoneal cavity, resulting in peritonitis (Papazoglou *et al.*, 2001) which can be minimized by confirming any leakage if so by inflating the affected loop with normal saline after suturing. In this case, none of the complications was observed, animal recovered uneventfully with proper postoperative care and management. Educating the pet owners also plays an important role in the prevention, early treatment and betterment of GIT foreign bodies in pets.

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