

DOG COLLAR CAUSING LINEAR FOREIGN BODY OBSTRUCTION AND INTUSSUSCEPTION IN A DOG

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A ten months old female Labrador retriever was presented with the history of swallowing its own collar 15 days before presentation, leading to GIT obstruction. Abdominal palpation revealed relaxed abdominal muscles, palpable abdominal mass and distended intestinal loops. Radiographic examination revealed radiodense buckle of the dog collar in the cranio-dorsal abdominal region. Exploratory laparotomy revealed linear foreign body obstruction with intussusception at the jejunoileal region and mesenteric border necrosis in the jejunum. Intussusception was reduced, multiple enterotomies were done to remove the foreign body and partial enterectomy followed by end to end enteroanastomosis was done to excise the devitalised intestinal part. Routine post-operative management resulted in uneventful recovery.

Keywords: Dog collar, Enterotomy, Enteroanastomosis, Intussusception, Linear foreign body.

Invagination of part of an intestinal segment (intussusceptum) into the lumen of adjacent segment (intussusciptien) is called intussusception (Fossum, 2013). Intussusception may occur anywhere in the gastrointestinal tract; however, ileo-caecal intussusception has the highest prevalence (Ragni and Moore, 2012). Intussusception may be seen with an unknown etiology or associated with parasitism, gastroenteritis, intestinal masses, abdominal surgeries, etc. (Nordquist, 2013).

Linear foreign bodies include string, rope, thin long socks, tape and fabric are capable of passing through GIT uneventfully, but create problems when one end becomes lodged and the remainder of the foreign body is propelled along the intestine by peristalsis (Hunt, 2011). Strings commonly get caught around the base of tongue, around last molar tooth, in the stomach or intestines. Because the tethering string cannot be expelled, the intestine telescopes cranially and becomes plicated. As the intestine contracts to pull the string towards colon the string may saw the mesenteric border resulting in necrosis and perforation subsequently leading to peritonitis. Enterotomy or intestinal resection and anastomosis are necessary in cases of

concurrent linear foreign bodies (Ragni and Moore, 2012).

Successful surgical intervention and post-operative management in a rare case of dog collar causing linear foreign body obstruction and intussusception at the jejunoileal region is reported in this article.

Case History and Observations

A 10 months old female Labrador retriever weighing 21 kg was presented to the Department of veterinary surgery and radiology, college of veterinary science and animal husbandry, OUAT, Bhubaneswar, with the suspicion of GIT obstruction. History of swallowing its own collar followed by signs of GIT disturbances like vomiting, anorexia, dehydration and going down in condition. Passing of small pieces of ingested collar in the faeces confirmed the swallowing of collar.

On clinical examination, the dog was found lethargic and dehydrated with sunken eye balls, dry muzzle, slightly pale oral mucosa and, congested conjunctival mucous membrane; and reported to pass tarry faeces. Hard undefined fluctuating abdominal mass and distended intestinal loops were palpable in cranial abdomen. Abdominal wall was relaxed and pain not evinced on palpation.

Radiopaque foreignbody, the buckle of dog collar (Fig.1), was seen at cranio-dorsal abdominal region and eccentrically placed air bubbles in the mid abdominal region. Haemoconcentration and leucocytosis were

evident on lab examination. It was suspected to be linear foreign body obstruction or multiple obstructions in stomach and intestines, hence exploratory laparotomy was performed.



Fig-1.Radio opaque buckle of dog collar in the cranio-dorsal abdominal region

Surgical Treatment

Fluid therapy and other supportive medications were initiated to stabilize the animal prior to surgery. Animal was anaesthetised by administering mixture of Atropine sulphate @0.04mg/kg, Xylazine @ 1mg/kg and ketamine @ 5mg/kg intramuscularly. Mid ventral linear incision extending two inches caudally from xiphoid to two inches caudal of the umbilicus was given. Extra-abdominal site for tethering of

foreign body was ruled out and celiotomy was performed.

Exploration of stomach by gastrotomy at the greater curvature revealed no abnormality. Gastrotomy was closed by Cushing's pattern followed by second layer of lembert suture pattern using 2-0 chromic catgut. Exploration of abdominal cavity revealed hard mass in the small intestine. Exteriorisation and further exploration of the intestine revealed bunching of jejunum with intussusception in the jejunoileal region (Fig-2).



Fig-2.Intussusception at jejunoileal region



Fig-3.Foreign body with a loose string entering intestine after removal by enterotomy

The hard mass in the beginning of the jejunum was removed by enterotomy at the anti-mesenteric border. The mass composed of a piece of collar, grass and food material and had an attachment of loose strand of

string extending caudally into the intestinal lumen causing linear foreign obstruction (Fig-3). There was a thin line of necrosis along the mesenteric border of the lumen without any perforation. Linear foreign body was

removed by multiple enterotomy at anti-mesenteric border. Intussusception of about 30cm long was corrected by milking out intussusceptum from intussuscipien. However, initial part of intussusception about three inches was non-viable required enterectomy. The necrosed part was excised off and end to end anastomosis was done including all the layers of intestines applying simple interrupted pattern using catgut 2-0. Rest of the tract was explored thoroughly to rule out any other obstruction. Abdominal cavity was lavaged with normal saline and metronidazole solution. Abdominal incision closed in routine manner using polyglactin 910 size 1 and polyamide size 0.

A course of antibiotic ceftriaxone 500mg (I/V), B-complex (I/V) was given for five consecutive days, post-operatively. Animal was maintained solely on fluids for first 48 hours, followed by liquid diet along with fluid therapy and then gradually shifted to routine diet over a period of seven days. The postoperative recovery was uneventful.

Results and Discussion

Dog collar causing linear foreign body obstruction has not been commonly reported. A rare case of dog eating its own collar subsequently transforming to linear foreign body is noted in this case. Eating small pieces of chewed collar subsequently getting obstructed in small intestine and simultaneous release of the loose string from the obstructed piece of collar has caused linear foreign body obstruction.

In this case intussusception at jejunoileal region associated with linear foreign body obstruction was noticed.

The history of missing of dog's collar and eventually passing of pieces of collar in the feces was a strong evidence for GIT obstruction by dog collar before exploratory laparotomy. Since tentative diagnosis was done based on history, physical examination and plain radiography, further examination with contrast radiography was not performed.

Recurrence of intussusception, ileus, intestinal obstruction, strangulation and peritonitis are possible complications following GIT surgeries as also reported by Applewhite *et al.* (2001), but in this case no complications were seen at three months post surgery.

References

- Applewhite, A.A., Hawthorne, J.C. and Cornell, K.K. (2001). Complications of enteroplication for the prevention of intussusception recurrence in dogs: 35 cases (1989–1999). *J. Am. Vet. Med. Assoc.*, **219**: 1415-8.
- Fossum, T.W. (2013). Surgery of digestive system. In: small animal surgery. 4th edn., St. Louis; Elsevier Health Sciences, St. Louis, U.S.A. Pp. 516-528.
- Hunt, G.B. (2011). Linear foreign bodies. 36th World small animal veterinary association's World Congress proceedings, Jeju, Korea. Pp. 42-49.
- Nordquist, B. and Culp, W.T.N. (2013). Focal and linear gastrointestinal obstructions. In: Small animal soft tissue surgery. 1st edn., Wiley Blackwell, New Jersey, U.S.A. Pp. 360-373.
- Ragni, R.A. and Moore, A.H. (2012). Intussusception. *Companion Animal*, **17**(1): 13-18.