

SURGICAL MANAGEMENT OF GASTROINTESTINAL TRACT OBSTRUCTION IN DOGS: A REVIEW OF 5 CASES

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Five clinical cases of gastro-intestinal tract obstruction in male dogs were presented to Referral veterinary polyclinic, IVRI. Highlights focused on diagnosis and treatment of animals. One case was presented with complaint of hypersalivation and open mouth breathing. Clinical examination revealed bone piece lodged in pharyngeal area. Second case was presented with history of anorexia and vomiting since few days. After the radiographic and ultrasonographic examination, exploratory laparotomy was done and a piece of cloth obstructing intestine was retrieved through enterotomy. Third case was presented with history of anorexia, and no defecation. Ultrasonography (USG) confirmed this as a case of intestinal obstruction. Intestinal portion obstructed by mango kernel was found, hence intestinal resection and anastomosis was performed. Fourth case was of intussusception diagnosed after sonographic examination and corrected with enteroplication to prevent re-occurrence. Fifth case was presented with a primary complaint of pica, anorexia and progressive emaciation. USG revealed dilated colon with reduced peristalsis. On exploratory laparotomy colonic impaction was found. All animals met uneventful recovery after proper post-operative management.

Keywords: Bone piece, Enteroplication, Intussusception, Mango kernel.

Gastrointestinal foreign bodies (FBs) are commonly encountered in first-opinion companion animal practice and may present with a variety of clinical signs depending on the location, the degree and the duration of the obstruction (Hayes, 2009). Anywhere along the gastrointestinal tract can be affected by foreign objects. Gastrointestinal obstruction results in disturbances of fluid balance, acid-base status and serum electrolyte concentrations due to hypersecretion and sequestration within the gastrointestinal tract which is exacerbated by vomiting and impaired oral intake of fluid and nutrients (Boag *et al.*, 2005). Gastrointestinal foreign bodies may cause complete or partial obstruction. In general, complete obstruction is associated with more dramatic clinical signs and a rapid deterioration whereas partial obstruction may be associated with more chronic signs of maldigestion and malabsorption (Papazoglou *et al.*, 2003). FBs usually induce simple (or mechanical) intestinal obstruction in which no compromise in the intestinal wall blood supply occurs. A strangulating obstruction, which is usually complete, cause blood supply impairment of the involved intestinal

segment. However, in clinical situations only few obstructions are purely simple because there is almost always some form of vascular impairment in the affected region (Walshaw *et al.*, 1985). This paper describes the diagnostic and management approach for the gastrointestinal tract obstructions in dogs due to varied etiology which were regularly encountered during veterinary clinical practices.

Case History and Observations

Gastro intestinal tract obstruction due to foreign body or any other cause were diagnosed and surgically managed in all the five cases presented to Referral Veterinary Polyclinic, Indian Veterinary Research Institute. All of the following cases not only presented with a variety of clinical signs, but also owners often cannot know the correct history and duration of ailments which their pet suffers. The following case details helped us to arrive at a definitive diagnosis of gastrointestinal tract obstruction either due to foreign body, anatomical or functional obstruction.

Case I- A 02 years old German Shepherd male dog was presented with complaint of

hypersalivation, open mouth breathing and severe discomfort. Detailed clinical

examination revealed that bone piece was lodged in pharyngeal area.

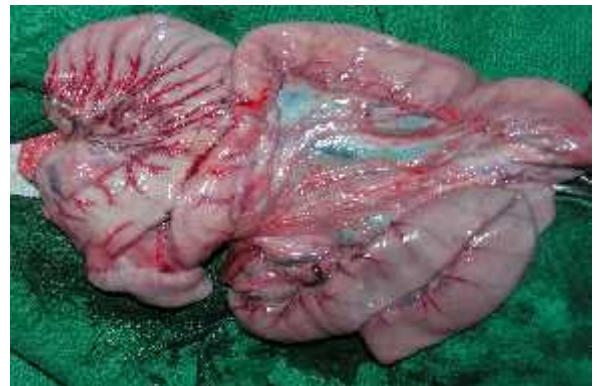


Case II: Image showing cloth retrieved from intestine

Case I: Image showing lodged bone in



Case III: Image showing resection and anastomosis of intestinal portion having mango kernel



Case IV: Image showing intussusception and enteroplication of intestine



Case V: Image showing colon impaction with faecolith and colotomy incision closure

Case II- A 1.5 years old non-descript male dog was presented with history of anorexia and vomiting since few days. Radiographic and ultrasonographic examination was done to find obstruction site, it revealed some intestinal obstruction but the cause of obstruction was not

confirmed may be because of radiolucent nature of foreign body. Later, exploratory laparotomy was performed and a piece of cloth obstructing duodenum was retrieved.

Case III- A 03 years old male Labrador retriever was presented with history of anorexia, and no defecation since one week. USG was performed and revealed that some foreign body was present causing intestinal obstruction. Exploratory laparotomy was done and a mango kernel was retrieved from jejunal portion of intestine.

Case IV- A 09 months old Labrador retriever male dog was presented having history of inappetence, continuous vomition and blood in faeces since two weeks. Ultrasonography was done and it was confirmed the case of intestinal intussusception.

Case V- A 04 years old non-descript male dog was presented with a primary complaint of pica, anorexia and progressive emaciation since 2-3 weeks. Ultrasonographic examination was done and it revealed dilated colon with marked reduced peristalsis. Later, during exploratory laparotomy several faecoliths were removed from impacted colon.

Anaesthesia and surgical technique

After correcting fluid and electrolyte imbalances, the animals were premedicated with atropine @0.04 mg/kg subcutaneously and midazolam 0.2 mg/kg intravenously. After 5 minutes general anaesthesia was induced with 10 mg/kg thiopental sodium intravenously and maintained under isoflurane inhalation anaesthesia. The animals were positioned in dorsal recumbency and the surgical preparation was carried out in a standard method. Then, the dogs were underwent exploratory coeliotomy by using a ventral midline incision. The obstructed intestinal segment was exteriorised and packed off with sterile drapes. Enterotomy

incisions were made on the antimesenteric border and enterotomy, enterectomy sites were closed using vicryl 2/0 in a simple interrupted appositional pattern followed by lambert's suture pattern. The exteriorised segment was lavaged and the entire gastrointestinal tract was examined before replacement within the abdomen and routine abdominal closure.

Results and Discussion

In the first case, a bone piece was seen enlodged during clinical examination in the pharyngeal area. It was successfully retrieved with the help of artery forceps under general anaesthesia keeping the mouth open. In second case, exploratory coeliotomy was performed and obstructed segment was exteriorised and packed-off with sterile drapes. Enterotomy incision was made on the antimesenteric border and the cloth was pulled gently with the help of artery forceps. After proper lavage enterotomy site was closed using vicryl 3/0 in a simple interrupted appositional pattern followed by lambert's suture pattern. The cloth retrieved was found to be obstructing lumen of duodenum completely. Third case also underwent exploratory laparotomy was also approached in the same manner as in previous case but as the affected portion was found necrosed area. Hence intestinal resection was performed and anastomosis was done in end to end anastomosis pattern using vicryl 2/0 in standard manner and the resected intestinal portion having mango kernel was successfully removed.

As intussusception was diagnosed in fourth case, the affected portion was exteriorised out of the incision site and pulled gently to correct intussusception manually and enteroplication was done using simple interrupted suture pattern using vicryl 3/0 absorbable suture material to prevent re-occurrence. The intussusception site was found to be present around jejuno-ileum junction. In present study, fifth case was diagnosed as colonic impaction during ultrasonographic examination. Midline coeliotomy was performed and dilated colon

was exteriorised out of incision site and colotomy was done after packaging site with sterile drapes and all the faecolith and faecal matter was removed. Colotomy incision was closed in double-layer suture pattern using vicryl 3/0 after proper lavage through lukewarm normal saline and abdominal incision was closed in standard manner. All the patients were offered oral fluids 12 to 24 hours postoperatively (unless vomiting) and food 18 to 30 hours, postoperatively. Intravenous fluids were continued until oral intake was sufficient. Antibiotics and analgesics were continued for five days, postoperatively in all cases.

Similar to our findings, young dogs were mostly affected has been reported by Nath *et al.*, (2015) also. In the present study, foreign body was common in male than female dogs. Based on the location, foreign bodies were concentrated in the stomach and extended to the jejunum and ileum in present study. Radiology and ultrasonography are considered the most suitable diagnostic tool for the foreign body to detect the site of it; this is in agreement with the previous researcher (Hayes ,2009). In addition, faecolith obstructing colonic lumen was also noticed in the present study. Vomiting was a striking feature of the history in case of GIT obstructions. Swallowing the foreign object is occasionally stated by the owners similar to first case in which dog ate bone which get lodged in pharyngeal area. Moreover, inability to swallow, anorexia, and abdominal discomfort are all attributed to the gastrointestinal tract obstruction in the present study. The intensity and form of clinical signs depend on many factors such as the site, entirety, vascular integrity, and the duration of the intestinal obstruction as reported by Fossum, (2013). Intestinal resection and anastomosis was also required sometimes in case of loss of vascular integrity to prevent toxemia, as in one case we noticed that intestinal portion surrounding mango kernel was necrosed.

Surgical enteroplication remains a controversial topic due to an increased risk of related complications, as high as 20% as

mentioned by Applewhite *et al.*, (2001) also but, we did enteroplication in one case of intussusception and found no complications. Gastrointestinal tract obstructions due to foreign bodies and intussusception represent common challenging cases of veterinary practices. Regular clinical evaluations need to be performed for these patients to assess further complications. Fortunately, no complications were noticed postoperatively in the present cases. All animals met uneventful recovery after post-operative treatment and doing well.

Conclusions

In conclusion, gastrointestinal tract obstructions are the emergencies which should be approached in early stages to prevent complications and mortality. Exploratory coeliotomy can be done in case when no good diagnostic facilities are available to save the life of animal and for the management of these emergencies successfully.

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