

INTESTINAL OBSTRUCTION IN A DOG AND ITS SURGICAL MANAGEMENT

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A two year old male mixed breed dog was presented to Department of Veterinary Surgery and Radiology with history of anorexia, dullness, constipation and colic for 5 days. The case was diagnosed as intestinal obstruction on the basis of history, physical examination, clinical signs and radiographic findings. Under general anaesthesia using Atropine sulphate, Xylazine hydrochloride and Ketamine mixture laparotomy was conducted. Intestinal resection was done and the foreign body with the affected necrosed part of intestine was removed. There was a potential sharp penetrating plastic piece entangled with trichobezors inside the lumen of the affected intestine. Laparotomy wound was closed in routine manner. Post-operatively antibiotics, analgesics administration and regular dressing of the wound were carried out. The dog was maintained by giving intravenous fluid therapy for 5 days. Liquid diet was advised for 7 days thereafter followed by normal diet. On 10th post-operative day the skin sutures were removed and animal had an uneventful recovery.

Key words: Dog; intestinal obstruction; surgical management.

Intestinal foreign bodies are ingested objects that may cause complete or partial intraluminal obstruction (Sreenu *et al.*, 2010). Bones, balls, toys, rocks, cloth, metal objects like fish hooks, needles, peach pits, acorns, pecans and linear object (i.e., string or thread) are common intestinal foreign bodies reported. Playful young animals seem to be more prone to foreign body ingestion (Fossum, 1997). Indiscriminate eating habits of puppies make them more prone towards foreign body obstruction (Ellison, 1990). Clinical signs varied with the degree of obstruction, location, duration and type of foreign body; however, vomiting, loss of appetite, absence of defecation, weight loss, lethargy and abdominal pain are commonly noted (Rao *et al.*, 2010). The diagnosis is based on history, physical examination of abdomen, clinical signs and radiographic findings (Gibbs and Pearson, 1973; Lantz, 1993 and Lamb, 1994). The present paper communicates about a case of intestinal obstruction in a dog and its successful surgical management.

Case history and Diagnosis

A two year old male mixed breed dog was presented to Department of Veterinary Surgery and Radiology with history of anorexia, dullness, colic,

constipation, colic obstipation for 5 days. The temperature, pulse and respiration rates were within normal physiological parameters and pain was revealed on abdominal palpation. On physical examination, shrunk-en eyes with congested conjunctival mucous membrane and tenting of skin suggesting the significant dehydration. Radiography of lateral abdomen showed intestinal distension, gas filled intestinal loops and an empty rectum which were suggestive signs of intestinal obstruction. For confirmation barium meal x-ray was conducted. There was complete emptying of barium meal from stomach and obstruction was noticed in intestinal segments. Tentatively it was diagnosed as a case of intestinal obstruction at the label of jejunum and surgical correction was advised.

Surgical Treatment

The dog was premedicated with atropine sulphate @ 0.04 mg/kg body weight subcutaneously followed by xylazine hydrochloride @ 1 mg/kg body weight intramuscularly. General anaesthesia was induced by injecting ketamine hydrochloride @ 7 mg/kg body weight intravenously. Left flank was prepared aseptically for surgery. Ringer's lactate was administered during intra-operative period and general anaesthesia

was maintained with ketamine hydrochloride through fluid line intravenously. Exploration following celiotomy, revealed severely congested and distended jejunum. There was necrosis and perforation of a segment of jejunum with the obstructive mass (Fig.1). Intestinal resection and anastomosis was planned. With the help of Doyens intestinal clamps healthy part of the intestine was clamped at two ends away from the affected part. The affected necrosed part along with foreign body was resected. The ends of the resected parts were washed and cleaned by normal saline. Anastomoses of two ends were done using polyglycolic acid (PGA) no-2-0 (Fig.2). Muscle layers were closed by continuous suture using PGA no-1. The skin wound was apposed by vertical mattress sutures using coarse nylon. On



Fig.1. Necrosis of intestinal segment

Results and Discussion

Mechanical obstruction is the most common indication for intestinal surgery in dogs. Obstruction of the lumen might occur with foreign bodies as mentioned by Singh *et al.* (2004) also, intussusceptions, neoplasm also reported by Chandrapuria *et al.* (2003) and less commonly adhesions as narrated by Orsher and Rosin (1993), impacted faecal material as reported by Saini *et al.* (2002) and intramural intestinal haematoma as mentioned by Moore and Carpenter (1984). Here there was obstruction by a sharp pointed plastic material with trichobezors. Generally these cases are referred with a complaint of loss of appetite, intermittent vomiting, absence of defecation, blood tinged loose faeces

excision of the transected intestinal segment that showed presence of potential sharp penetrating plastic piece entangled with trichobezors. Post-operatively antibiotic ceftriaxone @ 10 mg/ kg body weight for 5 days and meloxicam @ 0.2mg/ kg body weight for 3 days were administered intramuscularly. Regular dressing of skin wound was conducted with povidone iodine till healing. The dog was maintained by giving intravenous fluid therapy with dextrose normal saline and ringer's lactate for 5 days. Liquid diet was advised for 7 days thereafter and then normal diet was permitted. On 10th post-operative day the skin sutures were removed and animal had an uneventful recovery.



Fig.2. Intestinal anastomosis

with dyschezia, obstipation, weight loss, debility, depression, and abdominal distension as also reported by Rao *et al.* (2010). The classic clinical sign of upper small bowel *i.e.*, duodenum and proximal jejunum obstruction was described as frequent / persistent vomiting that was initiated soon after the onset of obstruction. Orsher and Rosin (1993) suggested that the intestines are “slipped” between thumb and fingers of one hand in small dogs, and between the fingers of both the hands with gradual gentle pressure in large dogs to palpate foreign bodies if any. Gibbs and Pearson (1973) and McNeel (1986) stated that when the diameter of affected intestinal lumen is greater than the length of the second lumbar vertebral body, a

radiographic diagnosis of intestinal obstruction was justified.

Radio-opaque foreign bodies like stone and hair balls were readily visualized on radiographs and offered no diagnostic challenge, but non-radiopaque foreign bodies like plastic bottle cap, and intestinal obstruction due to scar formation, present a difficult diagnostic challenge before the surgeon. In the present case the history, clinical examination, contrast radiograph and exploratory laparotomy helped to confirm the diagnosis. Surgical correction is required for most of the small intestinal obstructions. However, some intestinal foreign bodies might pass through the intestines. Patients with this condition require continual monitoring, periodic radiography to determine the object moving through the intestines, fluid administration to maintain hydration and administration of antibiotics to prevent infection. Radiograph demonstrates the movement of foreign body within the intestine over an 8- hour period or no excretion within 36 hours indicates that surgical intervention is necessary as also reported by Rao *et al.* (2010). Here as the case was too delayed it was not advised to wait for faecal removal of the foreign body. Enterotomy and intestinal resection followed by anastomosis were the main surgical procedure for removal of intestinal foreign bodies. Generally enterotomy has a greater percentage of success than intestinal resection. But when there is necrosis and irreparable damage of intestine, intestinal resection and anastomosis is unavoidable to revive the patient. In the present case there was necrosis and irreparable damage of the intestine, so enterectomy and anastomosis was preferred and found successful. The dog recovered well and regained its normal appetite and defecation.

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