

SPLENECTOMY AND GASTROPEXY FOR MANAGING GASTRIC DILATATION VOLVULUS COMPLICATED WITH SPLENIC TORSION IN A DOG

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A 7 years old Rottweiler, was presented with a history that the animal is lethargic and shows the difficulty in walking since that noon. He was let loose after a meal in the noon and started showing symptoms since then. The dog was having non-productive vomiting. Abdominal radiography confirmed GDV. General anesthesia was induced using a combination of Dexmedetomidine, Butorphanol, Midazolam, and Ketamine and was maintained using Dexmedetomidine, Midazolam Lignocaine, and Ketamine as CRI. Midventral laparotomy was performed to detort the stomach. Intra-operatively, splenic torsion was also noticed along with GDV. Since the viability of the spleen was doubtful, a splenectomy was performed. Gastropexy was performed to prevent the recurrence of the condition. Postoperatively the animal was administered lignocaine CRI as a measure against arrhythmias and observed for a period of 24 hours. The dog had an uneventful recovery.

Keywords: Gastric Dilatation, Volvulus, Splenectomy, Gastropexy, Splenic torsion.

Gastric dilatation-volvulus (GDV) is the most common and acute life-threatening emergency in which the stomach rotates along its mesenteric axis, with subsequent gastric dilatation (GD) and cardiovascular compromise. GDV primarily occurs in large, deep-chested dog breeds like Great Dane, Weimaraner, Saint Bernard, German Shepherd, and Doberman Pinscher. GDV is mostly seen in dogs having a habit of rapid eating, once-daily feedings, exercising either before or following meals, and dogs having fearful/anxious temperaments, increased thoracic depth/width ratio, and increased hepatogastric ligament length (Millis *et al.*, 2007). GDV may be linked to a recent history of splenectomy (Sartor *et al.*, 2013).

There have been several different procedures reported, including incisional gastropexy (IG), right-sided tube gastropexy, belt-loop gastropexy, circumcostal gastropexy, integrating gastropexy, gastrocolopexy, and endoscopically aided gastropexy. The most routinely used open gastropexy procedure is incisional gastropexy which was performed in the present case (Benitez *et al.*, 2013). Prophylactic gastropexy after splenectomy may be necessary due to

the possibility that GDV will develop in dogs following splenic torsion and straining of the gastric ligaments (Millis *et al.*, 1995). Splenectomy is the only practical alternative in animals with chronic splenic torsion when the vascular pedicle cannot be untwisted due to fibrosis, splenic rupture, or vascular thrombosis. Concurrent gastropexy procedures are possible. This article focuses on the surgical correction of GDV and prophylactic gastropexy to avoid splenectomy induced recurrence of GDV.

Case history and Observations

A 7 years old Rottweiler, was presented with a history that the animal is lethargic and shows the difficulty in walking since that noon. He was let loose after a meal in the noon and started showing symptoms since then. The dog was having non-productive vomiting. Abdominal radiography confirmed it to be a case of GDV.

Surgical Treatment

The dog was prepared aseptically for surgery and given prophylactic antibiotic therapy with amoxicillin and sulbactam @20mg/kg body weight, pantaprazole

@1mg/kg, and anti-inflammatory therapy with meloxicam @0.2 mg/kg body weight. The general anaesthesia was induced with dexmedetomidine @2 mg/kg, butorphenol @0.2mg/kg, midazolam @0.2mg/kg, and ketamine @3mg/kg and anesthesia was maintained with dexmedetomidine, lidocaine, and ketamine Constant Rate Infusion (C.R.I).

The dog was restrained in dorsal recumbency and a midventral coeliotomy was performed. A dilated stomach was decompressed and detorted to a normal anatomical position and incisional gastropexy was done by making an incision in the seromuscular layer of the gastric wall, parallel to the long axis of the stomach between the lesser and greater curvatures at the level of the pyloric antrum. An incision of

equal length was made through the peritoneum and right transversus abdominis muscle parallel to the muscle fiber direction. Finally, both incisions are sutured together in a simple continuous pattern with a 2-0 Polypropylene. (Fig.1) Intraoperatively splenic torsion was found, and splenectomy was done since the spleen viability is doubtful.

The spleen is exteriorized and isolated with moistened abdominal sponges (Fig.2). A total splenectomy was performed. After the surgical procedure abdominal opening was closed initially muscle layer followed by the subcutaneous, followed by skin. Intraoperatively blood transfusion and intravenous fluid were administered to compensate for the blood loss during surgery.



Fig.1. Incisional gastropexy



Fig.2. Spleen is exteriorized

Results and Discussion

Postoperatively dog had arrhythmias to combat that lignocaine C.R.I was administered and the animal was kept under observation for a period of 24 hours. Postoperative antibiotic therapy was continued for 14 days and after this period skin sutures were removed. The dog is active and has a normal appetite and behavior.

Gastropexy is a critical surgical approach for the prevention of the incidence or recurrence of GDV in at-threat and affected dogs. Incisional gastropexy is the maximum typically achieved open gastropexy approach. In incisional gastropexy, complications are minimal as long as the

abdominal and gastric wall incision location, length, and depth are appropriate as also mentioned by Waschanket *al.*, 1997. So incisional gastropexy was chosen over other procedures.

Splenic torsion is a common indication of splenectomy, either it is a partial or complete removal of the spleen depending on the extent of spleen damage. In the present case, the spleen was damaged severely. So total splenectomy opted and a routine ventral abdominal approach with an incision from the xiphoid to the pubis was performed. In splenic torsion, the blood vessels to the spleen are twisted into pedicles containing the mesentery and blood vessels. Do not

disentangle the spleen. Because, cellular degradation products, blood clots, and other toxic substances can be released into circulation as also reported by Richter M,C,, 2012. The entire vascular pedicle is ligated with complete ligation and transfixing ligation, and the spleen is removed. Monitor animals for PCV postoperatively and take into account blood transfusion if PCV drops beneath 20. The maximum not unusual place trouble related to splenectomy is bleeding. Other viable headaches consist of pancreatitis, arrhythmias, and postoperative pain.

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