

GASTRIC DILATATION AND VOLVULUS IN A DOG AFTER TOTAL SPLENECTOMY: A CASE REPORT

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Abstract: Gastric dilatation and volvulus (GDV) is a life-threatening condition and is a common pathology in large-breed dogs, characterized by rapid accumulation of air in the stomach with an increase in intragastric pressure, followed by malposition of the stomach, compression of the diaphragm muscle and the caudal vena cava, causing breathing difficulties and impaired cardiovascular function. An 11-year-old intact male Rottweiler was presented with apathy to the Emergency Clinic of FMV Cluj-Napoca. The clinical examination revealed nothing significant, but the abdominal ultrasound showed a splenic mass of approximately 6-7 cm in diameter. Hematological tests revealed a hematocrit level of 22%. A blood transfusion was performed, and on the following day, a splenectomy was carried out. Given that the patient was geriatric and unstable, the procedure was done using LigaSure™ to shorten the surgical time, and preventive gastropexy was not performed. Throughout the hospitalization, the patient was closely monitored clinically and through serial hematocrit measurements. The patient demonstrated a return of appetite on the first postoperative day, with adequate food and water intake. On the third postoperative day, the patient experienced sudden death approximately six hours after walking and following oral intake of food and water. The results of the necropsy identified the cause of death as gastric dilatation and volvulus. Although cases of gastric dilatation and volvulus (GDV) have been reported following splenectomy, there is no statistically significant evidence to support a clear association between the two, and GDV is not considered a common postoperative complication.

• Introduction

A pivotal 1994 study by Glickman et al. identified geriatric dogs, low body condition, and large breeds—particularly Great Danes—as major risk factors for gastric dilatation and volvulus (GDV). Both intrinsic (e.g., genetics, thoracic shape, age) and extrinsic (e.g., diet, stress) factors contribute to GDV risk, with prior splenectomy also noted as a rare potential risk factor.

• Material and methods

Case description:

An 11-year-old intact male Rottweiler was presented with clinical deterioration, anemia, and a splenic mass, later diagnosed as low-grade nodular (marginal zone) lymphoma. Initial management included blood transfusion, erythropoietin therapy, and supportive care to stabilize hematologic parameters. Imaging revealed orthopedic changes and a 7 cm splenic mass, prompting a surgical splenectomy [Fig. 1], [Fig. 2] performed under general anesthesia with intraoperative management of arrhythmias and respiratory events. Postoperatively, the patient recovered well, remained alert, ambulatory, and maintained a good appetite, with improving hematocrit levels. On the third postoperative day, the patient experienced brief tachypnea and a mild temperature increase but showed no signs of distress before being found dead hours later in sternal recumbency. Necropsy identified gastric volvulus with mild dilatation [Fig. 3], suggesting a fatal acute GDV episode and raising consideration for prophylactic gastropexy in similar high-risk cases.



Fig. 3 Dilated stomach at necropsy

• Results and discussion

Splenectomy is commonly used to treat various splenic disorders, including indolent neoplasms like marginal zone lymphoma (MZL), which generally have a favorable prognosis. However, this case highlights a rare but fatal complication—gastric dilatation-volvulus (GDV) leading to gastric wall necrosis [Fig. 4], [Fig. 5]—occurring postoperatively in a Rottweiler. Although not traditionally considered high-risk, recent studies suggest Rottweilers may be predisposed, particularly older, large-bodied individuals. Contributing factors likely included increased intra-abdominal space post-splenectomy, stress-related aerophagia, and disrupted gastric motility.



Fig. 1 Splenic mass pre-splenectomy

Fig. 2 Splenic mass post-splenectomy

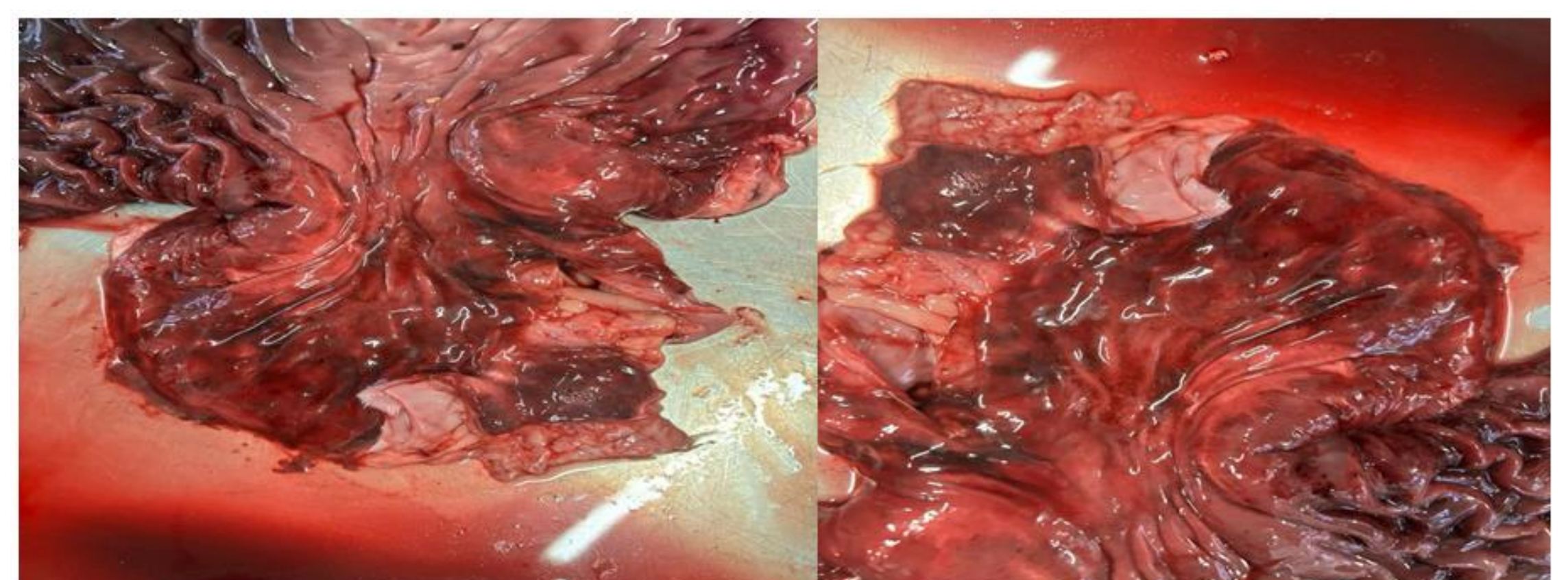


Fig. 4 Gastric mucosa

Fig. 5 Gastric wall necrosis

The sudden, asymptomatic onset of GDV emphasizes the need for extended postoperative monitoring and supports considering prophylactic gastropexy in large-breed dogs, even if not classically predisposed.