Gastric Dilatation-Volvulus

Suspected GDV

Triage immediately
(Suspected GDV patient may be cardiovascularly unstable)

Is patient stable?

No

Stabilize patient
• Place IV cephalic catheters (2)
• Extract blood for MDB
• Fluid resuscitation (30 mL/kg crystalloid fluid bolus [≤3 doses]; if very unstable, consider 4 mL/kg hypertonic saline with 10 mL/kg synthetic colloid)

Yes

Monitor therapy response: Heart rate (arrhythmias), respiratory rate, blood pressure, pulse quality, mucous membrane color, CRT, PCV/TP; urine output
• ± Opioid pain management

Perform further diagnostics to confirm GDV

Diagnostics & imaging
• Abdominal radiography
• Electrolytes
• Blood glucose curve
• PCV/TP
• CBC, serum biochemistry profile, ± coagulation profile
• Lactate (shown to be associated with morbidity/mortality in dogs with GDV); repeat lactate following bolus fluid administration (30–45 minutes)
• Blood gas analysis

Possible Complications

Cardiac arrhythmias
Often begin within 24 hours of surgery. Continuous ECG monitoring is ideal. Factors include poor myocardial perfusion, electrolyte disturbances, acidosis, myocardial-depressant factor, and DIC. Antiarrhythmic drugs should only be considered if volume has been adequately replaced and arrhythmia is life threatening or causing poor perfusion.

DIC
Can persist after surgery. Factors include blood pooling in portal circulation and the caudal vena cava, sepsis, vascular thrombosis, endotoxemia, acidosis, tissue hypoxia, and splenic congestion. Diagnosis may be confirmed by prolonged activated clotting time or abnormalities in platelet, FSP, and PTT values. Treatment should target underlying cause; microvascular thrombosis should be prevented with adequate tissue perfusion via IV fluid therapy.

Sepsis
Can occur postoperatively; aspiration pneumonia is a frequent cause (vs gastric leakage). Thoracic radiography and peritoneal lavage can help identify origin.
**History**
- Retching/vomiting attempts
- ± Distended abdomen
- Agitation/restlessness/discomfort/anxiety
- ± Recent stressful event
- Recent large meal/water intake?
- Progressive weakness ± collapse

**Signalment**
- Underweight
- Fearful temperament
- Eating 1 meal/day
- Large breed, deep chested
- Advanced age

**Examination**
- Cardiopulmonary: Tachycardia, tachypnea, poor pulse quality, pale mucous membranes?
- Mentation: Responsive/agitation, minimally responsive/comatose?
- Abdomen: Bloated abdomen?
- Musculoskeletal: Ambulatory (depending on severity of shock/pain)?

**GDV suggested?**
- Yes
  - Assess for other abdominal disease
- No

**Assess for other abdominal disease**
- Gastric bloat (no volvulus)
- Gastroenteritis
- Abdominal effusion
- Pancreatitis
- Abdominal neoplasia
- Intestinal volvulus
- Splenic torsion
- Hemorrhage

**Gastric decompression**
- Gastric paracentesis (trocarization)
  - 14-gauge catheter preferred
  - Palpate for most tympanic area; avoid splenic laceration
  - Abdominal ultrasound (focused ultrasound) to direct centesis
- Passage of orogastric tube
  - Sedate (opioid with benzodiazepine)
  - Intubate to prevent aspiration pneumonia
  - Orogastric tube for decompression and subsequent gastric lavage
- ± Anesthetic induction for exploratory laparotomy, passage of orogastric tube after induction

**Emergency surgery**
- (Full) abdominal exploratory
- Stomach derotation
- Assess for gastric necrosis
  - Gastric resection if necessary
- Assess for splenic viability
  - Splenectomy if necessary
- Gastropexy

**Poor prognostic indicators**
- Gas within gastric wall (indicating gastric wall compromise)
- Free gas in abdominal cavity (indicating gastric rupture)
- Plasma lactate levels >6 mmol/L at presentation

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*Abdomen may vary from remarkable, distended, and firm to tympanic. If stomach is contained in rib cage or if there is gastric torsion with minimal air, visual bloat (ie, distention) may not be present.

DIC = disseminated intravascular coagulation, FSP = fibrin split products, GDV = gastric dilatation-volvulus, PTT = activated partial thromboplastin time

See Aids & Resources, back page, for references & suggested reading.