HEMOABDOMEN

Elizabeth A. Rozanski, DVM, DACVIM (Small Animal), DACVECC
Sarah E. Cudney, DVM
Cummings School of Veterinary Medicine at Tufts University

HEMOABDOMEN OBSERVED

**Patient stable (ie, heart rate <120 bpm, blood lactate <18 mg/dL, alert and oriented)?**

**NO**

**TREATMENT**
- Administer crystalloids (20-30 mL/kg) and hypertonic saline (3-5 mL/kg)
- Perform:
  - ± blood transfusion
  - ± thoracic and abdominal radiography and POCUS
  - ± urgent exploratory surgery, splenectomy, liver mass removal, or other mass removal
- Consider immediate referral for ultrasonography and stabilization

**YES**

**History of trauma?**

**NO**

**TREATMENT**
- Provide monitoring, treatment, and supportive care
- Recheck peripheral PCV in 2-6 hours
- Perform imaging and diagnostics (eg, CBC, serum chemistry profile, urinalysis, coagulation testing)
- Evaluate other body systems

**YES**

**Mass observed on POCUS?**

**NO**

**TREATMENT**
- Perform thoracic radiography (eg, to evaluate for metastatic disease)
- Consider exploratory surgery
- Evaluate PT/aPTT; consider performing thromboelastography and/or VCM to evaluate for fibrinolysis

**YES**

**PT/aPTT <20% prolonged**

**TREATMENT**
- Perform exploratory surgery, splenectomy, liver mass removal, or other mass removal
- Consider blood transfusion
- Provide supportive care
- Monitor for postoperative ventricular ectopy

**PT/aPTT >20% prolonged**

**TREATMENT**
- Treat with plasma or fresh whole blood
- Consider ε-ACA therapy (50-100 mg/kg IV every 6 hours)
- Proceed to surgery after treatment
- Provide supportive care
- Monitor for postoperative ventricular ectopy

*All stable hemoabdomen patients have the potential to decompensate. Heart rate, mucous membrane color, blood pressure, packed cell volume/total solids, mentation, pulse quality, and capillary refill time should be closely monitored.*
NO MASS OBSERVED ON POCUS

Evaluate PT/aPTT

Coagulation times increased

Coagulation times normal

TREATMENT

- Increased PT and aPTT:
  - Consider anticoagulant rodenticide toxicity (rare cause of hemoabdomen)
  - Increased aPTT: Consider DIC
  - Perform transfusion with fresh frozen plasma or fresh whole blood
  - Administer vitamin K (5 mg/kg SC every 24 hours) if PT is extremely elevated (eg, >2 times the upper limit of the reference range)

- Increased aPTT:
  - Consider DIC
  - Perform transfusion with fresh frozen plasma or fresh whole blood
  - Administer vitamin K (5 mg/kg SC every 24 hours) if PT is extremely elevated (eg, >2 times the upper limit of the reference range)

- PT = prothrombin time
- aPTT = activated partial thromboplastin time
- DIC = disseminated intravascular coagulation
- PCV = packed cell volume
- POCUS = point-of-care ultrasonography (abdomen)

TREATMENT

- Gallbladder wall edema (suggestive of anaphylaxis, a cause of hemoabdomen) present?
  - YES
    - Treat for anaphylaxis (epinephrine [0.005-0.01 mg/kg IM or 0.1-1 µg/kg/min IV])
    - Monitor closely
  - NO

- Pursue CT and advanced diagnostics

ACA = aminocaproic acid

DIC = disseminated intravascular coagulation

VCM = viscoelastic coagulation monitoring