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Emergency Evaluation and Treatment of Hemoabdomen in Dogs

Definition: Non-clotting blood in the abdominal cavity, obtained by abdominocentesis.

DIFFERENTIAL DIAGNOSES:

- 1) Bleeding abdominal masses
- 2) Trauma
- 3) Coagulopathy
- 4) Splenic, intestinal, gastric or liver lobe torsion
- 5) Post surgical complications

GOAL OF TREATMENT:

- Restore hemodynamic stability
- Identify underlying cause of abdominal bleed
- Establish prognosis
- Determine if surgery is indicated

Dogs with bleeding abdominal masses must undergo abdominal surgery to remove the bleeding mass. In cases of trauma, an abdominal explore is indicated if there are penetrating abdominal wounds or the bleeding is not self-limiting. Cases of torsion will always require an abdominal explore.

PROGNOSIS:

The prognosis depends on the underlying cause. If a bleeding mass is a benign hematoma, prognosis for a full recovery is excellent. If the bleeding mass is malignant, such as a hemangiosarcoma, survival time can be as little as 2-3 months without chemotherapy. In cases of trauma or torsion, the prognosis depends on the extent and organs involved.

MINIMUM DATABASE:

- 1) CBC: Pets who have been intermittently bleeding may have a low platelet count and anemia.
- 2) Chemistry Screen: To obtain information about organ function prior to anesthesia.
- 3) PT/PTT: Intermittently bleeding and liver disease may lead to prolonged clotting times, requiring a plasma transfusion prior to surgery.
- 4) PCV/TS of the abdominal fluid
- 5) 3-view Chest Radiographs: As malignancy is a common cause

of hemoabdomen, chest x-rays should be taken in order to rule out metastasis, pericardial effusion or a right auricular mass.

- 6) Blood Pressure
- 7) EKG: Pets with splenic or cardiac masses may have arrhythmias.

ADDITIONAL DIAGNOSTICS:

- 1) Blood Type: A prerequisite to a whole blood or packed red blood cell transfusion.
- 2) Ultrasound: An abdominal ultrasound may identify the source of the bleed and provide information about metastasis. Abdominal ultrasound findings should be interpreted cautiously as they do not provide a histologic diagnosis. Metastases that are visible at surgery may not be seen on the ultrasound and what appear to be metastases on ultrasound may later be identified as cysts. Cardiac ultrasound may identify small right auricular masses or mild pericardial effusion.

INITIAL TREATMENT:

- 1 Fluid Resuscitation: The goal of fluid resuscitation is to achieve hemodynamic stability. Hypovolemic shock can be addressed by fluid boluses:
 - Crystalloid Shock Bolus: 90 ml/kg
 - Hetastarch Shock bolus: 20 ml/kg
 - Packed Red Blood Cell Transfusion: 10 ml/kg

These fluids can be given at a fraction of their total or the boluses may be repeated depending on the clinical appearance of the pet.

- 2 Immediate surgery is indicated if it is impossible to achieve hemodynamic stability.

- 3 Optional: Wrap the abdomen from cranial abdomen to inguinal area with Vet Wrap™ or Elasticon™. Wraps placed too tightly may prevent normal diaphragm expansion. Some veterinarians argue that abdominal wraps provide pressure that decreases bleeding. Others argue that abdominal wraps are uncomfortable for the patient and decrease venous return.