

Hemoabdomen (presence of free blood in the belly)

Overview/Indications:

A hemoabdomen can occur after *trauma* (such as a traffic accident or bite wound), or can be *non-traumatic*, for example due to rupture of an organ (most commonly rupture of a mass/tumor). Any organ can be damaged, or lead to hemoabdomen, but the organs most often involved are: spleen, liver, kidney, adrenals.

The majority of splenic masses that rupture can be of a type that arises from blood vessels (hemangiosarcomas). These are aggressive cancer that often spreads to lungs, other organs in the belly (liver, kidney, ...), potentially even at the time that the tumor is first discovered.

Preoperative workup and other diagnostics:

Patients with *non-traumatic hemoabdomens* are emergencies, and the work up would include:

- General physical examination
- Preoperative laboratory work to determine anesthetic stability, and fluid from the abdomen to confirm the presence of blood
- Imaging to localize where the blood is coming from, and if other organs are involved (if there are metastases present). This would include imaging of the belly (abdomen) and chest.

Patients with *traumatic hemoabdomens* present as emergencies, and the work up generally includes:

- General physical examination
- Preoperative laboratory work to determine anesthetic stability, and fluid from the abdomen to confirm the presence of blood, urine, GI contents, bile
- Imaging to localize and assess the extent of damage, and determine if there is organ damage that needs to be addressed, and whether the bleeding is ongoing.

Procedure:

Prior to surgery, the patient is stabilized. This generally entails intravenous fluids, and in some cases a blood transfusion is needed.

Surgery for a ruptured/bleeding mass

An incision into the abdomen (belly) is made and the organ with the bleeding mass is removed (spleen, kidney, adrenal), or the lobe with the bleeding mass is removed (liver).

Surgery for a traumatic hemoabdomen with concurrent organ damage:

A large, midline, incision is made in the abdomen, to allow full visualization and assessment of all organs. A thorough, systematic, examination of all the organs is performed, and the surgical procedure is dictated by the damage found. This can include damage to the intestines, or urinary tract, or damage to the spleen, kidneys, or body wall.

Complications:

Any patient with a hemoabdomen is at a higher anesthetic risk, due to blood loss. These risks include:

- heart arrhythmias: sometimes arrhythmias develop during surgery, and sometimes after surgery. We will monitor your pet's heart rhythm during and after surgery, and treat with medications if needed.
- aspiration pneumonia
- bleeding
- surgical site issues, such as infection, dehiscence, seroma.
- complications secondary to intestinal surgery, urinary surgery

The emergency doctor and emergency surgeon will discuss these complications in more detail prior to emergency surgery.

Postoperative Care:

In hospital care: the pet will be monitored closely in our ICU unit during their recovery from anesthesia, and will be monitored for arrhythmias.

Other therapy will include intravenous fluid, and pain medications. If there was severe blood loss, blood transfusions might be needed.

At home care:

- Leash walks/exercise restriction for the first 10-14 days after surgery to allow all the incisions to heal.

Prognosis:

The prognosis depends on the reason for the bleeding.