

HEMOABDOMEN

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Hemoabdomen is a common canine emergency clinic problem, and is seen occasionally in cats. Causes can be broadly differentiated as traumatic, spontaneous or coagulopathic. Usually the history and clinical signs can differentiate traumatic from spontaneous, and running an ACT on presentation can quickly rule-out a coagulopathy. Despite it being a relatively common emergency clinic presentation, there is surprisingly little good evidence on best-practices for managing hemoabdomen. I anxiously await a well-designed study to objectively inform our management choices.

Patients present with signs of hypovolemic shock. Typically, they have marked pallor, sinus tachycardia, hypotension, weakness and tachypnea. Quick assessment tests usually reveal elevated lactate. Abdominal distension cannot usually be appreciated until massive hemorrhage has occurred. The PCV may actually be normal despite extensive abdominal hemorrhage if the bleeding is recent. An abdominal "FAST" ultrasound exam will quickly show free abdominal fluid. Trauma patients typically have a history of injury and evidence of other traumatic injuries. Spontaneous hemorrhage is seen more commonly in patients with benign or malignant abdominal masses, usually associated with the spleen or liver, and the patient has no history of trauma. Spontaneous abdominal hemorrhage in cats is quite uncommon.

Much controversy surrounds fluid therapy management of these patients, and timing of surgical intervention, or even if surgical intervention is needed at all. There is fairly broad consensus among most emergency and critical care specialists that traumatic hemoabdomens should initially be managed medically, and most (but not all) of them do not require surgery. Current thinking suggests these patients benefit from carefully titrated crystalloid fluid therapy to raise systolic blood pressure to approximately 90 mm Hg, and very close monitoring to note deterioration of the cardiovascular system. Fresh whole blood is likely the optimal resuscitation fluid for these patients, but is impractical in almost all practice situations. If the patient fails to stabilize, and repeated FAST exams suggest severe ongoing hemorrhage, emergency surgery is indicated. Of course, all patients with blunt trauma have the potential for other severe abdominal injury, and require close monitoring and more extensive imaging to detect other life-threatening problems. Abdominal exploratory surgery provides the chance to definitively identify and treat other trauma-related injuries, and for some, this is reason enough to perform surgery on these patients. I favour a watchful waiting approach to avoid unnecessary surgery in many.

There is less consensus about timing of surgery for spontaneous (non coagulopathic) hemoabdomen patients. Almost all of these patients will eventually need surgery for definitive control of their hemorrhage. Initial support with judicious crystalloid fluid therapy and blood products can often buy some time for more extensive diagnostic work. Thoracic radiographs, abdominal ultrasound and echocardiography, if they can be done in a timely manner, offer valuable insight into the presence of pre-existing tumour metastasis that may heavily influence an owner's decision on abdominal surgery. We have observed that many dogs presenting with spontaneous hemoabdomen have evidence of previous hemorrhagic episodes, suggesting that often these will bleed silently and the patient has (temporarily) compensated and recovered from the hemorrhage without medical intervention. The timing of surgery is influenced by many factors, including availability of the surgical team, response to initial stabilization attempts, and availability of diagnostic screening procedures. In general, the longer surgery is delayed, the more blood-products and costs are incurred. However, delaying surgery until diagnostics can be done is often judicious, as the decision to proceed is often influenced by the results of screening for metastasis.

Please contact either me or Dr. Judy Brown if you have any questions regarding management of hemoabdomen or any other emergency medicine or critical care topic. We are happy to accept direct referrals of critically ill patients.

- Dawn Crandell

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