

Veterinary ER Cases: Collapse!



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Hemoabdomen, which is also known as hemoperitoneum, is the condition where blood is free in the abdominal cavity. It is one of the most common surgical emergencies seen in our hospital, and a condition that forces owners to make drastic, life and death decisions often without all the information we wish they could have.

Imagine this: you let your trusty nine-year-old Golden Retriever “Jack” out into the backyard, then go into the kitchen to get breakfast. A short time later, it dawns on you that Jack isn’t scratching at the back door asking to come back into the house (normally he wants to “share” your cereal). You look outside and see that he is laying out in the yard instead of running around. You call him, he looks at you, but doesn’t come running. You put your shoes on and go to him instead. You notice he is breathing harder than normal. He looks at you, he’s conscious, wags his tail even, but doesn’t get up until you practically drag him back into the house. He’s walking slowly, seems weak and you notice his gums look pale.

You decide to bring Jack to your local veterinary ER. Jack gets rushed to the back

and shortly afterwards either a technician or a veterinarian is asking you questions that seem strange at first. Did Jack have any trauma or could he have ingested any mouse or rat bait? Next thing you know, you’re being told that Jack has a mass on his spleen, it is bleeding, and he needs emergency surgery. To make matters worse, you’re told that the emergency surgery is necessary to remove his spleen (splenectomy) and the large mass attached to it may be a very aggressive cancer. Unfortunately, you won’t know for sure if it is cancer for five to seven days when the biopsy results come back. Now you have to decide, do you want to pursue surgery to try to stop the bleeding or not?

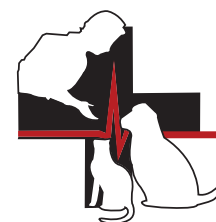
Let me describe the thought process that is going on for the veterinarian. What is hopefully a rare situation for you to find yourself in is something emergency veterinarians are faced with on an almost daily basis. The most common breeds with this presentation are Golden Retrievers, German Shepherd Dogs, Standard Poodles and Labrador Retrievers. Anytime I see a large breed dog like this that has collapsed or is weak, has pale gums, and has a rapid heart rate, I worry about hemoabdomen.

There are several causes of hemoabdomen. Trauma can lead to bleeding in the abdomen, often from impact to the liver, spleen or kidneys. Animals that have attempted to jump over objects, such as fences or rails, and don’t quite get high enough, can have such an impact to the underside of the belly that damage can occur to internal organs. Hematomas, or bruises to these organs, can form over time, and may not actively bleed for days after the impact. Tumors in the abdomen can rupture and start bleeding. Additionally, conditions that cause dogs to lose their ability to form blood clots appropriately can lead to hemorrhage within body cavities such as the chest and abdomen. This explains some of the questions you were asked that seemed funny—mouse and rat poisons can keep the body from using Vitamin K and lead to bleeding internally. Problems with platelets (a type of blood cell) can also lead

to bleeding. Abdominal trauma causing a hemoabdomen will clinically appear very similar to a clotting problem or a bleeding tumor in the abdomen and a dog’s coat often hides external signs of trauma.

The steps we take to figure out what may be the cause of the bleeding are critical to both applying the best treatment, and providing owners with reasonable expectations of survival. In the case of rat and mouse bait ingestions, a simple test of coagulation function quickly informs the doctor if there are abnormalities. We have an analyzer in our hospital that assesses coagulation function, making this diagnosis relatively straightforward. Unlike bleeding masses, these poisonings are not managed through surgery. Rather, the administration of plasma collected from donor dogs (we have a blood bank in our hospital that supplies both whole blood and plasma), rapidly corrects the abnormal bleeding. Continued treatment with Vitamin K for weeks, while the poison is eliminated from the dog’s system, prevents re-bleeding. Depending on the amount of blood lost in these patients, administration of red cells to replace the lost blood volume may also be indicated. Fortunately, of all the conditions that can cause bleeding in the abdomen, this condition is associated with the best prognosis, where the vast majority of patients make a full recovery and do not suffer from any long-term effects.

When a canine patient is diagnosed with hemoabdomen, and coagulation function is normal, we become concerned that a bleeding mass may be the cause. The liver, spleen, kidneys and adrenal glands are all possible sources of bleeding. Both benign and malignant masses can rupture and bleed. Unfortunately, both the source of bleeding, and the prognosis for that patient, often are not clear until surgical exploration of the abdomen occurs. Ultrasound of the abdomen by an experienced ultrasonographer (board-certified radiologist) can sometimes help to determine which organ, or organs in the case of metastasis, are involved and thus impact prognosis and recommendations



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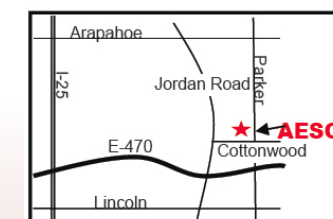


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for further care. Regardless, owners have a very difficult decision to make. One of the most common causes of a splenic tumor is a particularly aggressive kind of cancer called hemangiosarcoma. A diagnosis of hemangiosarcoma, if the spleen is removed surgically and chemotherapy is pursued afterwards, still only results in an average survival time of four to six months due to a very high metastatic rate. We often discuss the “two thirds rule” with owners when we find a mass on the spleen: two thirds of the masses we find on the spleen are malignant (cancerous), the other third are benign hematomas which are cured with surgical removal of the spleen. Of the splenic masses that are cancerous, two thirds of them will be hemangiosarcoma, with the other types of masses being either less aggressive or more treatable than hemangiosarcoma.

An article which was published in 2008 in the Journal of the American Veterinary Medical Association unfortunately showed that if a patient with a splenic mass has hemoabdomen and anemia (low red blood cell count), the odds of the mass being hemangiosarcoma now increase to seventy-six percent. This becomes a very difficult decision for owners. Do they want to put their dog through a significant abdominal surgery and the recovery, with only a one in four chance that their dog will survive beyond four to six months? Unfortunately, owners are forced to make their decision based on the odds above. It is not recommended to take an incisional biopsy (removing a small piece of the mass) because this leads to the tumor bleeding even faster. Additionally, it takes five to seven days to get the results of a biopsy back, so the patient will probably suffer too much blood loss to wait that

long. The only pre-surgical screening we typically do are taking chest x-rays to look for spread of cancer to the lungs and, if time permits, perform an ultrasound to look for spread of cancer elsewhere in the abdomen.

Knowing how likely it is that these patients have an aggressive cancer makes this conversation very difficult to have with owners. It is a sad, emotionally draining situation to be in. It is also a frustrating situation since life and death decisions have to be made based mostly on statistics.

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