ABDOMINAL MASSES

What is it? Abdominal masses can be any mass of tissue arising from any organ or tissue within the abdomen. Sometimes they are tumors (benign or malignant), granulomas (an inflammatory change), abscesses, or cysts. The most common abdominal masses we see are related to the spleen, liver or gastrointestinal tract.

Splenic masses can vary in size and shape and commonly grow without causing any apparent clinical signs or symptoms. Because of this they are often detected incidentally. As the mass(es) enlarge in size, however, they often rupture which can cause significant blood loss. If this occurs, the patient may show acute weakness or collapse, pale mucous membranes, a rapid heart rate and abdominal distension. A bleeding splenic mass can be life threatening, and the patient should be seen as soon as possible. Some patients do require blood transfusions in the perioperative period. Oxygen supplementation is also frequently recommended. Surgical removal of the spleen and associated mass is recommended to prevent or stop the bleeding, and to allow for identification of what type of mass it is. Unfortunately, the majority of splenic masses are malignant. The most common splenic tumor we see is hemangiosarcoma. This tumor is malignant and very aggressive. We cannot cure the hemangiosarcoma by removing it since it typically does metastasize or spread to other parts of the body (liver and lungs are most common). Life expectancy with hemangiosarcoma is 3-6 months. If hemangiosarcoma is confirmed with histopathology, chemotherapy may help slow the progression of the disease and allow for a longer period of good quality of life. There are also benign splenic masses in which case removing the spleen is curative. Only histopathology can accurately determine what type of mass is present and whether it is malignant or not. Animals and people can live without their spleen. It is an important organ for making and storing blood cells but there are other parts of the body that do this as well. Patients often recover very quickly from a routine splenectomy. Patients that have experienced blood loss may be in intensive care for 24 to 72 hours depending on their response to surgery and supportive care.

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Hepatic/liver masses can be difficult to diagnose without radiographs or ultrasound as they are often "hidden" from palpation by the rib cage and may or may not cause any clinical signs or symptoms. Sometimes the mass is found incidentally. Patients with a liver mass may have elevated liver enzymes but these can also be normal. Liver masses can involve one or more lobes of the liver and typically require liver lobectomy or partial hepatectomy to remove them. We commonly use suture or surgical stapling devices to allow removal of the affected liver lobe(s). The liver is a regenerative organ, therefore a large portion of the liver can be removed and still allow for normal hepatic function for the patient. Significant hemorrhage can occur with removal of a liver mass, and the patient may require blood transfusion in the perioperative period. If the liver mass is in close proximity to the gall bladder, it may also need to be removed. The most common liver tumor we see is hepatocellular adenocarcinoma. This is a malignant tumor; however, removal of the tumor can allow for a 1-2 year tumor free interval.
Hepatomas and hepatic cysts can often be cured by surgical removal. We also see regenerative nodules and other changes that can look very "ugly" but are indeed benign. Histopathology is the only way to determine accurately what type of tumor is present and whether or not it is malignant. Patients often recover very well after partial hepatectomy but may require intensive care the first 24-48 hours.

**Intestinal masses** can be small and localized or very large and invasive. The patient may exhibit signs of inappetance and vomiting if the mass is causing an obstruction; you may also see weight loss, despite a good appetite, and diarrhea. Sometimes there are no clinical signs but the mass can be felt on palpation of the abdomen. We see many different types of intestinal masses, some malignant, some benign. Only histopathology can accurately determine what type of mass is present. Prognosis depends on the type of mass, whether or not it can be completely removed and if it has metastasized or spread. Often the mass can be removed surgically by a procedure called resection and anastomosis. This procedure removes (or resects) the affected portion of intestine, and then the normal ends of the cut intestine are sutured back together (anastomosis) to reestablish the intestinal tract. Postoperative complications can arise if the anastomosis does not heal well or there is leakage from the site resulting in spillage of intestinal contents into the abdomen and peritonitis. Patients may also develop pancreatitis if the surgical site is near the pancreas. Food and water are typically withheld for 12 to 24 hours postoperatively, requiring hospitalization for fluid supplementation. Additional nutritional support may also be provided. We typically reinstitute feedings with small, frequent meals of a bland diet.

**Other masses:** Masses arising from kidney, bladder, ovary, testicle, pancreas, lymph node.... are all unique and may require other diagnostics and therapies, however, the basics hold true for most: identify the source, biopsy or ideally remove the mass to obtain a definitive diagnosis, provide routine postop care, consider adjunctive therapies if the mass is cancerous.