PURDUE UNIVERSITY | Veterinary Hospital

Liver lobectomy

Overview/Indications:
Common reasons for partial or full liver lobectomies are tumors, torsion or abscessation. Trauma to the liver needing surgical intervention is rare, but is possible.

Liver masses can be found as an incidental finding, or can push on the stomach (causing decreased appetite, or can rupture/bleed (with the pet presenting acutely with a hemoabdomen), or can they can cause a variety of other signs. The most commonly found liver cancer is Hepato Cellular Carcinoma (HCC). This is a slow growing tumor, that does not quickly spread to other organs, but can become quite large, and are friable, so they can rupture/get damaged and bleed.

Patients with liver abscesses or liver lobe torsion typically present as an emergency.

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 *a non-bleeding liver mass* often present as a normal appointment and the work up generally includes:
- General physical examination
- Preoperative laboratory work to determine anesthetic stability,
- CT Imaging to localize and assess the resectability of the mass.

Other diagnostics:
- Histopathology of the mass (obtained during surgical removal)
- culture (if indicated).

Procedure:
Prior to surgery, the patient is stabilized. This generally entails intravenous fluids, and in some cases a blood transfusion is needed.
Liver lobectomy - Removal of an entire liver lobe:
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.
Even if CT imaging was obtained prior to surgery, we will always reassess during surgery if removal of the mass via liver lobectomy is achievable. And if so, if this would be a high risk, or lower risk intervention. We will discuss these possibilities with your prior to surgery, and if needed will call you during surgery to discuss the risk of moving forward with removal of the mass.

Partial liver lobectomy – removal of part of a liver lobe:
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.
Even if CT imaging was obtained prior to surgery, we will always reassess during surgery if removal of the mass via liver lobectomy is achievable. And if so, if this would be a high risk, or lower risk intervention. We will discuss these possibilities with your prior to surgery, and if needed will call you during surgery to discuss the risk of moving forward with removal of the mass.

Complications:
The emergency doctor and emergency surgeon will discuss these complications in more detail prior to emergency surgery.
The liver is a highly vascular organ, and any liver surgery – whether partial liverlobectomy or full lobectomy carries a risk for bleeding during and after surgery. If bleeding is severe, bloodtransfusion(s) might be needed. Surgery for large masses in more difficult locations might be at risk for bleeding that cannot be fully stopped. We will discuss our assessment of this risk prior to surgery, and will call you during surgery (if needed) as well – prior to starting the dissection.
- aspiration pneumonia
- bleeding
- heart arrhythmias (in cases with blood loss): 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.
- surgical site issues, such as infection, dehiscence, seroma.
- complications secondary to intestinal surgery, urinary surgery

Postoperative Care:
In hospital care: the pet will be monitored closely in our ICU unit during their recovery from anesthesia.
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 the histopathology of the mass, whether removal was complete – but HCCs are typically slow growing and very slow to re-grow.