Overview

Masses within the liver are increasingly being detected inadvertently when patients are evaluated for unrelated reasons. These liver masses are usually benign (non-cancerous) in patients without underlying liver disease and usually need no specific treatment. We recommend that the work-up and management of benign lesions be overseen by a multidisciplinary team including radiologists, hepatologists, oncologists and surgeons—which exists at California Pacific Medical Center—to ensure a patient receives the best possible care.

Benign masses can be categorized into two groups: solid or cystic (fluid filled).

Solid Masses

Among the most common solid masses include:
- Hemangioma
- Focal nodular hyperplasia
- Adenoma
- Focal fatty change
- Nodular regenerative hyperplasia

Hemangiomas are the most common of all benign liver masses. They are more prevalent in women and may be affected by hormonal changes. Symptoms such as pain are mostly noted in lesions >6 cm and are related to compression of adjacent structures. Bleeding is rare. Diagnosis of these lesions is usually made radiologically with magnetic resonance imaging (MRI) offering the most definitive means of diagnosis. No specific treatment is required for asymptomatic lesions whatever the size. Surgical resection is the treatment of choice for symptomatic lesions.

For patient referrals:
1-888-637-2762
www.cpmc.org/liver

Beyond Medicine.
Cystic Masses

Two major categories of cystic masses exist and are related to either an infectious or a non-infectious cause.

Non-Infectious Cystic Masses

Bile Duct (Choledochal) Cysts may be present from birth (congenital) or may arise later in life. There appears to be a higher incidence of this process in females. Adult onset choledochal cysts are usually an incidental finding. If symptomatic, the patient may present with pain under the right rib cage, nausea, vomiting, fever and/or jaundice. In extreme cases, a patient may present with back pain. Patients may rarely present with inflammation of the liver and sometimes cirrhosis of the liver due to chronic obstruction of the bile duct. In addition to laboratory studies, a variety of imaging modalities may be needed. More invasive studies by a gastroenterologist or an interventional radiologist are required to fully delineate the extent of the disease process. Biopsy of the bile duct may be needed to rule out bile duct cancer. The presence of cancer may be known either before or at the time of the operation. The operation consists of resecting the diseased bile duct and reconnecting the remnant to the small intestine. A transplant evaluation is needed if liver cirrhosis is noted on the preoperative workup.

Liver Cyst

Polycystic Liver Disease (PCLD) is an inherited condition and may be associated with cystic lesions of the kidneys. Most patients are asymptomatic with normal laboratory studies. The liver cysts are multiple and tend to enlarge slowly. Symptoms are similar to that of simple cysts. Ultrasound and CT scans are reliable in detecting the lesions. These cysts must be differentiated from multiple simple cysts given that PCLD is an inherited disease. There are genetic tests available to.
help counsel afflicted patients and families. Treatment for PCLD is similar to the treatment of simple cysts. A liver, kidney or combined liver-kidney transplant may be necessary depending on disease severity of the organs afflicted.

Treatment depends on the clinical condition of the patient and radiologic findings. Typically, antibiotic therapy is initiated and the abscess is drained using a catheter placed directly into the abscess by the radiologist (90% successful) or surgical intervention is needed in more severe cases.

**Amebic Liver Abscess**—Amebic infection or amebiasis is a common infection in the tropics. In the United States individuals at risk for amebiasis are those who have immigrated from or traveled to endemic areas. The organism responsible for the disease process is *Entamoeba Histolytica*. Transmission usually occurs via ingestion of infected water. Liver abscess formation occurs when the ameba penetrates through the intestines and into local veins that drain into the liver. Liver abscesses are more common in patients who are immunocompromised, malnourished or have a malignancy. Less than one-third of the patients have intestinal symptoms prior to the diagnosis of liver abscess. Patients usually present with acute abdominal pain and fevers. Up to 8% of patients present with mild jaundice. Tests to detect antibodies in the blood (positive in up to 95% of patients) are available and should be performed. Various radiologic studies can be used to help in the diagnosis. Treatment is primarily with antibiotics. Aspiration of the abscess is rarely indicated. An operation is indicated if worsening infection is noted despite adequate medical therapy.

**Hydatid Cysts**—These liver cysts are caused by a parasitic organism found in dogs. *Echinococcus granulosus* or *Echinococcus multilocularis* are parasites (tapeworms) that infect dogs. Tapeworm embryos are present in the feaces of dogs. After inadvertent ingestion, the tapeworm embryo will penetrate the intestine and usually find its way to the liver. It may also migrate to other structures such as the lung, spleen, brain, bone or kidney after entering the bloodstream. Cysts are usually visible three weeks after ingestion and continue to secrete fluid causing compression of the liver. Cysts <5 cm are usually asymptomatic and no specific treatment is required.

Patients usually have symptoms of abdominal fullness. Pain usually is noted when cysts get infected or rupture. The most common site of rupture is into the bile ducts within the liver causing symptoms of bile duct obstruction and infection.
Some patients may present with an allergic reaction after cyst rupture. Radiologic studies used to diagnose hydatid cysts are ultrasound and CT scans. Antibody tests are available to detect hydatid cysts and should be completed. Treatment options range from chemotherapy (mebendazole and albendazole) to surgery. Surgery can entail a conservative approach (various drainage type procedures) or a radical operation that removes the entire cyst with a rim of normal liver.

Why Choose Us?

California Pacific’s Liver Disease Management and Transplant Program offers comprehensive specialty care for adult end-stage liver disease. We emphasize ongoing communication with referring physicians and incorporate them into the decision process of their patient’s medical management. We follow up our care with an organized discharge report to the referring physician.

For patients requiring hospitalization, we have a dedicated critical care liver unit, hospitalists who specialize in liver disease, physician assistants, on-call anesthesia staff and a specialized O.R. nursing team.

At California Pacific, our focus is on going beyond medicine. We look intently at each individual case and treat the whole person, not just the illness. Because medicine can transform a body. But going beyond medicine can transform a life.

Research

Our Hepatology Research Center has a comprehensive clinical research program, offering concurrent trials for various liver diseases. We also have a Liver Immunology Laboratory that serves as a hub for collaborative viral hepatitis research in the Bay Area.

We are proud to be at the forefront of advances and research affecting our patients. Multiple pharmaceutical studies and clinical research trials using new, ground-breaking medications and procedures in the area of viral hepatitis, liver cancer, gastroenterology and liver transplantation are continually being pursued in our Research Center. Hepatology and gastroenterology study locations are available throughout Northern California, with sites in San Francisco, Oakland and Sacramento. Clinical trial information is available on the Web at www.cpmc.org/liver.

For more information

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For referrals and patient transfer, contact California Pacific Specialty Referral Program
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