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LIVER BIOPSY

What Is A Liver Biopsy?

Liver biopsy is a diagnostic procedure used to obtain a small amount of liver tissue, which can be examined under a microscope to help identify the cause or stage of liver disease.

What Are The Different Ways Liver Biopsy Can Be Performed?

The most common way a liver sample is obtained is by inserting a needle into the liver for a fraction of a second. This can be done in the hospital, and the patient may be sent home within 3-6 hours if there are no complications. The physician determines the best site, depth, and angle of the needle puncture by physical examination or ultrasound. The skin and area under the skin is anesthetized, and a needle is passed quickly into and out of the liver. Approximately half of individuals have no pain afterwards, while another half will experience brief localized pain that may spread to the right shoulder.

Another technique used for liver biopsy is guiding the needle into the liver through the abdomen or chest using various imaging techniques. This approach is used when there are localized tumors identified by ultrasound or computed tomography (CT). Either ultrasound or CT scanning is used to pinpoint the site of the tumor and guide the needle to this specific area through the abdomen or chest. After this procedure, the patient is usually allowed to go home the same day.

Less commonly used biopsy techniques are laparoscopy, transvenous or transjugular liver biopsy, and surgical liver biopsy. With laparoscopy, a lighted, narrow tubular instrument is inserted through a small incision in the abdominal wall. The internal organs are moved away from the abdominal wall by gas that is introduced into the abdomen. Instruments may be passed through this lighted instrument or through separate puncture sites to obtain tissue samples from several different areas of the liver. Patients who undergo this procedure may be discharged several hours later.

Transvenous or transjugular liver biopsy may be performed by a radiologist in special circumstances, e.g. when the patient has a significant problem with blood clotting (coagulopathy) or a large amount of fluid within the abdomen (ascites). With this procedure, a small tube is inserted into the internal jugular vein in the neck and radiologically guided into the hepatic vein, which drains the liver. A small biopsy needle is then inserted through the tube and directly into the liver to obtain a sample of tissue.

Finally, liver biopsy may be done at the time a patient undergoes an open abdominal operation, enabling the surgeon to inspect the liver and take one or more biopsy samples as needed.

When Is A Liver Biopsy Used?

Liver biopsy is often used to diagnose the cause of chronic liver disease that results in elevated liver tests or an enlarged liver. It is also used to diagnose liver tumors identified by imaging tests. In many cases the specific cause of the chronic liver disease is highly suspected on the basis of blood tests, but a liver biopsy is used to confirm the diagnosis as well as determine the amount of damage to the liver. Liver biopsy is also used after liver transplantation to determine the cause of elevated liver tests and determine if rejection is present.

What Are The Dangers Of Liver Biopsy?

The primary risk of liver biopsy is bleeding from the site of needle entry into the liver, although this occurs in less than 1% of patients. Other possible complications include the puncture of other organs, such as the kidney, lung or colon. Biopsy, by mistake, of the gallbladder rather than the liver may be associated with leakage of bile into the abdominal cavity, causing peritonitis. Fortunately, the risk of death from liver biopsy is extremely low, ranging from 0.1% to 0.01%.

Are There Alternatives To Liver Biopsy?

The primary alternative to a liver biopsy is to make the diagnosis of a liver disease based on the physical examination of the patient, medical history, and blood testing. In some cases, blood testing is quite accurate in giving the doctor the information to diagnose chronic liver disease, while in other circumstances a liver biopsy is needed to assure an accurate diagnosis.

Do Liver Biopsies Ever Need To Be Repeated?

In most circumstances, a liver biopsy is only performed once to confirm a suspected diagnosis of chronic liver disease. Occasionally, liver biopsy is repeated if the clinical condition changes or to assess the results of medical therapy, such as drug treatment of chronic viral hepatitis with interferon or prednisone therapy of autoimmune hepatitis. Patients who have undergone liver transplantation often require numerous liver biopsies in the early weeks to months following the surgery to allow accurate diagnoses of whether the new liver is being rejected or whether other problems have developed.