

# Hepatology



**H**epatology is a branch of medicine concerned with the study, prevention, diagnosis and management of diseases that affect the liver, gallbladder, biliary tree and pancreas. Hepatitis affects millions of individuals globally and is associated with several poor outcomes including liver transplant and liver cancer. In particular, hepatitis B and hepatitis C are major causes of liver cancer, while alcohol abuse has been linked to

conditions such as cirrhosis and other serious complications. The conditions hepatologists deal with most frequently are viral hepatitis and alcohol-related liver disease.

Some of the most common ailments that are assessed, diagnosed and managed by a hepatologist include:

Diseases of the liver related to excess alcohol consumption, including fatty liver disease, liver cirrhosis.

- **Viral hepatitis infections (hepatitis A, B, C and E)** Over two billion individuals have been infected with hepatitis B at some point and around 350 million people are persistent carriers. With widespread vaccination and blood screening, the incidence of hepatitis B has significantly decreased. However, hepatitis B and hepatitis C are accountable for up to 80% of liver cancer cases.
- Drug overdose, particularly paracetamol overdose
- **Jaundice** :Gastrointestinal bleeding caused by portal hypertension linked to liver injury
- Enzyme defects causing liver enlargement in children, also known of as liver storage diseases
- Some tropical infections such as hydatid cyst, kala-azar or schistosomiasis
- Liver transplantation, Liver cancer
- Genetic and metabolic liver disease
- Pancreatitis, usually when caused by alcohol consumption or gallstones
- **Drug metabolism:** Damage to the pancreas or biliary tract caused by infection, cancer, alcohol, bleeding or obstruction

## Causes

Diseases and complications related to Viral hepatitis and alcohol are the main reason for seeking specialist advice. More than 2 billion people have been infected with hepatitis B virus at some point in their life, and approximately 350 million have become persistent carriers. Almost 80% of the liver cancer can be attributed to either hepatitis B or C virus.

## Symptoms

- Internal bleeding from large blood vessels in the oesophagus, called bleeding varices
- A build up of fluid in the belly, called ascites (pronounced “a-sigh-tees”)
- Confusion from the build up of toxins in the blood, called encephalopathy (pronounced “en-sef-a-lop-a-thee”)
- Yellowing of the eyes and skin, called jaundice

Another serious complication of cirrhosis is liver cancer, which may occur in the compensated or decompensate stage. There may be no signs of liver cancer until the cancer has grown very large and causes pain.

## Treatment

Patients with cirrhosis should avoid pain medications called “non-steroidal anti-inflammatory (NSAIDS)”. These include over-the-counter medications such as ibuprofen (Motrin, Advil), naprosyn (Aleve), as well as some prescription medications. Ask your doctor if any of your medications are NSAIDS.

For mild to moderate aches and pains, it is safe to use Tylenol (acetaminophen) at doses of 2,000 mg/day or less (no more than 6 regular strength or no more than 4 extra strength each day AND no more than 20 regular strength or no more than 15 extra strength each week). Some cold medicines and prescription pain medicines contain acetaminophen, so read the labels and make sure you don't take too much by mistake.

Most other prescription medications are safe for the liver. You are not at increased risk of side effects just because you have cirrhosis. In particular, statins such as Lipitor and Zocor can be used for treating cholesterol in patients with liver disease. You will require the same monitoring like other patients without liver disease.

Surgery can be quite risky in patients with cirrhosis. If you are considering having any type of surgery, please be sure to ask your hepatologist (UM liver specialist) if this is safe for you. If there are any concerns, please ask your surgeon to talk to your hepatologist

Other things can be taken care include:

- **Avoid further liver damage** Patients who drink alcohol must stop all alcohol consumption.
- **Low salt (sodium) diet** It is not too much water intake that causes the buildup of ascitic fluid in the abdomen, but it is actually the body that is keeping in too much sodium (salt). Thus, it is important to cut down on salt intake, not water intake. Dietary sodium intake is usually restricted to less than 2000 mg per day (about 1 teaspoon). Most salt in a person's diet comes from processed foods, not from the saltshaker.
- **Diuretic therapy** ("Water Pills") these medications help the body get rid of extra sodium and water through the kidneys. Common medications include spironolactone (Aldactone), and furosemide (Lasix). One regimen begins with 100 mg of spironolactone and 40 mg of furosemide every AM. If there is no weight loss in the first two weeks, the dose is gradually increased up to a maximum of

400 mg of spironolactone and 160 mg of furosemide daily. Response to treatment varies and finding out which treatment plan works best for you, the patient, takes time as the dose of medications is adjusted over a period of weeks or months.

- **Paracentesis (Tap)** This procedure involves draining fluid out of the abdomen with a needle. It is performed using local anesthetic (lidocaine), and the fluid is also sent for testing. This rapidly relieves symptoms of ascites, but does nothing to correct the underlying cause. The fluid eventually returns. Strict sodium restriction and diuretic therapy must still be used to slow down the reaccumulation of fluid. - Removing 5 liters or more at one time can cause a drop in blood pressure, and kidney damage. IV albumin can reduce the risk of this complication. - Frequent taps can increase the risk of infection, electrolyte (sodium and potassium) imbalance, and worsening kidney function

- **Monitor Progress** During treatment, it is important that patients undergo careful monitoring by their doctor with periodic measurements of body weight and blood tests. This is especially true in patients taking diuretics (which may cause reduced kidney function and changes in the blood levels of sodium and potassium). The best way, you, the patient, can help the doctors manage your fluid problem is to keep a log of your daily weight and to keep track of the dose of your water pills (diuretics) and dates when you have taps (paracentesis).

- **Spontaneous bacterial peritonitis** This condition occurs when the ascites fluid becomes infected, and can be life threatening. Symptoms include fever and abdominal pain but these symptoms may be absent during the early stages. If you have infection of the ascites fluid, you will need to be admitted for IV antibiotics (given into your vein). Once you have one episode of peritonitis, you will have to take an oral antibiotic to prevent recurrence of peritonitis. If you are requiring frequent paracentesis, your doctor may prescribe antibiotics to prevent this infection from developing.

- **Hepatorenal syndrome** This refers to kidney failure that sometimes develops in patients with end-stage liver disease. This may happen suddenly or as a slowly progressive process. Treatment usually involves stopping diuretic therapy, IV fluids, and a search for a reversible cause such as dehydration or infection. Rapid kidney failure in cirrhotic patients with ascites is associated with a 90% chance of death if liver transplant is not performed.

- **Transjugular intrahepatic portosystemic shunt, or TIPS procedure**, involves placement of a shunt within the liver to improve blood flow. A TIPS procedure is performed through the veins and does not require abdominal surgery. This is usually done to control bleeding from varices if other simple measures fail and in some cases to decrease fluid build up (ascites). About 30% of patients develop increased mental confusion after TIPS, and in some cases the shunt must be closed back down if this occurs. Rarely, progressive jaundice and liver failure develops after a TIPS procedure.

- **Liver transplant Development** of ascites as a complication of cirrhosis of the liver is a concerning sign. Liver transplant is the treatment of choice in appropriate candidates, but unfortunately, not all patients are candidates for this procedure. Liver transplant should be considered in anyone having decompensated cirrhosis (see section on "About liver cirrhosis").

## Vaccination

- If you have never been vaccinated against hepatitis A or B, we will check to see if you are immune (already have protection). If not, we will recommend vaccination, which can be arranged to be done near your home. The schedule is shots at 0, 1, and 6 months.
- The yearly influenza vaccination (flu shot) is also recommended. It is important that you receive the inactivated vaccine (injection), not the live form (nasal drop).

## References

<http://www.news-medical.net/health/What-is-Hepatology.aspx>

<http://en.wikipedia.org/wiki/Hepatology>

<http://www.med.umich.edu/1libr/Hepatology/CirrhosisToolkit.pdf>