FATTY LIVER DISEASE

What is fatty liver disease?
Some fat in the liver is normal. But if fat makes up more than 5%-10% of the weight of your liver, you may have alcoholic or non-alcoholic liver disease (Fig). In some cases, these diseases can lead to serious complications.

1. Alcoholic Liver Disease (ALD)
More than 15 million people in the U.S. abuse or overuse alcohol. Almost all of them -- 90%-100% -- develop fatty livers. Fatty liver can occur after drinking moderate or large amounts of alcohol. It can even occur after a short period of heavy drinking (acute alcoholic liver disease).

Genetics or heredity (what is passed down from parent to child) plays a role in alcoholic liver disease in two ways: It may influence how much alcohol you consume and your likelihood of developing alcoholism. And, it may also affect levels of liver enzymes involved in the breakdown (metabolism) of alcohol.

Other factors that may influence your chances of developing alcoholic fatty liver disease include:
- Hepatitis C (which can lead to liver inflammation)
- An overload of iron
- Obesity
- Diet

2. Non-alcoholic fatty liver disease (NAFLD)
Non-alcoholic fatty liver disease (NAFLD) is the term for a wide range of conditions caused by a build-up of fat within the liver cells. It is usually seen in people who are overweight or obese. A healthy liver should contain little or no fat. Most people with NAFLD only carry small amounts of fat in their liver, which doesn't usually cause any symptoms. This early form of the disease is known as simple fatty liver, or steatosis.

In most people, simple fatty liver is unlikely to cause harm, but that doesn't mean it's not a serious condition. This is because:
- In some people, if the fat builds up and gets worse, it can eventually lead to inflammation (non-alcoholic steatohepatitis, or NASH) and scarring of the liver.
- As the disease is linked to being overweight or obese, people with any stage of the disease are more at risk of developing a stroke or heart attack -- this risk appears to be higher in those who have NASH.
- NASH can lead to permanent liver damage. The liver may enlarge and, over time, liver cells may be replaced by scar tissue. This is called cirrhosis. The liver can't work right and you may develop liver failure, liver cancer, and complications. NASH is one of the leading causes of cirrhosis.

Four stages of NAFLD
NAFLD is very similar to alcoholic liver disease, but is caused by factors other than drinking too much alcohol. The four stages are described below.
- Stage 1: simple fatty liver (steatosis)
- Hepatic steatosis is stage 1 of the condition. This is where excess fat builds up in the liver cells, but is considered harmless. There are usually no symptoms, and you may not even realize you have it until you receive an abnormal blood test result.
- Stage 2: non-alcoholic steatohepatitis (NASH)
Only a few people with simple fatty liver go on to develop stage 2 of the condition, called non-alcoholic steatohepatitis (NASH). NASH is a more aggressive form of the condition, when the liver has become inflamed. A person with NASH may have a dull or aching pain in the top right of their abdomen (over the lower right side of their ribs).
- Stage 3: fibrosis
Some people with NASH go on to develop fibrosis, which is where persistent inflammation in the liver results in the generation of fibrous scar tissue around the liver cells and blood vessels.

This fibrous tissue replaces some of the healthy liver tissue, but there is still enough healthy tissue for the liver to function normally.
- Stage 4: cirrhosis
This is the most severe stage, where bands of scar tissue and clumps of liver cells develop. The liver shrinks and becomes lumpy (known as cirrhosis). Cirrhosis tends to occur after the age of 50-60, following many years of liver inflammation associated with the early stages of the disease. However, this can happen much earlier in some people. People who have type 2 diabetes are at the greatest risk of developing cirrhosis of the liver caused by NAFDL. The damage caused by cirrhosis is permanent and can't be reversed. Cirrhosis progresses slowly, over many years, gradually causing your liver to stop functioning. NAFDL can also lead to primary liver cancer (hepatocellular carcinoma). This is what is known as liver failure.

Who is affected?
People more likely to develop NAFDL and more severe forms of the disease, such as NASH, fibrosis or cirrhosis if:
- they are obese or overweight
- have type 2 diabetes (this causes an increased uptake of fat into the liver cells)
- have high blood pressure
- have high cholesterol, smoking and are over the age of 50

Other potential causes of fatty liver disease include:
- Medications
- Viral hepatitis
- Autoimmune or inherited liver disease
- Rapid weight loss

How is fatty liver disease diagnosed?
Fatty liver disease is usually suspected in patients who have abnormal liver function tests [alanine aminotransferase (ALT), aspartate aminotransferase (AST), gamma-glutamyl transpeptidase (GGT)] or have an enlarged liver. An ultrasound of the liver can suggest the presence of a fatty liver. Other diagnostic methods may be used such as computed tomography (CT), proton magnetic resonance spectroscopy (H-MRS), and magnetic resonance imaging (MRI).

TREATMENT OF FATTY LIVER DISEASE
a. Losing weight and exercising: The most important thing that people with NAFDL can do is to go on a gradual weight loss programme and exercise regularly. This helps in by reducing the amount of fat in the liver cells -- this helps to heal inflammation, lowering the risk of stroke and heart attack.
b. Stop smoking
c. Stop alcohol
d. Medication: Currently, there is no medication proven to effectively treat fatty liver disease. First thing is to control obesity, and hyperlipidemia (statins may be used). Diabetes