

Liver disease research paper example

[Health & Medicine](#), [Disease](#)



LIVER DISEASE

Pathophysiology of the Disease

Liver disease is a major concern all over the world. The initial stages are referred to as hepatic fibrosis. In case of severe and critical advancement, the stage is called cirrhosis. In this stage the disease is not reversible; the fibrous is scarred and the hepatic structure is characterized with interconnecting bands (Regenstein & Dickerson, 2006). Normal working of the liver is hindered by the resulting insufficient blood flow and continuous destruction of hepatocytes (Sorrell, Maddrey & Schiff, 2011).

The etiological factors which lead to cirrhosis include Hepatitis B, Hepatitis C and abuse of alcohol. Genetic abnormalities are also a potential cause. Non-alcoholic steatohepatitis damage that is immune mediated can also lead to liver failure. Cirrhosis and liver fibrosis are characterized by liver collagen numbers increasing concurrently with matrix proteins causing liver structure failure. The functions of the liver are subsequently inhibited.

Hepatocellular carcinoma and portal hypertension result due to complications in cirrhosis (Regenstein & Dickerson, 2006). The abnormality function of the liver is also a factor of the disease. Variceal hemorrhage, hepatic encephalopathy and ascites are caused by portal hypertension. In severe cases there is hemorrhage usually in the esophagus from varices (Paul, 2007). Due to poor nitrogenous compounds removal from the hepatic, end result is hepatic encephalopathy and cirrhosis. Other toxins in the hepatic which are not adequately removed will also have a similar effect. Stellate cells found in the hepatic normally store retinoid; they form in the Disse spaces. They change to being myfibroblastic after injury and the

protein expressed becomes contractile. The proliferation of the stellate cells is the source of cirrhosis and fibrosis. Fibrillar collagens released from the stellate cells contribute to the diseases. Inflammatory cells release cytokines in injury areas enhancing activation of stellate cells.

Hereditary chromatosis is characterized by iron metabolism defects. The defects prevent the absorption of iron deposits and thus various organs are affected. These include pancreas, liver, kidney and the heart. Accumulated iron can cause diabetes mellitus, cirrhosis and cardiomyopathy. Iron metabolism defects are due to HFE gene mutations. Hyper-pigmentation and hepatomegaly are other diseases which are caused by HFE gene mutations (Paul, 2007). This will be severe in the legs, face, neck and forearms.

Environmental and genetic factors like donation of blood increase the severity of liver disease. Blood loss due to physiological reasons and iron intake may also contribute to the great impact. Men are affected earlier as compared to women. In patients diagnosed with cirrhosis and hemochromatosis there is an association between hepatocellular carcinoma and hemochromatosis; lack of iron in foci is the main cause of hepatocellular carcinoma in hemochromatosis patients.

Liver cirrhosis is chronic in nature and destroys cells and causes scarring. The scarring is referred to as fibrosis. The liver structure is altered and lymph flow impaired. Portal vein hypertension and hepatic insufficiency occur. The disease undergoes three major stages: Laennec is caused by abusing alcohol which leads to scarring in portal areas and central veins.

Laennec is quite common especially in patients with poor nutrition;

Postnecrotic cirrhosis occurs when scarring occurs broadly due to viral hepatitis. It can also be caused by hepatic necrosis which is drug induced; Biliary cirrhosis results from liver lobes and bile ducts scarring causing obstruction of the chronic biliary. Infection of the cholangitis also results in biliary cirrhosis although it is not common. Hepatitis, liver tumors, cirrhosis and abscess of liver are some of the disorders of the liver. The ones which occur mostly are cirrhosis and hepatitis.

Nutrition requirements for a person living with the condition

All foods eaten must be processed by the liver. The liver protects the body from harmful substances; it acts as a filter as it functions to produce various nutrients. The diet of an individual should be towards promoting a healthy liver. Nutrition is vital to be able to make sound choices. Liver disease patients should know the content of every food they purchase.

FDA has set regulations that each food product must have its nutritional content clearly shown. They should limit themselves from harmful diets. They should work to promote their health and not see it as a form of punishment.

Generally a person with liver disease should incorporate the following: complex carbohydrates should be eaten such as bread which is whole grain and pasta; the percentage in the meal should be sixty to seventy percent; and, protein should be twenty to thirty percent- they should be vegetable protein and lean animal protein.

Fat should be polyunsaturated with a percentage of ten to twenty. Water taken must be ten to twelve ounce glasses per day. Sodium intake must be between one thousand five hundred milligrams and one thousand milligrams. Intake of excessive vitamins should be avoided; minerals, Vitamin B3 and Vitamin A and iron must be consumed moderately (Worman, 2006).

Consumption of alcohol is prohibited. Vegetables and organic fruits should be consumed liberally. Beverages with caffeine are to be limited to three cups a day whereas calcium and Vitamin D supplements are encouraged. Vitamin C is important in the diet; CoQ 10 or vitamin E must be taken to act as antioxidants. Glucosamine chondroitin is also a requirement (Golla, Epstein & Cabay, 2004).

Since people normally consume a lot of food, the liver must therefore balance the nutrients to right organs and in the correct amounts. The balancing of nutrients takes place automatically in a healthy person; however, a person who has liver disease undergoes difficulties in juggling the nutrients. Nutrition is critical to ensure the weak and already overburdened liver is stable. The diet must be already balanced so as to promote the liver in its functions. A person has control on what they eat to ensure that they limit further injury to their liver.

There is no optimal diet for people with liver disease. This is because the disease is caused by various factors and patients are usually in different stages. The nutritional requirements are individualistic in nature; the diet is also flexible and changes over time. In most patients, eating small portions of food distributed evenly through the day allows for maximum benefits. The

different calories in each food group should be considered. Fat provides per grams about nine calories. Carbohydrates and protein each gives four calories. Alcohol provides a lot of energy about seven calories per gram with empty nutritional value.

Drugs and treatments that is required for treating liver disease.

In liver cirrhosis the management is helped heavily when patients give up the consumption of alcohol all together. The patients should also have limited physical activity. Bed rest is not the ultimate cure but makes on feel much better. Fluids should be taken in high amounts. If a patient cannot eat or drink, they should be hospitalized.

Patients with Hepatitis B or C may take drugs that will inhibit the virus from replicating itself. The benefits and risks from the medication must be analyzed before prescription is issued (Golla, Epstein & Cabay, 2004).

Patients with Hepatitis B or C should undergo frequent blood checkups to ensure their blood is clean and it has no inflammation. Although patients should not be isolated, the care givers must be informed on how the virus spreads.

Health professionals are giving vaccines to fight the virus. Blood has to be screened to test Hepatitis C. Hepatitis A has effective immunization programs. Hepatitis B has in place immunization programs which are global (Golla, Epstein & Cabay, 2004). Health workers are at a high risk of infection and therefore should undergo immunization. Also, hand washing is encouraged to those exposed to patients with Hepatitis.

There are some medications which make liver disease worse; acetaminophen makes liver disease worse especially in cirrhosis. Hence, doctors have to direct patients on the correct dosages that are safe to take. Treatment in liver cirrhosis lays emphasis on salt restriction to avoid fluid retention. Diuretic medications help to remove excess body water. Diets are to be low in protein and supplements of vitamins such as D, A and K.

Special medications can be prescribed to control itching. Toxins can be removed faster through the administration of laxatives. In severe cases, transplanting of the liver is done. Each liver disease condition has to be dealt with separately. In patients with gallstones, surgery has to be done to get them out.

Paracentesis is done to patients with high ascites fluid: local anesthetic is used, and fluid is withdrawn through the abdominal wall by inserting a needle. Portal hypertension is minimized through operation to control bleeding. In essence liver disease is not curable, it can only be managed.

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