Title: A Patient's Guide to Hepatic Encephalopathy

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Abstract: Hepatic Encephalopathy is summarized in the form of a patient education brochure. Included categories are the definition of hepatic encephalopathy and liver cirrhosis, etiology, symptoms, disease staging, diagnosis, and treatment options. Internet links for further information are provided.

Need further information?

Check out the following websites written specifically for patient education:

http://www.nlm.nih.gov/medlineplus/ency/article/000302.htm

http://www.merck.com/mmhe/sec10/ch135/ch135f.html

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Hepatic Encephalopathy

What is Hepatic Encephalopathy?

Hepatic encephalopathy is defined as personality changes, intellectual impairment, and depressed level of consciousness as a result of liver failure. In most cases, patients first have chronic liver cirrhosis (scarring of the liver) due to alcohol abuse or from viruses (hepatitis B and C).

What causes Hepatic Encephalopathy?

Although the exact cause is not known, most scientists agree that elevated levels of ammonia in the blood are partly responsible. Blood flowing to the intestines absorbs the nutrients that we eat, as well as other substances, some of which are toxins such as ammonia produced by normal intestinal bacteria. In a healthy person this blood then flows to the liver where it is detoxified before returning to the heart and the rest of the body. When the liver is scarred in the setting of cirrhosis, it is not able to clear the blood of these toxins. The toxins then exert negative effects on the brain, causing hepatic encephalopathy.

What are the symptoms of Hepatic Encephalopathy?

Patients may have minimal changes in concentration, memory and coordination in mild disease, and coma in severe disease. See below for staging the severity of disease.

Staging of Hepatic Encephalopathy:

Stage 0: Minimal change in memory, concentration, intellectual function, and coordination. No detectable change in personality or behavior.

Stage 1: Mild confusion, slow to perform mental tasks, short attention span, changes in sleep pattern.

Stage 2: Lethargy or apathy, disorientation, inappropriate behavior, slurred speech, obvious personality changes.

Stage 3: Somnolent but can be aroused, marked confusion, disorientation to time and place, incomprehensible speech.

Stage 4: Coma.

How is Hepatic Encephalopathy diagnosed?

Your doctor can perform blood tests showing elevated blood ammonia levels, which along with clinical symptoms suggest hepatic encephalopathy.

A doctor may also detect asterixis on physical exam. Asterixis is a flapping tremor of the hands when the arms are outstretched and the wrists are extended, like you are stopping traffic.

Focus on Treatment:

Various treatment options exist for hepatic encephalopathy. Most are directed at decreasing the concentration of ammonia in the blood. Antibiotics such as neomycin or rifaximin can be used to kill intestinal bacteria that produce ammonia. Lactulose is also used to decrease the production of ammonia in the intestinal tract. Zinc may also be used to aid in clearance of ammonia in the blood. Definitive treatment is achieved by addressing the primary problem with liver transplantation.