

Perspective

## Hepatic Encephalopathy: Relationship between Liver Health and Psychological Clarity

Hoon Marino

Department of Surgery, University of Oslo, Oslo, Norway

## **DESCRIPTION**

Hepatic Encephalopathy (HE) is a neurological disorder that occurs when the liver is unable to remove toxins from the blood. These toxins, such as ammonia, can cross the blood-brain barrier and interfere with the normal functioning of the brain cells. HE can cause cognitive impairment, mood changes, personality changes, movement problems, and in severe cases, coma and death. HE can be classified into three types based on the underlying cause:

- In Type A, HE caused by acute liver failure (a sudden and severe loss of liver function).
- In Type B, HE caused by a shunt (an abnormal connection) between two veins inside or outside the liver that bypasses the liver and allows toxins to enter the bloodstream directly.
- In Type C, HE caused by chronic liver disease and cirrhosis (a long-term scarring and damage of the liver).

The main cause of HE is liver disease, which can be caused by various factors such as viral infections (e.g., hepatitis), alcohol abuse, autoimmune disorders, genetic disorders, or exposure to toxins or drugs. Liver disease impairs the ability of the liver to filter out toxins from the blood and produce essential substances such as bile and proteins. Some triggers can worsen HE or cause an episode of HE in people with liver disease. Bacterial or viral infections can increase the production of toxins or inflammation in the body. GI bleeding in the gastrointestinal tract (e.g., from ulcers, varices, or tumors) can increase the amount of ammonia in the blood as bacteria break down blood proteins. Constipation can slow down the passage of stool through the colon, allowing more time for bacteria to produce toxins from undigested food. Abnormal levels of sodium, potassium, calcium, or magnesium in the blood can affect the fluid balance and nerve function in the brain. Certain medications such as drugs that affect the nervous system (e.g., sleeping pills, antidepressants, opioids, or diuretics) can worsen HE by altering brain chemistry or increasing ammonia levels.

## Symptoms and Severity of HE

Altered level of consciousness: People with HE may have difficulty staying awake, alert, or oriented. They may also experience confusion, disorientation, or memory loss.

**Mood changes:** People with HE may have mood swings, depression, anxiety, irritability, or apathy.

**Personality changes:** People with HE may exhibit changes in their behavior, judgment, or social skills. They may also become more impulsive, aggressive, or inappropriate.

Movement problems: People with HE may have problems with coordination, balance, or fine motor skills. They may also develop involuntary movements such as tremors, jerks, or flapping hand motion (asterixis).

**Speech problems:** People with HE may have difficulty speaking clearly or coherently. They may also have slurred speech or dysarthria.

The best way to prevent HE is to prevent or treat liver disease. Some preventive measures include:

- Avoiding alcohol and drugs that can damage the liver.
- Getting vaccinated against hepatitis A and B viruses that can cause liver infection.
- Seeking medical attention for any signs of liver disease such as jaundice, abdominal pain, swelling, or fatigue.
- Following a healthy diet and lifestyle that can support liver function and reduce the risk of obesity, diabetes, or high blood pressure.
- Taking medications as prescribed and avoiding over-thecounter drugs that can interact with liver function or increase ammonia levels.
- Managing constipation and avoiding foods that are high in protein or ammonia such as meat, fish, cheese, or beans.

Correspondence to: Hoon Marino, Department of Surgery, University of Oslo, Oslo, Norway, E-mail: marin@os.no

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## **CONCLUSION**

Hepatic encephalopathy is frequently reversible with treatment, especially if it was triggered by a reversible cause. However, people with chronic liver disease are susceptible to future episodes and may require continuous treatment. More than half of those with cirrhosis and significant hepatic encephalopathy live less than a year. In those who are able to get a liver transplant, the risk of death is less than 30% over the

subsequent five years. Acute hepatic encephalopathy may be a sign of terminal liver failure3. Permanent hepatic encephalopathy is rare and seen in people who don't respond to treatment and have permanent neurological conditions. Therefore, the prognosis of hepatic encephalopathy varies from person to person and depends on many factors. It is important to seek medical attention and follow the prescribed treatment plan to improve the chances of recovery and prevent complications.

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