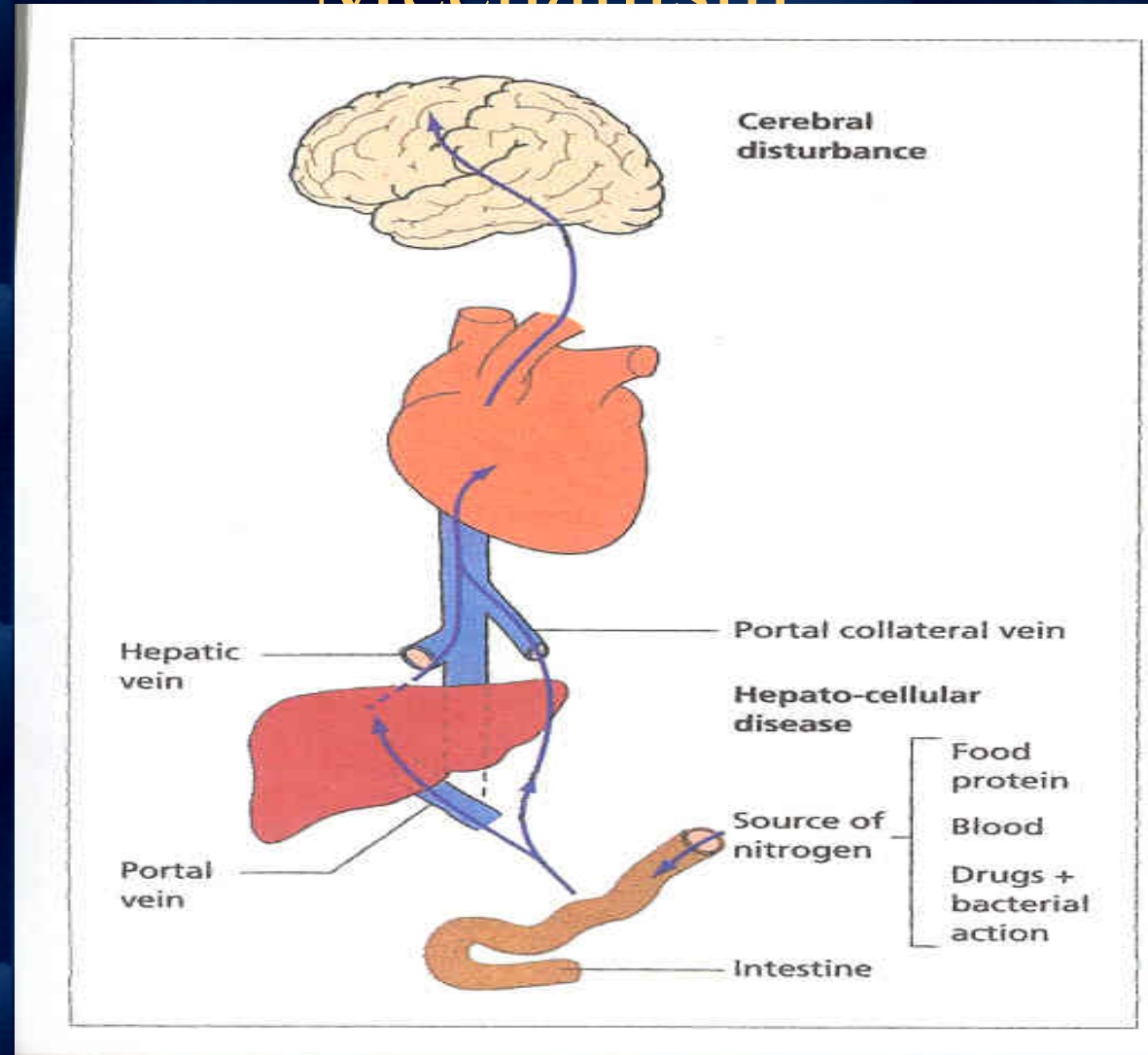


# Hepatic Encephalopathy

## Mechanism



Many 'toxic' substances have been suggested as the causative factor, including :

- *Ammonia,*
- free fatty acids,
- mercaptans
- accumulation of false neurotransmitters
- activation of the  $\gamma$ -aminobutyric acid (GABA) inhibitory neurotransmitter system.
- Increased blood levels of aromatic amino acids (tyrosine and phenylalanine)
- reduced branched-chain amino acids (valine, leucine and isoleucine) also occur.

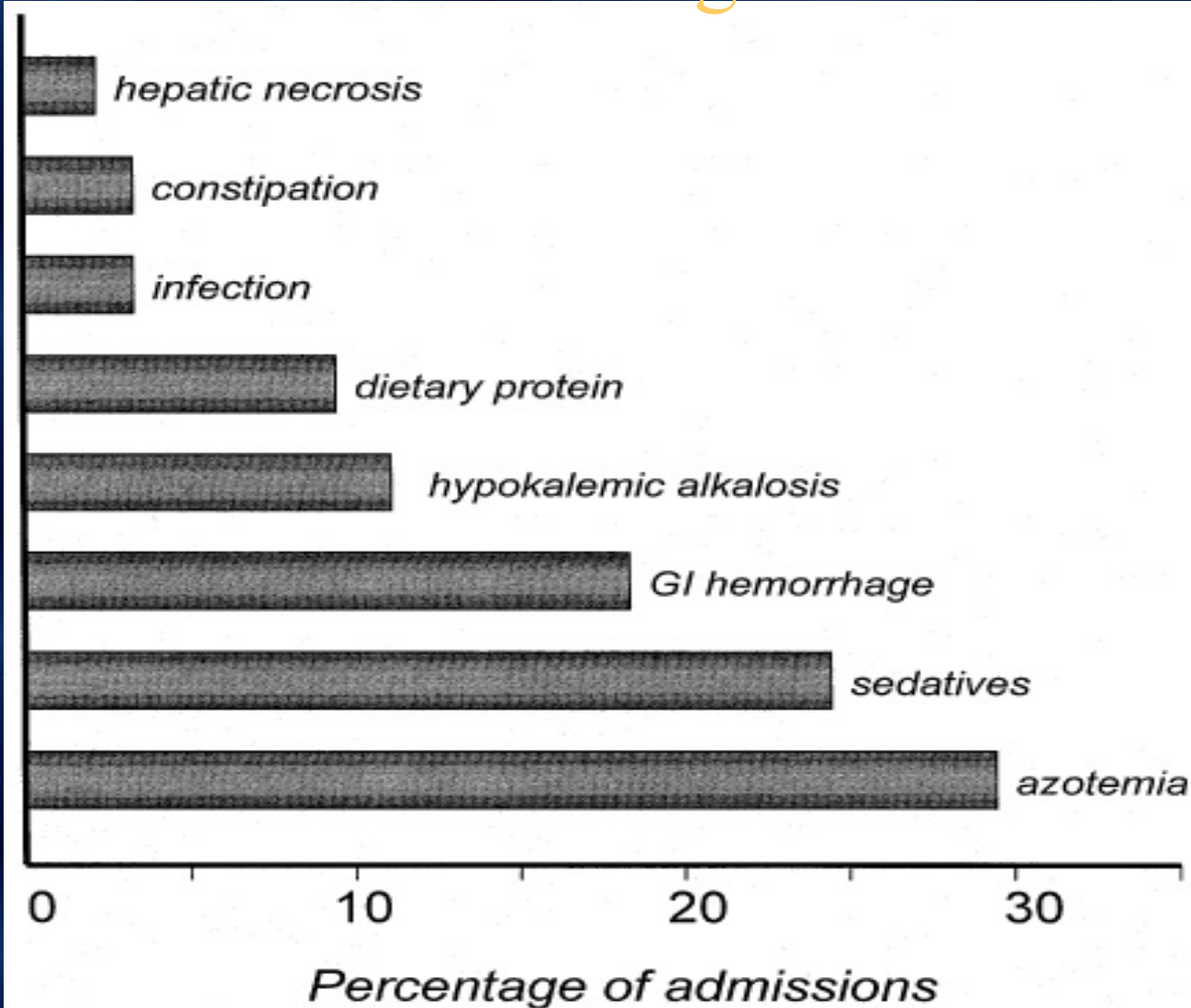
## **Factors precipitating portosystemic encephalopathy**

- 1. High dietary protein**
- 2. Gastrointestinal haemorrhage**
- 3. Constipation**
- 4. Infection, including spontaneous bacterial peritonitis**
- 5. Fluid and electrolyte disturbance**
- 6. diuretic therapy**
- 7. paracentesis**
- 8. Drugs (e.g. any CNS depressant)**
- 9. Portosystemic shunt operations,**
- 10. Progressive liver damage**
- 11. Development of hepatocellular carcinoma**



# Hepatic Encephalopathy

## Exacerbating factors



- Clinical features*
- Chronically, there is a disorder of personality, mood and intellect, with a reversal of normal sleep rhythm.
  - The patient is irritable, confused, disorientated and has slow slurred speech.
  - Coma occurs as the encephalopathy becomes more marked, but there is always hyperreflexia and increased tone.

## **Signs include:**

- **Fetor hepaticus (a sweet smell to the breath)**
- **Flapping tremor (asterixis)**