



Al-Mustamsiriyah University
College of Medicine
Small Group Learning Committee

Scenario 3: Medical Chemistry Department

Diagnosis: Amino acid metabolism & Ammonia – Liver Cirrhosis

A 45-year-old male with history of hepatitis-C and now cirrhosis of the liver is brought to the emergency center by his family for acute **mental status changes**. The family reports that the patient has been very **disoriented** and **confused** over the last few days and has been nauseated and vomiting blood. The family first noticed disturbances in his sleep pattern followed by alterations in his personality and mood.

On examination, he is disoriented with evidence of icteric sclera. His abdomen is distended with a fluid wave appreciated. He has asterix and hyperreflexia on neurologic exam. His urine drug screen and ethyl alcohol (EtOH) screen are both negative. A blood ammonia level was noted to be elevated, and all other tests have been normal.

The Objectives:

1. Explain the urea cycle.
2. Know about amino acid metabolism.
3. Be aware of the biochemical means of removing excess ammonia.
4. Define and summarize its pathogenesis and pathophysiology of cirrhosis.

References:

- Harper's Illustrated Biochemistry, By Rodwell Victor