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Released: 03/22/2024
Valid until: 03/22/2025
Time needed to complete: 1h 17m

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West HavEn Criteria—Meaningfulness Into Clinical Practice

Announcer:
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Dr. Jesudian:
Hello, I'm Arun Jesudian, and I'm an Associate Professor of Clinical Medicine at Weill Cornell Medicine in New York, New York. And today I'll be speaking to you about the West HavEn Criteria – Meaningfulness into Clinical Practice.

When we diagnose a patient with hepatic encephalopathy, it's then important to grade the severity of that hepatic encephalopathy. And one of the most widely utilized grading systems is the West Haven Criteria, which you see here. Generally speaking, hepatic encephalopathy can be divided into covert hepatic encephalopathy, which encompasses minimal and grade I, really subtle cognitive impairment versus overt hepatic encephalopathy, which encompasses grades II, III, and IV. These are patients that can be profoundly impaired by the effect of ammonia on their brain that accumulates in the setting of cirrhosis and portal hypertension, causing overt hepatic encephalopathy.

Covert hepatic encephalopathy patients are difficult to pick up at the bedside. But if you were to perform neurocognitive testing, you see that they are truly impaired. Versus overt patients, this is where it's obvious to you as a clinician that they are impaired. Grade II patients, for example, can be disoriented, they can have the characteristic flapping tremor of asterixis, they can have personality changes. Grade III patients become more stuporous, lethargic, they may be falling asleep in front of you, and be even more disoriented than a grade II patient. And a grade IV patient is the type of patient who needs to be in the intensive care unit because they're in a coma and they need to have airway protection and be on a ventilator.

And you see that 30 to 40% of patients with cirrhosis will develop overt hepatic encephalopathy at some point. And the prognosis of their liver disease in hepatic encephalopathy is poorer as the grade of hepatic encephalopathy increases.

What do we see in terms of manifestations of hepatic encephalopathy? So, ammonia and other toxins effect on the brain, can impair patient's state of consciousness, it can impair their intellectual functioning, it can impair their personality and their behaviors; this is more of the psychiatric component of hepatic encephalopathy. It can also impair their neuromuscular system. So, patients with overt hepatic encephalopathy commonly are moving more slowly, they may be speaking more slowly, their reflexes are not as quick as they would be were they not impaired in terms of ammonia's effect on their central nervous system.

And you see here that as the severity of hepatic encephalopathy increases, as the grade of hepatic encephalopathy moves from covert into the overt grades II, III, and IV, that each of these domains can be more and more affected, all the way to patients being in a coma and having no intellectual function in terms of grade IV patients, or patients being somnolent and being impaired in terms of intellectual functioning, but having some residual functioning in grade III. Personality and behaviors can similarly follow this worsening and improving course, depending on how severe that hepatic encephalopathy is.

So, diagnosis and grading of hepatic encephalopathy is based on a clinical examination. Clinically, you can determine if a patient has overt hepatic encephalopathy and what grade of hepatic encephalopathy they have. So, grade II patients will be lethargic, may be apathetic, may be disoriented to time. They oftentimes have sleep-wake disturbance where they are awake all night, but they're sleeping during the day. And they oftentimes will have asterixis, the flapping tremor of their hands. Grade III patients are stuporous or semi-stuporous. They have really delayed response to stimuli. They can be grossly disoriented, they might not even know where we are or what your name is. They can behave bizarrely. And grade IV patients are the ones who are in a coma who need to be in the ICU.

Once overt hepatic encephalopathy occurs, patients are at really high risk of recurrence. So, when they have their first episode of overt hepatic encephalopathy, they have a 40% loss risk of a recurrent episode within the first year after that initial hepatic encephalopathy episode. And should they have a second episode, they have a 40% risk of having yet another episode but this time within only 6 months. So, patients with overt hepatic encephalopathy have recurrent episodes, are at risk of hospitalization and rehospitalization. So, it's important for us to diagnose their hepatic encephalopathy, grade it, and then treat them appropriately.

Thank you very much for your attention.

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