GHAPP

Gastroenterology & Hepatology
Advanced Practice Providers

HEPATIC ENCEPHALOPATHY CLINICAL ROUNDTABLE

MARCH 24, 2023

A Hepatic Encephalopathy (HE) Expert Perspective Clinical Roundtable was held on March 24, 2023, at the Chronic Liver Disease Foundation (CLDF) Annual Liver Connect Conference in Huntington Beach, California. The following advanced practice providers (APPs) were in attendance:

APP Attendees

Mikhail Alper, PA-C
California Gastroentrology Associates

Elizabeth Goacher, PA
Duke University Medical Center

Patrick Horne, NP
University of Florida

Ann Moore, NP
Arizona Liver Health

Sherona Bau, MSN, ACNP, CNS
UCLA Health

Andrea Gossard, NP
Mayo Clinic

Edith Johannes, NP
UCLA Health

Lisa Richards, NP
UC San Diego Health System

Christina Hanson, FNP-C
South Denver GI

Jordan Mayberry, PA
UT Southwestern

Daisy Vo, NP
Digestive Associates

The purpose of this roundtable was to obtain APP recommendations on how to apply 2014 American Association for the Study of Liver Diseases (AASLD) HE guidelines for community APPs. Eleven APPs who specialize in gastroenterology and hepatology participated in the event. The recommendations from the discussion around HE and the following "hot topics" are summarized in this issue:

- **Risk stratification for HE**
- **Outpatient diagnosis of HE**
- **HE patients and driving**
- **HE treatment and prevention**
- **Preventing HE hospital readmissions**

Risk Stratification for HE

AASLD guidelines state that "the recognition of precipitating factors for HE (e.g., infection, bleeding, and constipation) supports the diagnosis of HE."[1] However, the guidelines *do not* address identifying patients at risk for HE *before* an episode occurs or implementing early intervention prior to the first episode of HE in at-risk patients.

Participants stressed that all patients with cirrhosis are at risk of developing HE, irrespective of whether they have experienced a prior episode or not, including those with evidence of malnutrition or frailty and those with evidence of portal hypertension (HTN). Patients experiencing early signs may not be capable identifying HE as they will be in a compromised state. It is recommended that all patients with cirrhosis and their caregivers be educated on how to recognize early signs and symptoms of HE as part of cirrhosis disease state education. Education encompasses effectively conveying details about the progression of cirrhosis and its related complications (e.g., HE, varices), maintaining awareness of HE symptoms, and emphasizing the significance of mitigating

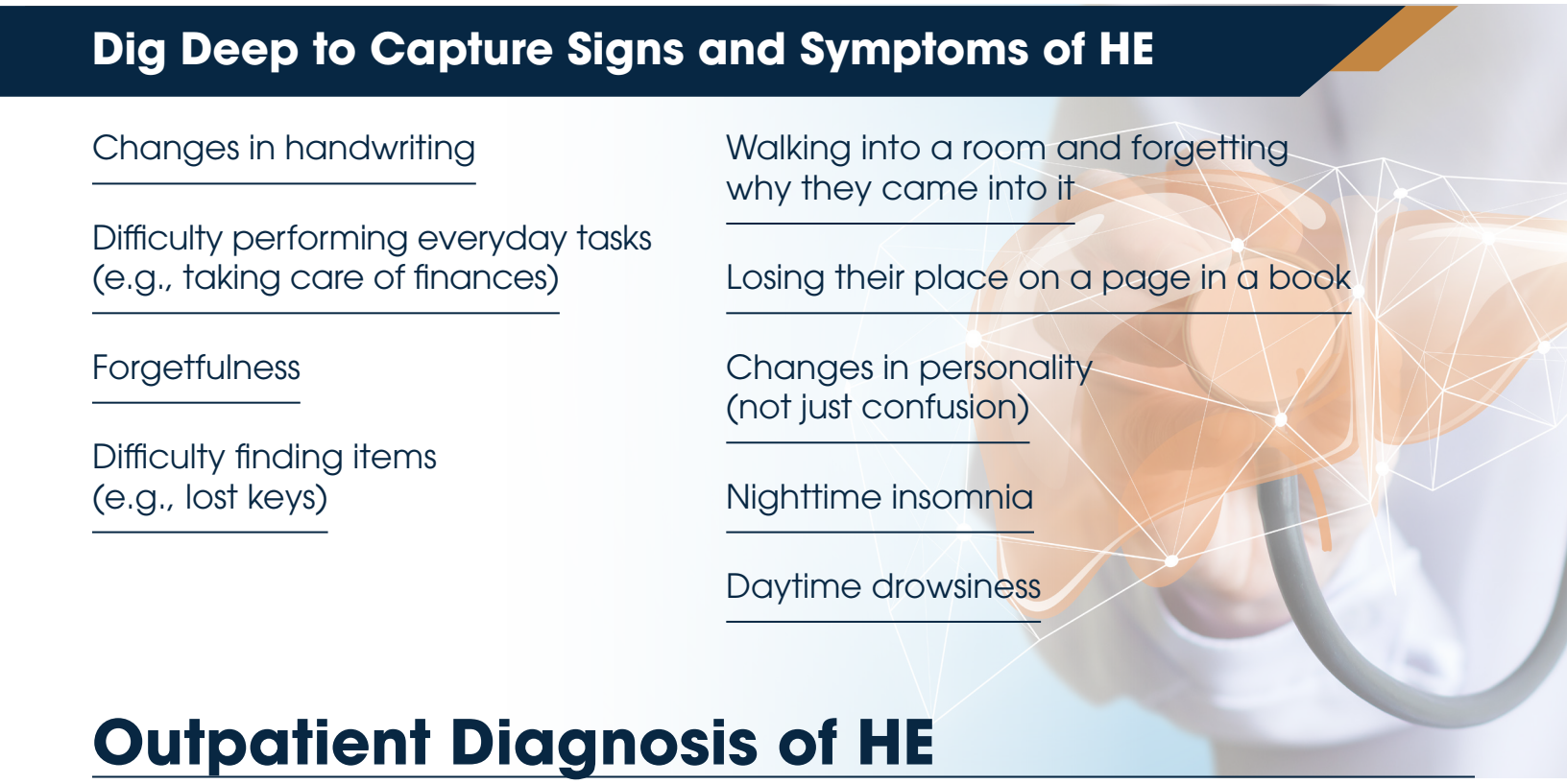
precipitating factors such as constipation. Additionally, it involves addressing other risk factors and triggers associated with HE. Cirrhosis care follow-up visits should involve the provider questioning the patient about any signs of potential HE, including nocturnal sleep disruption and changes in personality and handwriting, impairment in executive function, and difficulties performing activities of daily living. Family support is encouraged in HE, but if a patient brings a family member into the office because they may not be able to retain all of the information on their own, this is potentially suggestive of early HE.

Providers should be detailed in their questioning of patients and family members to capture signs and symptoms of HE.

> "Sometimes we have to dig deep."

Dig Deep to Capture Signs and Symptoms of HE

- Changes in handwriting
- Difficulty performing everyday tasks (e.g., taking care of finances)
- Forgetfulness
- Difficulty finding items (e.g., lost keys)
- Walking into a room and forgetting why they came into it
- Losing their place on a page in a book
- Changes in personality (not just confusion)
- Nighttime insomnia
- Daytime drowsiness



Outpatient Diagnosis of HE

AASLD recommends that the diagnosis of overt (O) HE be based on a clinical examination and a clinical decision. Effective October 2022, ***K76.82***, a billable/specific ICD-10-CM code for HE, became available and can be used to indicate an HE diagnosis for reimbursement purposes. This code is applicable to HE, not otherwise specified, HE without coma, hepatocerebral intoxication, and portal-systemic encephalopathy.[2]

AASLD considers the West Haven criteria the gold standard clinical scale for analyzing severity and lists neurophysiological and psychometric tests to aid in this analysis (e.g., Stroop Test, Continuous Reaction Time (CRT) Test, Inhibitory Control Test (ICT)).[1] AASLD recommends that these tests be performed by "experienced examiners", and the practitioners agreed. Due to the unpredictable/ variable nature of how a patient with potential HE

may present on any given day, these tests can also prove to be unreliable and ineffective. The practitioners stated that they do not use these tests in day-to-day practice.

> “(Patients) may be ‘on’ the day they are evaluated (using these tests) and ‘off’ two weeks later.”

HE Patients and Driving

Patients with HE should be educated regarding the risks associated with driving, including impaired reaction time and unpredictability of OHE episode occurrence. Patients are often in denial about their driving ability, so it’s important to ask pointed questions (e.g., “do you experience difficulties finding your way to the store?”) and remind them that they could endanger not only themselves but others.

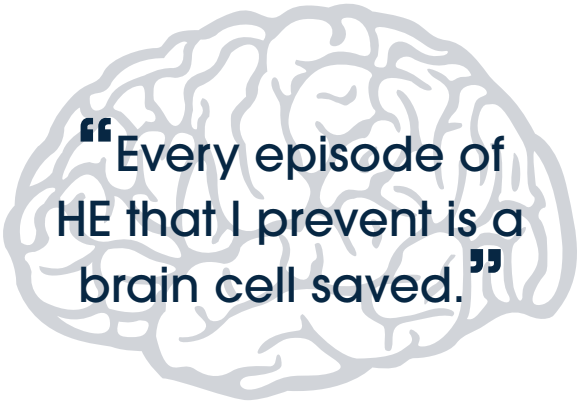
AASLD emphasizes that “a diagnosis of minimal (M)HE or OHE does not automatically mean that the affected subject is a dangerous driver.” AASLD recognizes that providers are not trained to formally evaluate fitness to drive and are not the legal representatives of the patient but does recommend that providers act in the best interests of both the patient and society by following local laws and counselling patients on consequences.[1] Participants echoed these AASLD recommendations.

HE Treatment and Prevention

AASLD recommends that all episodes of HE be treated and routine prophylaxis should start after the first episode. Lactulose syrup, 25 mL every 1–2 hours until at least 2 soft or loose bowel movements/day are produced, is the first choice for treatment of an OHE episode. Subsequently, the dosing is titrated to maintain 2–3 bowel movements per day. Secondary prophylaxis after an episode for OHE is recommended.[1] Rifaximin, one 550 mg tablet 2 times a day,[3] is recommended by AASLD as an effective add-on therapy to lactulose for the prevention of OHE recurrence.[1] Rifaximin is the only FDA-approved treatment for the prevention of HE.[3]

For optimal effects of therapy, compliance should be assessed and encouraged. Participants recommend that a second person regularly observe the patient taking the medication. They emphasized that the

most important goal is prevention of recurrent HE episodes. The more that brain injury can be prevented, the better.



Patients often express resistance towards preventive treatments, particularly when it comes to taking rifaximin. Some argue that since they don't have an infection, they don't need an antibiotic. It is crucial to address this misconception through proper education. Well-informed patients are generally more compliant with their treatment plans.

Moreover, malnutrition can play a significant role in HE. Therefore, it is important to provide education on protein consumption goals. Additionally, recommendations against unnecessary protein restriction should be addressed, following the appropriate guidelines.

Preventing HE Hospital Readmissions

To prevent rehospitalizations due to HE, AASLD encourages planning outpatient post-discharge consultations. These consultations are essential for adjusting treatment and addressing precipitating factors, aiming to avoid the recurrence of HE episodes. However, participants pointed out that this doesn't always occur due to failure to provide clear patient education in the hospital, delayed patient follow-up, lack of coordination of care, and high drug costs. These issues were analyzed by the participants, who proposed some solutions.

Obstacles, Consequences, and Proposed Solutions

Obstacle	Consequences	Proposed Solutions
Failure to provide patient education in the hospital	• The misconception is that HE medications treat constipation or infection. • Patients do not receive HE medications because they are not aware that it was called into the pharmacy.	• While patients are still in the hospital, advise them about discharge prescriptions. • Teach them that these medications "keep [their] brain clear."
Delayed patient follow-up	• Follow-up appointments are scheduled for 6 weeks post-discharge. • This causes a delay in potentially necessary dose adjustments.	• Schedule a patient follow-up appointment for 2 weeks after discharge. • Document the appointment. • Consider a post-discharge telephone follow-up 3–5 days after discharge.
Lack of coordination of care	• Patients are not able to receive the medication at discharge. • Patients learn of the high costs when they pick up the prescription and reject the prescription.	• Order discharge medications at admission so that the pharmacist can begin the approval process. • Communicate costs to the patient prior to discharge.
High drug costs	• Patients cannot afford chronic rifaximin for HE prevention.	• Refer patients to the manufacturer's "copay savings program." (https://xifaxan.copaysavingsprogram.com/ or 1-866-XIFAXAN)

> "It is no doubt that (rifaximin) is the prescription drug-of-choice (in combination with lactulose), but how do we get it into the patients' hands when it is a top-tier drug?"

Risk for admission for recurrent HE could decline with education of patients and family members. Examples of important educational messages include the importance of prevention of precipitating factors and how to titrate lactulose when constipation occurs. Patients experiencing an episode of OHE are unreliable, and it could be risky to send them home for self-care, irrespective of the severity of the episode as HE episodes are fluid and symptoms may become worse or better.

Key Takeaways

- All patients with cirrhosis are at risk of HE and should be educated as such.
- Prior to the first episode of HE, it is recommended that providers question the patient at every visit about any signs of potential HE.
- Tests are available to diagnose and grade HE, and, in the correct setting with a skilled examiner, they offer some utility.
- Prevention involves strategies to enhance patient education, communication, and coordination of care and addressing the affordability of prescription drug costs.
- ***The most important goal in HE management is prevention of episodes in order to avoid brain injury and coma.***

References

1. Vilstrup H, Amodio P, Bajaj J, et al. Hepatic encephalopathy in chronic liver disease: 2014 Practice Guideline by the American Association for the Study of Liver Diseases and the European Association for the Study of the Liver. *Hepatology.* 2014;60:715-35.
2. 2023 ICD-10-CM Diagnosis Code K76.82 Hepatic Encephalopathy. Available at: https://www.icd10data.com/ICD10CM/Codes/K00-K95/K70-K77/K76-/K76.82#:~:text=2023%20ICD%2D10%2DCM%20Diagnosis,82%3A%20Hepatic%20encephalopathy. Accessed April 17, 2023.
3. Xifanan [Package Insert], Bridgewater, NJ: Salix Pharmaceuticals, Inc. 2022.