Hepatic Encephalopathy Can Impair Driving

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Patients with minimal hepatic encephalopathy typically rate themselves as good drivers, but they have significantly worse performance and more accidents on a driving simulator.

The poor driving skills of these patients were corroborated by friends and family members in a study, wrote Dr. Jasmohan Singh Bajaj and colleagues.

Minimal hepatic encephalopathy (MHE) is a significant neurocognitive consequence of cirrhosis. Findings from previous studies suggest people with MHE experience poor quality of life and increased risk of progression to overt hepatic encephalopathy (Dig. Dis. Sci. 2003;48:1622; Nat. Clin. Pract. Gastroenterol. Hepatol. 2007;4:677-85).

Patients with MHE typically have no specific symptoms, and might be unaware of their driving deficits. Impaired reaction times, poor visual motor coordination, and navigation problems might explain the higher number of traffic accidents and violations reported in real life studies of people with MHE and in previous simulator studies (Am. J. Gastroenterol. 2007;102:1903-9). Previous researchers have noted driving impairments, but the degree to which people with MHE are aware of these deficits remains unknown.

Dr. Bajaj and associates at the Medical College of Wisconsin, Milwaukee, collected data on simulated driving test results, psychometric testing, and third-party ratings of driving skills, comparing two groups: 47 nonalcoholic patients with cirrhosis and 40 controls without cirrhosis. Mean age was 56 years in the cirrhosis group and 54 years in the controls. The number of collisions and improper turns were recorded while patients drove a fixed path and consulted a map on the simulator (STISIM Simulator, Systems Technology Inc.). There were no conflicts of interest.

A total of 36 patients with cirrhosis had MHE and the remaining 11 did not, based on psychometric testing (Clin. Gastroenterol. Hepatol. 2008 October, In Press).

A diagnosis of MHE was made if, on at least two tests, there were more than 2 standard deviations, compared with age- and education-matched community control.

The MHE-positive group had significantly worse psychometric test performance. For example, these patients took a mean of 32 seconds to complete the number connection test-A, compared with 27 seconds in the MHE-negative group and 22 seconds in the controls. MHE- positive patients also had a higher mean number of collisions (3) compared with 1.2 in the MHE-negative cirrhosis patients and 1.7 in controls. Similarly, the mean number of illegal turns was higher in the MHE-positive group (1.2 vs. 0.3 in the MHE-negative patients and 0.1 in controls).

Observers rated the MHE-positive patients lower on driving skills, compared with the patients' self-assessment, suggesting poor self-knowledge in MHE patients.

In addition, patients and their spouse, family member, or friend completed the 26-item Driving Behavior Survey. There were no significant differences between MHE-positive, MHE-negative, and control groups in self-assessment of driving abilities.

However, observers rated the MHE-positive patients significantly lower on driving skills, compared with their self-assessment, suggesting poor self-knowledge in patients with MHE. "Insight into or self-awareness of driving impairment is essential for patients to seek intervention," the authors wrote.

The MHE-negative and control groups did not differ significantly on psychometric test results or number of collisions or improper turns on the driving simulator. In addition, there were no significant differences in observer ratings of driving skills between these two groups.

Allowing the participants to elect an observer of their choice (most often, a spouse) was a possible limitation of the study. However, although they may have chosen a person more likely to rate their driving skills positively, the observers for the group with MHE still rated their driving skills significantly lower than did observers in the other groups.

Patients with cirrhosis should be educated about MHE and the potential for impaired driving skills, the researchers said. ■