Minimal hepatic encephalopathy in patients with alcohol related and non-alcoholic steatohepatitis related cirrhosisi by psychometric hepatic cephalopathy score and critical flicker frequency

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Abstrak

Background: alcohol may have additional neurotoxic ill-effects in patients with alcohol related cirrhosis apart from hepatic encephalopathy. We aimed to evaluate minimal hepatic encephalopathy (MHE) with Psychometric Hepatic Encephalopathy (PHES) score and Critical Flicker Frequency (CFF) in alcohol (ALD) and non-alcoholic steatohepatitis related (NASH) related cirrhosis. Methods: 398 patients were screened between March 2016 and December 2018; of which 71 patients were included in ALD group and 69 in NASH group. All included patients underwent psychometric tests which included number connection test A and B (NCT-A and NCT-B), serial dot test (SDT), digit symbol test (DST), line tracing test (LTT) and CFF. MHE was diagnosed when their PHES was <-4. Results: the prevalence of MHE was significantly higher in ALD group compared to NASH (69.01% vs 40.58%; P=0.007). The performance of individual psychometric tests was significantly poorer in ALD (P<0.05). Overall sensitivity and specificity of CFF was 76.62% (95%CI 65.59 – 85.52) and 46.03% (95%CI 33.39 – 59.06) respectively. Mean CFF was significantly lower in ALD than NASH (37.07 (SD 2.37) vs 39.05 (SD 2.40), P=0.001); also in presence of MHE (36.95 (SD 2.04) vs 37.96 (SD 1.87), P=0.033) and absence of MHE (37.34 (SD 3.01) vs 39.79 (SD 2.46), P=0.001). Conclusion: MHE is significantly more common in patients with ALD cirrhosis than NASH counterparts. Overall CFF values are less in alcohol related cirrhosis than NASH related cirrhosis, even in presence or absence of MHE. We recommend additional caution in managing MHE in ALD cirrhosis.