36 Cents to Detect Covert Hepatic Encephalopathy ??

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Novel and Cost Effective Neurocognitive test to detect early stages of Hepatic Encephalopathy

Introduction

Hepatic encephalopathy if not recognised and treated appropriately can result in increased mortality and morbidity in cirrhosis. The gold standard tests available to diagnose covert hepatic encephalopathy (CHE) such as the Psychometric Hepatic Encephalopathy score (PHES) are prohibitively expensive and time consuming. Therefore we propose a simple memory and computation based test as an alternative to help quickly and efficiently diagnose CHE.

Methods

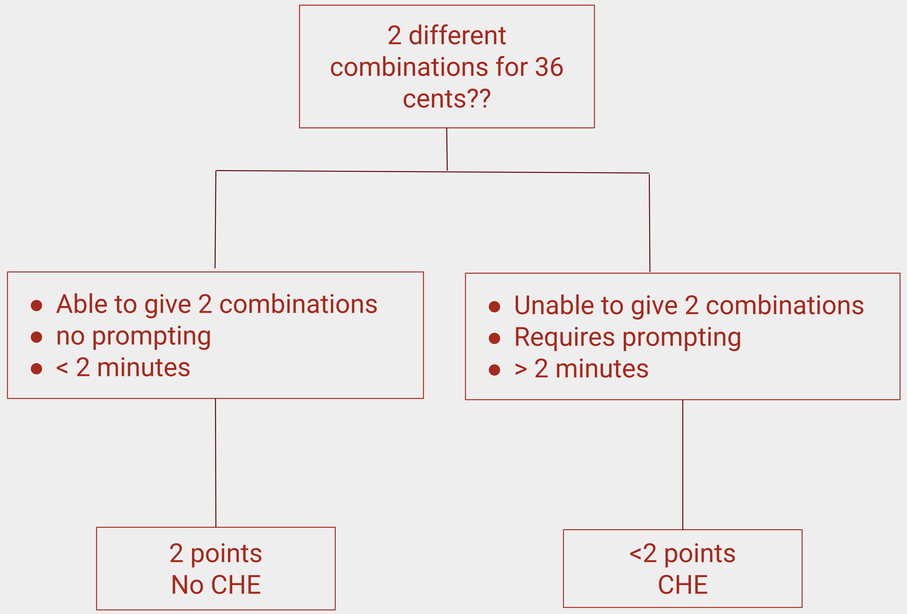
The 36 cent test is performed followed by the PHES tests which includes: line tracing test, serial dotting test, digit symbol test, and number connection test A and B are performed during the same visit. The sum of 5 test scores will be obtained ranging from +6 to -18 and a cut off score of -4 or less is considered to diagnose CHE based on the Spain normality tables (www.redeh.org). The outcome was measured by calculating the sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV).

Results

A total of 10 radiographically or histologically confirmed cirrhotic patients were included in this study. None of them had any prior episodes of encephalopathy. Patients included in this analysis were between the age of 30 - 65 years. Out of the 10 patients, 6 were female and 4 were male. The sensitivity of the 36 cent test was 66% (2/3). The 36 cent test had a specificity of 100% (7/7). The PPV of this test was 100% (2/2). The 36 cent test had a NPV of 87% (7/8).

Conclusion

The 36 cent test will test the working memory and the ability to process information accurately in a timely manner. This is further supported with the high specificity and moderate sensitivity in this pilot study. We suggest using the 36 cent test, given the advantages of being simple to perform, easy to interpret, and the negligible cost. The 36 cent test can be used as an alternative to diagnose CHE.



n =10	CHE +ve	CHE -ve	
TEST +ve	2	o	PPV 100%
TEST -ve	1	7	NPV 87%
	Sensitivity 66%	Specificity 100%	

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