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Prolonged Latency Saccades in Alcohol-dependent Patients

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Aims

The aim of this study was to assess the differences in saccadic latency (a measure of time delay experienced in eye movements) between alcohol-dependent and healthy controls.

Materials and methods

Participants

Ninety-nine alcohol dependent patients were examined. Thirty-eight healthy controls were matched to the affected cohort according to demographic characteristics.

Assessment

In this study we used the Saccadometer Advanced System (Advanced Clinical Instrumentation, Cambridge, UK). The Saccadometer System allows quick and easy collection of saccadic responses within the shortest physiologically possible time (100 saccades in 5 min). The brevity of the testing routine minimizes any potential influence on the results due to fatigue in the test subjects. The eye movement measurements are automated and synchronised with stimuli presentation. This study analyzed saccadic latency and standard deviation of mean latency.

Results

There was higher saccadic latency and standard deviation of mean latency in alcohol-dependent individuals (224.43±56.24 msec) when compared to healthy controls (187.84±25.65 msec). A marked asymmetry of standard deviation of mean latency between right-sided and left-sided saccades was observed in the affected cohort. There was an increased standard deviation of right-sided saccades mean latency (69.96 msec) in alcohol-dependent individuals when compared to healthy controls (30.93 msec) and also an increased standard deviation of left-sided saccades mean latency (59.33 msec) when compared to healthy controls (33.09 msec).

Conclusion

It was found that alcohol dependence is associated with impaired (longer time delay) saccadic reaction.

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