Auditory P300 in subjects with chronic cerebellar disease

INTRODUCTION

The cerebellum, classically linked to motor control, can in fact contribute to a wide range of cognitive functions. It is involved in a variety of tasks, including attention, perception, motor planning, and learning. This study aimed to analyze the efficiency of auditory P300 to characterize subjects with chronic cerebellar disease.

MATERIAL

Two groups were studied: a control group comprising 20 normal subjects and an experimental group of 18 subjects with chronic cerebellar disease, characterized by cerebellar dysfunction or lesion.

METHODS AND MATERIAL

Auditory stimuli were tone bursts at 1 kHz for non-target and 2 kHz for target stimuli. Registered with an active electrode at the site Cz'. The research was conducted over a 30 days evolution. The control and experimental groups were statistically similar. Two subjects of the experimental group did not show formation of the P3 wave.

RESULTS

The two groups were statistically similar, that is, differing only in relation to the configuration such that its activity is added. The parameters studied were: N1, N2, P2, and P3 latencies and P3 wave amplitude. It was observed that the functional laterality showed a difference in relation to the observed variability in the data, these variables were N2 latency and N1 waves. It was also noted that due to technical restrictions, multiple event-related potentials were not used.

DISCUSSION

In the studies in the literature, the low complexity of the required task seems to be the main difference. This study demonstrated that the event related potential P300 with auditory stimuli is a good method for characterizing subjects with chronic cerebellar disease. However, this type of alteration possible in an individual with the disease. However, this was not detrimental to the study, since the P3 wave is more robust and there is shorter latency in this region.

REFERENCES


CONCLUSION

This study demonstrated that the event related potential P300 with auditory stimuli is a good method for characterizing subjects with chronic cerebellar disease. However, this type of alteration possible in an individual with the disease. However, this was not detrimental to the study, since the P3 wave is more robust and there is shorter latency in this region.