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Poster Presentation

Evaluating Executive Functions in Patients with Juvenile Myoclonic Epilepsy Using Frontal Assessment Battery

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Abstract

Introduction: It has been demonstrated that patients with juvenile myoclonic epilepsy (JME) have deficits in various aspects of executive functions. Frontal Assessment Battery (FAB) has proved to be a clinically useful tool for evaluating executive functions in patients with neurological disorders, particularly JME patients. In this research study, we intended to appraise the clinical utility of FAB for detection of deficits in executive functions in JME patients and its association with clinical and demographic features of JME patients. **Materials and Methods:** Thirty-one JME patients and 62 sex-matched healthy controls (HCs) were included in this study. Frontal Assessment Battery (FAB) has proved to be a clinically useful tool for evaluating executive functions in patients with neurological disorders, all included patients and healthy controls were first interviewed by an experienced neurologist and demographic and seizure-related characteristics were documented. In the next step, all of the six subtests of FAB were administered by a trained medical student. Then we analyzed the results and defined differences between two groups and appraised the clinical utility of FAB for detection of deficits in executive functions in JME patients and its association with clinical and demographic features of JME patients. **Results:** Compared to HCs, JME patients achieved lower scores in four domains of FAB consisting of conceptualization, mental flexibility, programming, and inhibitory control. JME patients on polytherapy had significantly higher scores in three domains of FAB including conceptualization, mental flexibility, and inhibitory control, as well as total FAB score. Patients with a seizure within less than week did not achieve higher or lower score than patients with a seizure in a week or more. Furthermore, mental flexibility score was correlated with disease duration in JME patients. **Conclusion:** Patients with JME have deficits in different aspects of executive functions and FAB is useful clinical tool for evaluation of executive functions in these patients. Different treatment approaches can significantly affect the cognitive functioning in JME patients. Antiepileptic drug (AED) Polytherapy regimens can improve the performance of JME patients in various domains executive functions.

Keywords: Juvenile Myoclonic Epilepsy, Executive Function, Frontal Assessment Battery.

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