

The effect of subthalamic nucleus deep brain stimulation on prospective memory functions in Parkinson's disease

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Abstract

The aim of the study was to assess the effect of bilateral deep brain stimulation (DBS) of subthalamic nucleus (STN) on prospective memory (PM) functions involving thirteen PD patients with DBS implantation (DBS group) and 15 PD wait-listed patients (control group). Tasks of executive functions and an event-based PM task were applied. Each task was administered twice: before and after surgery in the DBS group with the stimulators on and with a similar time interval between the two task-administration points in the control group. The DBS group showed a significant decline on semantic verbal fluency task and a decreased execution cost score of the PM task after surgery, suggesting possible effects of STN DBS on PM-related frontostriatal networks.

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