ACTION NAMING IN PARKINSON’S DISEASE PATIENTS ON/OFF MEDICATION

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Introduction: Parkinson’s disease (PD) patients have been shown to present a deficit in the processing of motion-related verbs, which has been linked to the dysfunction of frontal structures involved in motor control due to a dopaminergic deficiency.

Aim: The role of dopaminergic circuits in PD patient’s deficit for motion verbs was explored through the analyses of their performance in an action naming task on and off medication.

Methods: A group of ten non demented PD patients and 10 healthy seniors took part in the experiment. PD patients were tested twice, on and off dopaminergic medication. Participants were assessed with two matched sets of 25 verbs with high and low motor associations respectively. Error rates and reaction times were analyzed.

Results: PD patients produced more incorrect responses and lower reaction times in response to actions with high degree of motor associations when they were “off” medication compared to their performance “on” medication and to that of control participants.

Conclusion: The dopamine deficiency present in PD patients seems to be the cause of a selective deficit for processing verbs with high degree of motor content. These results confirm the role of neural networks associated with planning and executions of movements in the maintenance of motion-related semantic content.