Parkinsonism and Related Disorders 68 (2019) 92

Contents lists available at ScienceDirect

Parkinsonism and Related Disorders

journal homepage: www.elsevier.com/locate/parkreldis

Correspondence

Reply to Gilbertson and Steele's comment on cognitive correlates of prospective memory in dystonia

ARTICLE INFO

Keywords:
Cervical dystonia
Basal ganglia dysfunctions
Prospective memory
Reversal learning

Dear Editor,

We would like to thank to Gilbertson and Steele for suggesting us their interesting study which revealed reversal learning impairment in patients with cervical dystonia. This kind of cognitive deficit was interpreted as a sort of perseveration associated with a dysfunction of shifting abilities and considered as a behavioral correlate of D2-specific abnormalities in cortico-striatal synaptic plasticity [1]. The Authors suggested that both reward learning impairment found in their study [1] and deficit of prospective memory described in our study [2] may be associated with a dysfunction of set-shifting abilities which are mediated by a damage of basal ganglia. These subcortical structures engaged in both set-shifting [3] and reward learning abilities [4] are suggested to be involved in the etiology and pathophysiology of primary dystonia. We agree with this interpretation which, however, deserves to be investigated in future studies since reinforcement learning task [1] and the Memory for Intentions Screening Test (MIST) are two different behavioural tasks: a feedback (reward) is given to performance on reinforcement learning task but in MIST the subject does not receive any reward (reinforcement feedback). Thus, the mechanism underlying the performance on the two tasks might engage different subcortical regions: a performance on reinforcement learning task might be mediated by ventral part of basal ganglia whereas MIST by the dorsal part of basal ganglia.

Acknowledgement

Full financial disclosure for the previous 12 months.

Gianpaolo Maggi: no financial disclosures.

Marcello Esposito: no financial disclosures.

Gabriella Santangelo received salary from the University of Campania Luigi Vanvitelli, Italy.

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https://doi.org/10.1016/j.parkreldis.2019.09.007
Received 30 August 2019; Accepted 8 September 2019