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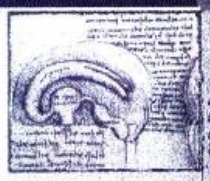

SUPPLEMENT

Founded by
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ABSTRACTS

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Background: The neural mechanisms and the circuitry involved in levodopa-induced dyskinesia (LID) are still partially obscure. LID can be considered as the consequence of an abnormal pattern or code of activity that originates and is conveyed from the basal ganglia to the thalamus and the cortical motor areas. However, not only striato-thalamo-cortical motor circuits, but also other interconnected pathways could be implicated in its pathogenesis.

Methods: In a series of experiments we applied repetitive transcranial magnetic stimulation (rTMS) over the lateral cerebellum in a group of advanced Parkinson's disease (PD) patients, to investigate whether modulation of cerebello-thalamo-cortical circuits by means of rTMS may result in a modification of a dyskinetic state induced by Levodopa ingestion. Moreover, patients were submitted to two [(18)F]2-fluoro-2-deoxyglucose (FDG) PET studies performed before and after been treated with cerebellum rTMS.

Results: We found that a single session of cerebellar continuous theta burst stimulation (cTBS) was capable to transiently reduce LID. In the same patients we observed that cerebellar cTBS changed the profile of activation of intracortical circuits in the contralateral primary motor cortex (M1). Cerebellar cTBS reduced short intracortical inhibition (SICI) and increased long intracortical inhibition (LICI), inducing a cortical reorganization that is associated with a reduction of LID. Furthermore in another experiment we observed that a two-week course of bilateral cerebellar cTBS induced persistent clinical beneficial effects, reducing peak-dose LID for up to four weeks after the end of the daily stimulation period.

Conclusions: Our study demonstrates that cerebellar cTBS has an antidyskinetic effect in PD patients with LID, possibly due to modulation of cerebello-thalamo-cortical pathways. Clinical results are paralleled by functional neuroimagings.

PERSONALITY DISORDERS AND TEMPERAMENT TRAITS IN PARKINSON'S DISEASE

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Objectives: Personality traits in Parkinson's disease (PD) may influence many aspects of behaviours. Obsessive-compulsive personality disorder (Axis II according to the DSM-IV) is common among PD patients. Nevertheless these aspects have been poorly investigated in PD.

Methods: Forty-seven PD patients (18 women and 29 men with a mean age of 59.8±10.6 years and the mean disease duration of 5.7±4.4 years) were enrolled in the study. PD patients with cognitive impairment were excluded from the study. Personality trait was evaluated using the "Temperament and Character Inventory"(TCI). Structured Clinical Interview for Personality Disorders-II (SCID-II) has been performed to evaluate the presence of personality disorders. Presence of personality disorders as well as of obsessive-compulsive disorder (Axis I according to the DSM-IV) was confirmed by a psychiatric interview. Clinical and pharmacological data were also recorded using a standardized questionnaire.

Results: Concerning the temperament trait, the mean score for Harm Avoidance (HA) was 70.9±26.7. Out of the 47 PD patients only 11 (23.4%) presented normal score at the SCID-II. Obsessive-compulsive disorders was the commonest personality disorder recorded in 13 out of 47 PD patients (27.7%). TCI showed that HA score was significantly higher among PD patients with obsessive-compulsive personality disorder respect to those without any personality disorders (53. ±27.8 versus 73.7± 21.1 p=0.05). The 13 PD patients with an obsessive-compulsive personality disorder also fulfilled the criteria for obsessive-compulsive disorder (Axis I according to the DSM-IV).

Discussion: According to our data obsessive-compulsive personality disorder is common in PD patients and higher level of HA are associated with this disorder.

PSYCHIATRIC DISORDERS IN ADULT ONSET FOCAL DYSTONIA

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Background: Adult onset focal dystonia is a motor disorder characterized by involuntary muscle contractions and abnormal postures in a single body part. We investigated the presence of psychiatric disturbances in this condition.

Objectives: To study the frequency and types of psychiatric disorders in cervical dystonia (CD), blepharospasm (BSF), arm dystonia (AD) and laryngeal dystonia (LD).

Methods and patients: In a case-control study we studied 83 consecutive patients affected by various forms of primary focal dystonia (34 with CD, 28 with BSF, 11 with AD and 10 with LD), 58 healthy subjects (HC) and 19 patients with hemifacial spasm (HFS). Patients and controls underwent a full psychiatric evaluation. Clinical diagnosis was based on the Structured Clinical Interview for DSM-IV (SCID), OCD was assessed by the Y-BOCS, anxiety with the HAM-A, the severity of depression with the BDI, and overall severity of psychological, social and occupational functions with the GAF scale.

Results: Considering the entire population of 83 patients affected by different forms of focal dystonia, 50 patients (60.2%) had a diagnosis of psychiatric disorders in comparison to 11 of the 58 normal subjects (18.9%). In both the CD and BSF group, depressive disorders were more frequent than in HC (chi-square test: F= 7.1; p=0.007, and chi-square test: F 6.7; p=0.009, respectively), whereas the frequency of anxiety disorders, OCD or adjustment disorders was similar to that of normal subjects. The frequency of any specific psychiatric disorder in LD and AD patients did not differ from HC. In 34 patients the psychiatric disorders started before the onset of dystonia, and in 14 patients the psychiatric disorders started after the onset of dystonia. No differences in dystonia severity and duration were present between patients with and without psychiatric disturbances.

Conclusions: We found that patients with CD and BSF but not patients with LD and AD had an higher frequency of depression. It is likely that mood disorders are part of the clinical spectrum of dystonia. The presence of psychiatric symptoms in CD and BSF and not in AD and LD suggest that different forms of focal dystonia have different pathophysiological mechanisms.

SENSORIMOTOR INTEGRATION IN FOCAL TASK-SPECIFIC HAND DYSTONIA: A MEG ASSESSMENT

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Objective: Starting from the growing evidence of a possible sensori-