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STRIATAL DOPAMINE TRANSPORTER (DAT) AVAILABILITY AND AFFECTIVE SYMPTOMS IN MOVEMENT DISORDERS: A 123I-FP-CIT SPECT STUDY

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Aim: Recent studies suggest an association of affective symptoms with striatal dopaminergic activity in Parkinson's Disease (PD). On the other hand, the psychopathological features of other common Movement Disorders (MD), such as Essential Tremor (ET) and Primary Dystonia, are less explored.

We investigated striatal dopamine transporter (DAT) availability and affective symptoms in these three different MD.

Materials and methods: 22 pts with ET, 14 pts with focal dystonia and 34 idiopathic PD pts underwent 123I-FP-CIT SPECT. A control group of 15 healthy subjects was also analyzed.

Psychiatric assessment included the HAM-D scale for severity of depression, the HAM-A scale for anxiety levels, the Snaith Hamilton Pleasure Scale (SHAPS) for anhedonia.

SPECT was carried out 3 hours after 111 MBq 123I-FP-CIT intravenous injection. Specific 123I-FP-CIT binding in the striatum and striatal subregions was calculated based on ROI analysis.

Results: Significant reduction of 123I-FP-CIT binding ratios was found only in PD. Spearman's analysis showed an inverse correlation between anxiety and DAT availability in the left striatal regions of both ET and dystonic patients. On the contrary, a significant positive correlation was found in PD subjects.

Conclusion: This preliminary study provided evidence for an association between pre-synaptic striatal dopaminergic function of the left hemisphere and anxiety in MD, thus confirming the "transnosologic" relevance of dopaminergic dysfunction.

Unexpected findings in PD patients are in contrast with previous results. A down-regulation of DAT could be hypothesized in both ET and dystonic patients. This pattern seems to be concordant with preliminary findings in primary anxiety disorders.