Creative thinking and Parkinsonism: Preliminary clinical data on the role of frontal area

M. Canesi, M. Rusconi, E. Cereda, F. Moroni, A. Ranghetti, V. Cereda, G. Pezzoli (Milano, Italy)

Objective: To evaluate divergent thinking (DT) by means of Abbreviated Torrance Test for Adults (ATTA) in Parkinsonism (PKS) with different deficit in cognitive functions.

Background: Creativity is a complex phenomenon and generally defined as the ability to generate ideas that are both original and useful in a particular social setting. Poor DT was found in patients with frontotemporal dementia (FTD). No data have been collected in patients affected by PKS i.e. progressive supra-nuclear palsy (PSP), multiple system atrophy (MSA).

Methods: Three groups of consecutive out-patients affected by PSP (N=10), MSA (N=10) and PD (N=10) were included. All patient groups were matched for gender and age at assessment. We included a control group (HC, N=10) matched for gender and age. Inclusion criteria were: MMSE>24. All patients and HC were no professional artists. Patients treated with atypical and typical antipsychotics, lithium, deep brain stimulation, duodopa and apomorphine infusions were excluded. Creativity was evaluated by means of the ATTA. Neuropsychological evaluation included MMSE, Frontal Assessment Battery (FAB), Geriatric Depression Scale (GDS).

Results: ATTA total score was significantly lower in PSP group when compared to the other groups (P-value<0.05). Atta total score in MSA group although lower was not significant different when compared to PD and HC. ATTA sub-score for Fluency, Elaboration and Originality were significantly lower in PSP when compared to MSA and PD. No differences were found between PD and MSA groups. FAB adjusted score was significant lower in PSP when compared to the other study groups. GDS was similar in all study groups.

Conclusions: DT measured by means of ATTA seems compromised in PSP when compared to the other study groups and correlated to frontal functions abilities.