Emotional recognition and its relation to cognition, mood and fatigue in Relapsing-Remitting and Secondary-Progressive Multiple Sclerosis.

O. ARGENTO[1], V. PISANI[1], C.C INCERTI[1], A. FRANCIA[2], M. MORREALE[2], C. CALTAGIRONE[1,3], U. NOCENTINI[1,3].

[1]Neurology and Neurorehabilitation Unit, I.R.C.C.S. "Santa Lucia" Foundation, Rome, Italy.
[2]Department of Neurological Sciences, University of Rome "Sapienza", Rome, Italy.
[3]Department of Systems Medicine, University of Rome "Tor Vergata", Rome, Italy

Introduction

Emotional recognition (ER), in terms of the ability to read in others mind and recognize others mental state, plays an important role in social environment adaptation. Recently a study of our group evidenced that ERs' difficulties often affect MS patients (MS) and that they relate with a different GM atrophy pattern in Secondary-Progressive (SP-MS) and Relapsing-Remitting (RR-MS). Furthermore, SP-MS perform significantly worse than matched healthy controls in the emotional recognition task, while RR-MS do not.

Aim of this study is to understand how the above reported differences between the two MS phenotypes relate with cognition, mood and fatigue aspects.

Methods

A total of 43 patients with MS (27 RR-MS/ 16 SP-MS; Table 1) underwent a clinical assessment and performed the Reading the Mind in the Eyes test (RMEt; Figure 1), the MACFIMS battery and completed mood (STAI; STAXI, BDIfs) and fatigue (MFIS) questionnaires. Both groups' performances on the REMt were then correlated with all these measures.

Results

Analyses revealed that REMt scores of RR-MS were significantly correlated with the impairment degree in some MACFIMS scores: CVLT-DR (p=.029), D-KEFS card sorting tasks (p=.034; p=.045) and the global degree of cognitive impairment (p=.025) [Table 2]. REMt scores of SP-MS correlated with the BVMTR-IR score, but were also significantly correlated with fatigue (.002), anxiety (.002), anger (.003), and depression (.002) [Table 2].

Conclusions

Results of this study offer a possible explanation of the previously found different pattern of emotional recognition between RR-MS and SP-MS. Emotional recognition performances relate only to cognitive aspects in RR-MS patients while relate mainly to mood aspects in patients with the SP-MS course. We can hypothesize that emotional dysfunction is a further sign of disease progression. Our data support the different role of cognitive and emotional deficits related to different disease course and lesion correlates.

Figure 1. An example of the RMEt trial

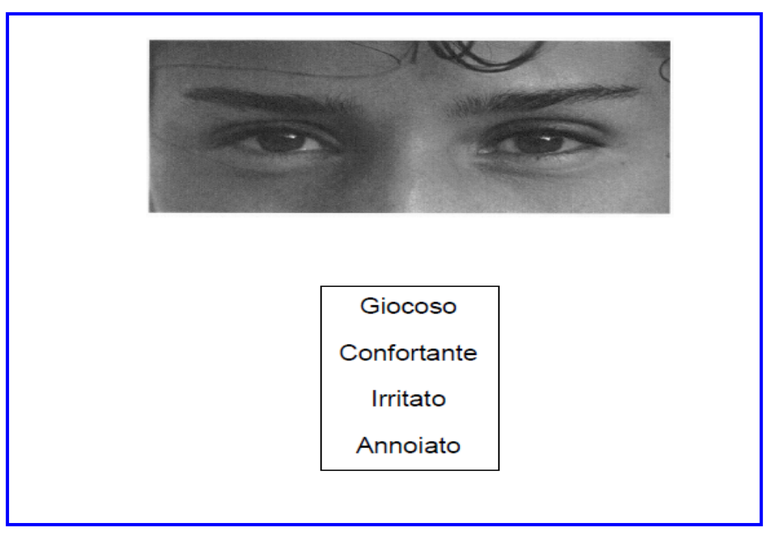

Table 1. Clinical and demographic data of the MS sample

	Sex (M/F)	Education (M±SD)	Disease Duration (M± SD)	EDSS (M± SD)
RR-MS	10/17	14,7± 2,4	7.4± 6,8	2,2 ± 0,8
SP-MS	10/7	13,9± 4,1	17,3± 10,5	5± 1

Table 2. Between and Within group comparison of REMt scores

RR-MS	CVLT-IR	DKEFS-cs1	DKEFS-cs2	CII
RMEt	*.029*	*.034*	*.045*	*.025*

SP-MS	BVMTR-IR	MFIS	STAI-Y1	STAI-Y2	STAXI-rs	STAXI-rt	STAXI-lier
RMEt	*.018*	*.002*	*.002*	*.002*	*.002*	*.003*	*.002*

References:

•Relapsing-Remitting and Secondary-Progressive MS patients differ in decoding others emotional status. Argento O, Serra L, Spanò B, Incerti CC, Bozzali M, Caltagirone C, Francia A, Fratino M, Nocentini U, Quartuccio E, Pisani V. (2019). [Submitted paper]

•The "Reading the Mind in the Eyes" Test revised version: a study with normal adults, and adults with Asperger syndrome or high-functioning autism. Baron-Cohen, S., Wheelwright, S., Hill, J., Raste, Y., & Plumb, I. (2001). The Journal of Child Psychology and Psychiatry and Allied Disciplines, 42(2), 241-251.

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