

COGNITIVE IMPAIRMENT IN A COHORT OF GREEK MULTIPLE SCLEROSIS PATIENTS (PRELIMINARY RESULTS)

T. Koukoulidis*, E. Hatzifilippou, T. Kalatha, M. Arnaoutoglou, S. Baloyannis, E. Koutsouraki

A' Neurologic clinic (Out-patient clinic for MS patients), AHEPA, Aristotle University Thessaloniki, Greece

INTRODUCTION

Cognitive impairment is a common phenomenon in multiple sclerosis (MS), occurring at all stages of the disease, even at the earliest, and can be a major source of disability. Cognitive dysfunction is mainly focused on working memory, conceptual reasoning, verbal fluency, speed of information processing, attention and executive functions. Additional clinical factors, including the progression of the disease, fatigue and affective disturbance, can impact the degree of MS-related cognitive impairment.

We present the preliminary data of a prospective study on cognitive impairment in a Greek cohort of MS patients, living in the Northern Greek city of Thessaloniki *For a 30 month period, in 6-months intervals, we followed clinically and neuropsychologically 40 patients with CDMS (diagnostic criteria Mc. Donald 2007) as well as 20 healthy controls matched for age and gender.*

RESULTS

- Cognitive disorders mainly concerned memory and attention.
- MMSE was found to be non-specific for the detection of disorders since 91% of patients had a final score of over 25/30. (MMSE score 23/24 has been estimated as a valid cutoff level for the diagnosis of dementia in Greece. (K. Fountoulakis et al, November 2000)
- Very useful was the combination of the interview with the SKT. 57% of the patients had difficulty recalling earlier memories of objects of everyday life such as cups, umbrellas, chairs, dogs, etc. 35% of them had memory disturbances (in the same objects) and only 18 % of patient disorders in the memory of recognition. Difficulty in classifying numbers found in 20% of patients attributed more to attention disturbance than to critical impairment. (In the Greek sample...SKT can be used to indicate difficulties in subjects with very mild or mild cognitive impairment (New results indicating the validity of the Greek versions of the SKT and the B-ADL Scale (Lehfeld et al, 1997)
- Cognitive fatigue was found at 57% of the patients, especially when they were tasked with evaluating numerous parameters at the same time. This disorder was particularly evident in patients with university education and those with increased professional responsibilities, causing difficulties in their daily functioning, with consequent anxiety disorder which increased their cognitive fatigue and decreased their self-esteem. An indication of cognitive fatigue was manifested as a disturbance of attention and concentration. University students who suffered from MS noticed that they could not concentrate and that they had to take many breaks in order to achieve the desired result.
- 43% of the patients showed difficulties in classifying and organizing priorities in their daily life, resulting in easy loss of control and this lead them to anxiety and panic attacks. Most of them admitted that they felt safe following their daily routine and became terrified to the idea of any sudden change even on simple issues.
- Most of the cognitive disorders were characterized as mild to moderate, causing difficulties in the everyday life.
- Two patients, suffered from SPMS for more than ten years, were diagnosed with dementia, showed high disability status and the greatest demyelination in the cerebral lobes.

Figure 1: The SKT - A short cognitive performance test for assessing deficits of memory and attention.



DISCUSSION

- * Most of the patients of the present study revealed mild to moderate cognitive impairment with mild impact on their everyday life.
- * We found a weak correlation between cognitive deficit and the duration of MS, as well as the physical disability status; and a moderate correlation between cognitive impairment and the type of the disease, as well as the MRI findings (atrophy and lesion load).
- * Extensive statistical analysis of our data will take place.

Table 1: Data of the selected groups for the research.

Parameters	MS patients	Healthy controls
Gender	25 F, 15 M	10 F, 10 M
Age	3 rd decade: 11 4 th decade: 16 5 th decade: 10 6 th decade: 3	3 rd decade: 7 4 th decade: 6 5 th decade: 5 6 th decade: 2
Education	High School: 12 Lyceum: 21 University: 7	High School: 3 Lyceum: 12 University: 5
Family status	Married with children: 18 Married with no children: 10 Single: 12	Married with children: 11 Married with no children: 2 Single: 7
Duration of MS	<5 years: 13 5< and <10: 18 >10 years: 9	
Type of MS	RRMS: 24 PPMS: 5 SPMS: 11	
Most affected parts of the CNS	Cerebral lobes: 24 Brain stem/ cerebellum: 9 Spinal cord: 7	
EDSS	<3 : 8 3< και <6.5 : 13 >6.5 : 9	

REFERENCES

1. T.Kalatha, E.Koutsouraki, M. Arnaoutoglou. *Cognitive impairment in a Greek MS patient cohort using bicams*. J Neurol Neurosurg Psych (2018) 89(10)p.20
2. T.Kalatha, T.Koukoulidis, E.Hatzifilippou, T.Kalathas, M.Bouras, M.Arnaoutoglou, S.Baloyannis, E.Koutsouraki. *The correlation between cognitive disorders and clinical parameters in multiple sclerosis patients*. 1stPoster Prize in 59th International Neuropsychiatric Pula Congress. May 2018.
3. H. Lehfeld & H.Erzigkeit: Die Stoerungsgradsensitivitaet des SKT. Ein Literaturueberblick. Zeitschrift fuer Gerontopsychologie & -psychiatrie (2005), 18, pp.131-141.
4. K.Fountoulakis, M.Tsolaki, H.Chantzi, A.Kazis. *Minimal State Examination (MMSE): A validation study in Greece*. Am J Alzh Dis & Dem (2000), 15(6):342-345.
5. H.Lehfeld, G.Rudiger, C.Rietz, C.Heinrich, V.Wied, L.Fornazzari, J.Pittas, I.Hindmarch. *Evidence of the cross-cultural stability of the factor structure of the SKT short test for assessing deficits of memory and attention*. Erzigkeit Hint Psychogeriatr.(1997) Jun; 9(2):139-153.