

25th Congress of the European Committee for the Treatment and Research in Multiple Sclerosis (ECTRIMS)

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Cognitive and psychosocial follow-up study at 2 years in a cohort of childhood and juvenile multiple sclerosis

M.P. Amato, B. Goretti, A. Ghezzi, S. Lori, V. Zipoli, E. Portaccio, L. Muiola, M. Falautano, M.F. De Caro, M. Lopez, F. Patti, R. Vecchio, C. Pozzilli, V. Bianchi, M. Roscio, G. Comi, M. Trojano on behalf of the MS Study Group of the Italian Neurological Society

Objective: To assess the evolution over time of cognitive impairment and its psychosocial impact in childhood/juvenile Multiple Sclerosis (MS) cases. **Background:** in a previous multicentric study, we found a 31% prevalence rate of cognitive impairment, with profound impact on school and everyday activities. To date, little is known on the evolution of neuropsychological impairment in the childhood/juvenile age range.

Methods: After a mean follow-up of 2.1 ± 0.4 years, 56 out of the 63 cases from the original cohort (28 females; age 17.2 ± 2.4 years; disease duration 5.5 ± 3.7 years) have been re-assessed using an extensive neuropsychological battery. Performance of cases was compared with that of 50 demographically matched healthy controls (HC). Cognitive impairment (CI) was defined as the failure of at least 3 tests (2 SDs below HC mean scores). Fatigue was assessed on the Fatigue Severity Scale, affective disorders on the Children Depression Inventory (CDI) and the Kiddie-SADS, Present and Lifetime Version diagnostic interview. Finally, an interview on school and daily living activities was obtained from the parents.

Results: over the follow-up period, the proportion of cognitively impaired cases raised to 70% (39 out of 56 cases). Cognitive functioning worsened in 75%, whereas it remained stable or improved in the remaining 25% of cases. Demographic and clinical variables were not significantly different between cognitively worsening and stable/improving patients. Cognitive domains showing prominent deterioration included verbal memory, attention and receptive language. On the basis of the diagnostic interview, 31% of the patients received a formal diagnosis of affective disorders. CDI and fatigue scores did not significantly change over the study period. Finally, 28% of the subjects exhibited problems in school achievements, 41% in hobbies and sport activities, and 28% experienced behavioural changes.

Conclusions: Worsening of cognitive performance over time should be expected in a great proportion of cases with childhood/juvenile MS, with increasing negative impact on a patient's life.