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DEMENTIA IN MULTIPLE SCLEROSIS: REPORT OF A CASE WITH CORTICAL GREY MATTER INVOLVEMENT AND FRONTAL-TYPE-LIKE CLINICAL FEATURES

R. Correia[1,2], D. Dias[1,3], A.J. Bastos-Leite[4,5], E. Rio[6], R. Curral[1,2]
[1]Department of Psychiatry, Hospital de São João, [2]Department of Psychiatry and Mental Health, University of Oporto, Faculty of Medicine, Oporto, [3]Faculdade de Psicologia e de Ciências da Educação da Universidade do Porto, Porto, [4]Department of Medical Imaging, University of Oporto, Faculty of Medicine, Oporto, Portugal, [5]Lysholm Department of Neuroradiology, The National Hospital for Neurology and Neurosurgery, Queen Square, London, UK, [6]Department of Neurology, Hospital de São João, Oporto, Portugal

Background/introduction: Although multiple sclerosis (MS), a demyelinating disease of unknown aetiology, is primarily a white matter disease, it may also involve the grey matter, a feature not often demonstrated in vivo by means of magnetic resonance imaging (MRI). The involvement of cortical grey matter in MS may account for cognitive dysfunction and behavioural abnormalities.
Objective: The purpose of this report is to present the case of a patient with MS and clinical features mimicking dementia of the frontal type due to clear-cut cortical grey matter involvement in the left frontal lobe.
Case report: A 55-year-old woman with relapsing remitting MS developed a clinical picture characterized by frontal deficits (e.g. attention, verbal fluency, and speed processing), disinhibition, loss of insight, perseveration, abnormal eating behaviour, agitation, insomnia, and depersonalization phenomena. Neuropsychological evaluation also revealed abnormal performance on the Trail Making and the Stroop tests. Besides typical demyelinating lesions and "black holes", MRI showed a striking pattern of left frontal opercular involvement including cortical thinning, focal knife-edge appearance of the gyri, and marked gliosis in the adjacent white matter.
Discussion: Cognitive deficits in MS are typically subcortical, due to the expected predominance of white matter lesions. Nonetheless, the involvement of grey matter structures may contribute to a different pattern of cognitive dysfunction. For example, hippocampal involvement has been linked to memory impairment. This particular case report additionally illustrates how cortical grey matter involvement in the frontal lobe may lead (not unexpectedly) to a clinical condition mostly characterised by frontal deficits and psychiatric symptoms.

https://doi.org/10.1016/S0924-9338(11)72192-7 Published online by Cambridge University Press