

Abstract Preview - Step 3/4

- print version -

Topic: Pathology and pathogenesis of MS - 21 Imaging

Title: Longitudinal study to measure iron deposit in basal ganglia and related structures in patients with clinically isolated syndrome

Author(s): F.X. Aymerich^{1,2}, J. Hlinkova^{1,3}, C. Auger¹, J. Sastre-Garriga⁴, M. Tintoré⁴, X. Montalban⁴, A. Rovira¹

Institute(s): ¹Section of Neuroradiology and MR Unit (IDI), Hospital Vall d'Hebron, ²Department of Automatic Control (ESAI), Universitat Politècnica de Catalunya, Barcelona, Spain, ³Department of Medical Physics, Biophysics, Informatics and Telemedicine, Comenius University, Bratislava, Slovakia, ⁴Centre d'Esclerosi Múltiple de Catalunya, Hospital Vall d'Hebron, Barcelona, Spain

Text: **Background and objective:** Iron accumulation within basal ganglia and related structures has been described in multiple sclerosis (MS). In early stages of the disease iron deposition may be associated with the progression of the disease. The aim of this longitudinal study is to assess the influence of iron deposit in basal ganglia and related structures in patients presenting with a clinically isolated syndrome (CIS).

Materials and methods: 45 patients diagnosed of CIS (27 women; median age, 34 years; EDSS range, [0, 5]) with a clinical follow-up of at least 3 years, underwent two 3.0 T brain MRI scan, baseline and 1-year follow-up, that include a T1 magnetization prepared rapid acquisition gradient echo (MPRAGE), and a dual-echo susceptibility weighted (SW) sequences. Thalamus, caudate, putamen, pallidum and accumbens area masks were obtained on MPRAGE images using FIRST tool of FSL package (FMRIB software library, Oxford) and registered to SW images. Iron deposit within these regions were obtained by R2* maps measured on magnitude SW images for baseline and 1-year scans. The increment of iron between 1-year and baseline scans was also measured all these regions. Conversion to MS was assessed according to McDonald criteria and new relapse within three years was also studied. Statistical analysis involved U Mann-Whitney test to evaluate differences in iron measurements between groups.

Results: We only found significant differences for the increase of iron in thalamus region between 1-year and baseline scan when comparing the presence of a new relapse within 3 years (yes, 1.1 no, 0.56; p-value=0.014). With regard to the other regions, though we observed an increase of iron deposit for the group presenting a new relapse these did not show significant differences. Baseline and 1-year iron measurements did not present significant differences between those patients that converted to MS and those that did not in the first year.

Conclusions: The results of this longitudinal study suggest that just a reduced number of iron variables may be useful to discriminate CIS patients who fulfilled the criteria for establishing the diagnosis of MS.

Disclosure:

F.X. Aymerich and J. Hlinkova have nothing to disclose.

C Auger has received speaker honoraria from Biogen, Stendhal and Novartis.

J Sastre-Garriga has received compensation for participating on Advisory Boards, speaking honoraria and travel expenses for scientific meetings, consulting services or research support from Novartis, Biogen, Sero International Foundation, Merck, Almirall, and Genzyme.

M Tintoré has received compensation for consulting services and speaking honoraria from Bayer Schering Pharma, Merck-Serono, Biogen-Idec, Teva Pharmaceuticals, Sanofi-Aventis, Novartis, Almirall, Genzyme, and Roche.

X Montalban has received speaking honoraria and travel expenses for participation in scientific meetings, has been a steering committee member of clinical trials or participated in advisory board of clinical trials in the past with Actelion, Almirall, Bayer, Biogen, Celgene, Genzyme, Hoffmann-L Roche, Novartis, Oryzon Genomics, Sanofi-Genzyme and Teva Pharmaceutical.

A Rovira serves on scientific advisory boards for Novartis, Sanofi-Genzyme, and OLEA Medical,

provided by UPMCcommons Portal del coneixement obert de la UBC

plougnt to you by COBE

Merck-Serono, Teva arch agreements with

View metadata, citation and similar papers at core.ac.uk

SIEMENS AG and ICOMETRIX.

Travel Grant / Young Scientific Investigator's Sessions: I will not apply for Travel Grant or Young Scientific Investigator's Sessions

Conference: 7th Joint ECTRIMS - ACTRIMS Meeting · Abstract: A-858-0023-01939 · Status: Draft

Print

Back