Reviewer's report

**Title:** Quantitative MRI analysis in children with multiple sclerosis: A Multicenter Feasibility Pilot Study

**Version:** 2  **Date:** 13 February 2013

**Reviewer:** Marc Tardieu

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Chitnis et al. report on quantitative white matter lesions volume measurements in children with MS. Their aim was to evaluate MRI burden of disease using quantitative measures in 57 children and adolescent with MS, within the first three years of disease onset in a multicenter study with centralized evaluation of MRI.

To have quantitative MRI results in early pediatric MS is important for future therapeutic trials, these parameters being potential secondary or even primary endpoints.

The report as two goals: to test the methodology and to give preliminary figures.

1. Methodology: this part is very convincing: centralized evaluation seems to have resulted in consistent results. It would have been of interest to know the variations between evaluators.

Selection of children early in their disease has been made carefully. It is however a cross-sectional study: any information on subsequent MRIs obtained at 3 or 6 months would be highly valuable.

2. Results: The mean (and ranges) numbers of T2 and Gd enhancing lesions are useful information. The results on lesion volume should be revised to give unit (mm3) and to keep figures within limit of measurement errors (is 10489.28 mm3 accurate? 10490 mm3 is probably better)

Results on age, gender, ethnicity and EDSS are less convincing due to small numbers. From an European perspective it is hard to understand the distinction between race and ethnicity (I would choose “familial origin”).

3. The discussion should focus on the main results and less on these sub-studies (age, EDSS, familial origin).

Reference 9 is probably a mistake

Table 2 is not easy to read

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare I have no competing interest