Reviewer's report

Title: The effect of scheduled antibody testing on treatment patterns in interferon-treated patients with multiple sclerosis

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Reviewer: Antonio Bertolotto

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Major Compulsory Revisions:

The manuscript “The effect of scheduled antibody testing on treatment patterns in interferon treated patients with multiple sclerosis” by Edward Fox and collaborators faces the important topic of the role of quantifying anti-IFN beta antibodies in every day clinical practice in the USA, where testing is expensive and not mandatory according to AAN guidelines.

The study compares two groups of patients, in the study groups patients are performing NABs and BABs test every 3 months and the treating neurologist is aware of the results, whereas in the second group, test is performed just at the beginning of the study. The follow up lasts 12 months.

The results clearly show that the study group change treatment, more frequently, shifting from IFNb to another treatment, in particular Glatiramer acetate.

Another result of the study is that BAbs positivity, at high titer, predicts the presence of NABs positivity and the final suggestion of the Authors is that quantification of BABs could replace Nabs quantification as it is less expensive.

The main flaw of the study, as also reported by the Authors, is the imbalance of the number of visits between the two groups, as it is well known that a more frequent neurological examination allows a detection of a higher number of relapses and, as a consequence, a higher number of change of treatment.

The number of visit is not reported in the manuscript and it must be added.

It is also not reported if the patients are aware they are enrolled in a study in which Nabs are quantified every three months and that the presence of NABs can impact efficacy of IFNB treatment. The role of patient willing in change of treatment is not considered, or not clearly specified.

In spite of these flaws the study is important because it could induce a modification, that I consider an improvement, of the every-day management of MS patients in USA treated with IFNb.

In fact the study clearly shows that NABs / BAbs quantification (that is combined with more frequent neurological visit) improves real world management of MS patients. In fact a relevant higher number of relapses (table 2) and MRI/clinical disease activity were detected in the NABS scheduled group than in the usual treated group.
The impact of Nabs on clinical /MRI activity was not included, correctly, among the outcomes of the study, but the authors should also underline that the presence of NABs / BABs was associated with higher number of relapses and/or MRI activity in comparison with Nabs negative patients, as reported in the two subgroups of patients scheduled for Nabs quantification (table 3).

A sentence should also focus on the number of visits or contacts with MS clinic per years MS patients have in real world setting, independently from performing or not Nabs test. The data of this study show that a contact every three months with a MS clinic for performing a blood test (not clear with or without a neurological evaluation) is able to detect a double number of relapses in comparison with the usual schedule (table 2).

Minor points:


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:

Dr. Antonio Bertolotto received honoraria for serving in the scientific advisory boards of Bayer, BiogenIdec, Genzyme, Novartis, TEVA, and received speaker honoraria from BiogenIdec Italia, Genzyme, Novartis, Sanofi-Aventis, Teva;

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