Reviewer’s report

Title: Auditory change detection in schizophrenia: sources of activity in patients with a first episode in adolescence, and patients 14 years after an adolescent illness-onset.

Version: 2 Date: 6 November 2005

Reviewer: Jun Soo Kwon

Reviewer’s report:

General
The authors reported an interesting finding that the MMN sources were changed with progression of illness and the different feature of activity in MMN sources might reflect the stasis or deterioration of illness. This article has strength in their characteristic subjects, the adolescent schizophrenia with first-episode and the patients with 14 years after diagnosis in adolescence with their 2 age-matched controls. Generally, sources of MMN have been reported in the temporal lobe, which is related with echoic memory and the frontal source that is related with monitoring of change detection. This study showed well localized MMN sources in the 2 areas and also demonstrated the abnormal MMN sources in the patients with schizophrenia.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)
Was the use of human participants in the study approved by the Ethics Committee (or IRB) in your institute and in accordance with the Declaration of Helsinki?

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
The correlation analysis was performed for MMN (frontal, mastoid) and the dipole moments with symptom sources, and neuropsychological task measures. Was there any control for Type I error in the correlation analysis?

Authors reported that the accuracy of the MMN model was facilitated by the digitization of recording sites with respect to individual skull marker (Page 19). Digitization of recording sites is basic essential process for source localization analysis and dipole source analysis using realistic head model with individual MRI is important for the accuracy of the MMN. Actually, Ha et al. (2003, Brain Topogr., 15: 233-238) reported the discrepancy between individual MRI and averaged template. Please cite this paper for discussion of accuracy of dipole model.

Table 1 is too complicated because of many abbreviation and data. If possible, Table 1 may be divided into demographic data and behavioral data.

In table 3, the number of patients may be wrong. N=18 in C-14Y may be 13, N=18 in S-14Y may be 15, N=22 in C-EOS may be 20 and N=28 in EOS may be 22. Pleas check it again.

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Discretionary Revisions (which the author can choose to ignore)

It is necessary to check an apt quotation in the manuscript. For example, in Page 5 line 15, reference 36 is not for LORETA.

In Page 15, first paragraph, authors did not clarify that the results were derived from Fz channel.
The full name of abbreviation must be presented in the first used sentence. For example, LORETA: see the Page 5, Page 17.

In abbreviations in Page 21, ERP is presented twice.

In Page 22, line 3, what is Dd in Dd-MMN for?

**What next?**: Accept after minor essential revisions

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

**Quality of written English**: Acceptable

**Statistical review**: No

**Declaration of competing interests**:

I declare that I have no competing interests.