

OPEN PEER REVIEW REPORT 1

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Title: Ipsilateral motor evoked potentials in a patient with unihemispheric cortical atrophy due to Rasmussen encephalitis

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COMMENTS TO AUTHORS

The paper reports a single case study of ipsilateral motor evoked potentials (MEPs) in a patient with Rasmussen encephalitis. The results show an increase of ipsilateral MEPs with respect to normal control subjects, thus indicating a neuroplasticity mechanism in such patients.

The study is interesting and relevant to the general scope of this journal.

A few points however deserve some attention:

As to the experimental design, from the first paragraph of discussion ("in the patient it was possible to elicit ipsilateral MEPSs ... on both sides") I would argue that both the affected (left) and the unaffected hemisphere of the patient were stimulated. This is not clearly stated in the section on "experimental procedures", where there is only an indirect account that "MEPs were studied ... of both arms".

However, in the discussion the authors conclude that ... "results suggest that motor outputs in the unaffected hemisphere are significantly changed" ..., which would indicate that only the unaffected side was studied. Moreover, if this were not the case, pooling results from both sides would be questionable. This point should anyway be clearly specified to avoid possible confusion.

There are a few formal inaccuracies which are to be corrected:

Since no formal statistics to compare the results from the single patient and 10 control has been performed (cf. paragraph of statistical analysis), using the term "significant" may not be appropriate. In the section on results the measure unit for "MEP size" has not always been correctly indicated (it should be " $\mu\text{V ms}$ " rather than just not " μV ").

The acronym RMT would probably indicate "resting motor threshold", but this is not clearly indicated on first using.

The figures 3 and 4 are hard to read, at least with the graphical resolution of the manuscript copy which has made available online (but I guess also in a printed copy). Another and clearer graphical solution should be found. Moreover, figure 4 is not quite necessary to represent the few reported data (a table would possibly be more suitable).