Reviewer's report

Title: Electroacupuncture decreased cognitive impairment and promotes neurogenesis in the APP/PS1 transgenic mice

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Reviewer: Zhi-Ling Guo

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This study evaluated effects of electroacupuncture (EA) on decreased cognitive impairment and neurogenesis in the APP/PS1 transgenic mice. The results from this study suggest that EA may be used to manage Alzheimer’s disease (AD). There are several concerns with this manuscript.

1. The rationale for using Baihui acupoint in this study was not clearly justified. What was the specificity of this acupoint for the present study? How was the control for EA conducted?

2. This study examined if EA improved cognitive function and the pathological features of AD in amyloid precursor protein (APP)/presenilin 1 (PS1) in APP/PS1 double transgenic mice. However, discussion about why EA had those actions was lacking. In addition, similar changes were found in wild-type mice after EA treatment compared to controls. What was significance of these findings?

3. The positive labeling shown in the figures should be indicated with symbols. Figure 3 did not support the statement of co-localization of neurons with A#1-42. There was a similar concern with Figure 5, Panel B.

4. In Figure 1, how could Panel D showing single image indicate statistically significant difference? This statement was addressed in the figure legend and text.

5. Figure 2, Panel A appeared to be confusing. In this regard, MWM (Morris water maze test?) needs to be defined. When was BrdU administered at the first time? How many days for an entire EA treatment? 20 or 28 days? and among others.

6. In Figure 4, Panel C, the bands demonstrating A# 1-42 were questionable when “Con+EA” was compared to “Con”.

7. In Figure 5, the description of “BDNF was attenuated” in the legend did not match the data shown in the figure Panel C.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published
Statistical review: Yes, and I have assessed the statistics in my report.