Reviewer's report

Title: Electro-acupuncture on functional peripheral nerve regeneration in mice: a behavioural study

Version: 1 Date: 18 April 2012

Reviewer: Wei Zhou

Reviewer's report:

Comments to the investigators:

The authors examined the effects of electroacupuncture on the functional recovery of sensorimotor responses after let sciatic nerve crush in mice by using mechanical and heat sensitivity tests. They demonstrated that EA improves motor recovery.

General comments

Comments 1: This manuscript requires significant work in terms of grammar and mechanics use. I strongly encourage the authors to go through the manuscript again with a fine-comb to assess errors in grammar and mechanics use.

Comment 2: The first part of the sentence under Conclusions in the Abstract does not seem appropriate for this study. The study does not trace neural fiber regeneration and reinnervation.

Comments 3: Page 3, para 1: “Electroacupuncture represents another non-invasive method known to produce antihyperalgesia in animal models of inflammatory pain, however no studies have explored its effects on peripheral nerve regeneration.”

The authors should rewrite this sentence. Since EA involves needle insertion into muscles, it should be considered as invasive. The ref 10 examined the effects of electroacupuncture on peripheral nerve regeneration in rats. Please clarify how the present study extend the previous study and what new information can be gained from this study.

Comments 4: In Introduction, the authors should explain why they used gait analysis in this study and what kind of benefit they can get.

Comments 5: Discussion, paragraph 1 – there are too many ideas and topics in this paragraph, it should be split up so that the discussion flows better, particularly since the second half of the paragraph focuses on cellular changes. A paragraph dedicated to cellular modifications that relate to pain following nerve injury might be beneficial.

Comment 6: Conclusion – the authors suggest that EA could be a new, useful method for motor recovery and alleviating pain symptoms, but there is no
discussion regarding currently used methods for motor recovery. A paragraph in
the discussion regarding what is currently being used for motor recovery would
be beneficial. A set of experiments to compare those methods to EA would make
the conclusion much stronger.

Specific comments:
Comment 1: The first part of the sentence under Conclusions in the Abstract
does not seem appropriate for this study. The study does not trace neural fiber
regeneration and reinnervation.
Comment 2: Background, first paragraph, it is unclear what is meant by “fraught
with challenges”
Comment 3: Background, second paragraph – although the authors make a case
for the value of behavioral tests, the tests alone do not serve as a surrogate for
fiber regeneration
Comment 4: Methods, surgical preparation – is there any particular reason for
the methodology the researchers chose to divide the animals into two sets of
groups (3 days post vs. 2 weeks post crush)? The experimental design is unclear

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: No, the manuscript does not need to be seen by a
statistician.