

Authors' Response to the Editors' and Reviewers' Comments

We would like to thank sincerely for your valuable suggestions and comments. Necessary corrections are incorporated according to your advice. In the following, we will first list each original comment/suggestion (in *italic* font), and then provide our specific responses (in regular font). The possible changes are included in **red color font** in the manuscript.

Reviewer #1:

Comment:

a. The authors in this article discussed about important electroneuro-physiological changes following ECT in patients with major depressive disorder. b. Abstract: The statement "Major depressive disorder (MDD) tends to have a high incidence and high risk" sounds incomplete. Kindly mention high risk of what? c. Similarly, the claim "Electroconvulsive therapy (ECT) is currently the most effective treatment for MDD" sounds baseless. Kindly refer to the existing evidences. d. Kindly refer to the statement "With rapid and high response rates, electroconvulsive therapy (ECT) is usually used when other treatments fail. It is particularly important in suicidal, psychotic, or tonic depression[7]." What do you mean by tonic depression? e. Authors need to mention about the study design, sampling techniques and sample size estimation in more detail in the study. f. What was the study period (time frame)? g. Why DSM-IV criteria was used instead of DSM 5? h. Kindly describe what the authors mean by severe somatic disease? i. Whether the authors did cognitive assessment during the course of ECT?

Response:

Thank you for your valuable suggestion. We made a point-by-point response as follows.

b. We add the word for the statement as "Major depressive disorder (MDD) tends to have a high incidence and high suicide risk".

c. We modified the sentence as "Electroconvulsive therapy (ECT) is currently a relatively effective treatment for MDD".

d. We are sorry for this error. This sentence was corrected as "It is particularly important in suicidal, psychotic, or catatonic depression [7]."

e. Thank you for your good suggestion. We add the sentences in the manuscript as "The study was approved by the local ethics committee of Chongqing Medical University accordance with the ethical standards laid down in the Declaration of Helsinki. Each patient gave written informed consent." At the same time, we described the study design, sampling techniques and sample size estimation in detail in section 2 "Materials and methods". The standard control method was chosen in this study. The comparison type was the superiority trial, and sample size estimation was selected by quantitative indicators.

f. The study period was from April 2017 to December 2018.

g. Both DSM-IV and DSM 5 are widely used in clinical practice. In this study, DSM-IV was employed.

- h. Depressed patients also have physical diseases such as dementia, stroke, and epilepsy.
- i. We did not use formal procedure to do cognitive assessment during the course of ECT. We may monitor the changes in cognitive function in future studies.

Reviewer #2:

Comment:

A good study which demonstrated that the effectiveness of ECT treatment for MDD may be partly proven by significantly decreased ALFF in the slow-5 band. These results may help us to understand more fully the potential therapeutic mechanisms of ECT for MDD patients. This manuscript shows a way forward in understanding the therapeutic mechanism of ECT. The limitations are small sample size. Subjects were not matched in education. Also the second MRI was done after the eighth ECT irrespective of the clinical status of the patient. A more detailed longitudinal study would have probably given better results. The authors may include a few sentences on future directions.

Response:

We thank the reviewer for this important suggestion. More scans for patients and a larger sample would help us to achieve more robust results. At the same time, some limitations as we pointed out in the manuscript, we will improve them in our future studies. In the revised manuscript, we added the sentences on future directions as follow in the conclusion section. “In future work, we will recruit more patients and health controls to participate this investigation. More scans will be carried out for participants to obtain more robust results. The changes in cognitive function will also be monitored.”

EDITORIAL OFFICE’S COMMENTS

(1) Science editor:

This manuscript explored changes in intrinsic neural activity in MDD patients undergoing ECT surgery by calculating ALFF values for different bands. Please mention what is the high risk for major depressive disorder (MDD), please mention the study design, sampling technique and sample size estimation in more detail in the study. Language Quality: Grade B (Minor language polishing); Scientific Quality: Grade B (Very good).

Response:

We do appreciate you for your valuable advices. In order to express the complete meaning, we added the word “suicide” for the sentence as “Major depressive disorder (MDD) tends to have a high incidence and high suicide risk”. In terms of study design, we added the sentences in the manuscript as “The study was approved by the local ethics committee of Chongqing Medical University accordance with the ethical standards laid down in the Declaration of Helsinki. Each patient gave written informed consent.” At the same time, we described the study design, sampling techniques and

sample size estimation in detail in section 2 “Materials and methods”. The standard control method was chosen in this study. The comparison type was the superiority trial, and sample size estimation was selected by quantitative indicators.

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Psychiatry, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office’s comments and the Criteria for Manuscript Revision by Authors. Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, “Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...”. Please provide decomposable Figures (in which all components are movable and editable), organize them into a single PowerPoint file. Please authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is ‘original’, the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022.

Response:

Thank you. We revised our manuscript according to the Peer-Review Report, Editorial Office’s comments and the Criteria for Manuscript Revision. We organized all figures into a single PowerPoint file. Moreover, we modified all tables as standard three-line tables. Our research complied with academic rules and norms. We deeply appreciate your consideration of our manuscript. If you have any queries, please don’t hesitate to contact me.