Reviewer's report

Title: Association between NRGN Gene Polymorphism and Resting-State Hippocampal Functional Connectivity in Schizophrenia

Version: 1 Date: 21 Jan 2019

Reviewer: Kazutaka Ohi

Reviewer's report:

The current study investigated associations between hippocampal connectivity at rest and a genetic variant (rs12807809) in the NRGN gene in 59 patients with schizophrenia and 99 healthy controls. They found a gene-diagnosis interaction in a resting-state hippocampal connectivity with anterior and middle cingulate gyri. Although their sample size was too small, their findings were interesting. I have some suggestions that may, in my opinion, further improve the quality of the paper:

There were some concerns as follows;

1. In abstract and introduction section, please clarify which is a risk allele (T or C) for schizophrenia based on previous GWASs.

2. In introduction 'Additionally, resting-state functional magnetic resonance imaging (fMRI) studies have shown aberrant activation in the hippocampus of individuals with SZ [27, 28].', the term 'aberrant' was ambiguous. Please specify whether the aberrant activation was increased or decreased.

3. In method 'Most participants were Han Chinese (n=134, 85% of total participants; n=52, 88% of patients with SZ; n=82, 83% of HCs),' please add information about other ethnicities except for Han Chinese.

4. In method 'cluster size >22', how did the authors decide the criteria?

5. In method 'Statistical significance was defined as p < 0.05 to perform the Bonferroni correction.', how did they perform the Bonferroni?

6. In figure1, please separate increased and decreased connectivity regions with diagnosis effects.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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