Reviewer's report

Title: Altered cardiac autonomic nervous function in depression

Version: 2 Date: 1 May 2013

Reviewer: Jess Fiedorowicz

Reviewer's report:

Major Compulsory Revisions
1) The following concern was brought up on prior review: “There is considerable potential for selection bias in this sample. Those with depression are a very select group. They have required hospitalization, yet were not suicidal and haven’t been on medications for six months. They are without anxiety and without any risk factors for vascular disease (both of which are highly common among individuals with depression). While the authors have included these exclusion criteria because of impact on these outcome measures, they have created a group with major depression that is difficult to imagine and unlikely to be representative.” The authors should minimally include this limitation in their discussion.

2) Prior reviewers asked about treatment. The added statement adds a treatment: “Selective serotonin-reuptake inhibitors (SSRIs) were routinely used to treat to patients with major depression.” though does not characterize the treatment observed in this sample. What % were treated with SSRIs and what % with other agents?

3) The authors do not appear to control for multiple comparisons and the subsequent potential for Type I error needs to be discussed as a limitation.

4) The following statement does not appear accurate and appears to be mis-cited (citing a depression paper): “At present, the domain parameters of HRV is as a reliable indicator of the risk for malignant ventricular arrhythmias and sudden cardiac death than ventricular late potentials, left ventricular ejection fraction, QT dispersion and the level of cardiac function [23].”

5) The measures of autonomic function are indirect measures and this limitation should be acknowledged. The discussion of limitations as a whole could be better developed.

6) A table comparing sociodemographic and clinical characteristics of cases and controls would be of value.
Minor Essential Revisions

1) Abbreviations vary through the manuscript (e.g. SDNNR and SDNN). Please review all abbreviations for consistency of use.

2) The final sentence of the abstract conclusions extends beyond the scope of this paper. The manuscript does not assess induced arrhythmia or cardiac events.

3) Were the assessments of arrhythmias on EKG conducted blind to group status. Please indicate if so or add to limitations if not.

4) The prevalence of paroxysmal ventricular tachycardia appears high. Could the authors clarify the threshold by which this diagnosis was made?

Discretionary Revisions:

1) Background, sentence 2, please rewrite.

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

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

'I declare that I have no competing interests'