Reviewer's report

Title: Multidisciplinary assessment of tako-tsubo cardiomyopathy: a prospective case study

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Reviewer: Kenneth Nugent

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December 29, 2010

Dear Dr. Shipley,

I have reviewed the manuscript entitled, Multidisciplinary assessment of tako tsubo cardiomyopathy: a perspective case study by Waldenborg, et al. These investigations prospectively studied a number of patients who met the criteria for tako tsubo syndrome. They used biochemical screening, echocardiography, contrast enhanced cardiac magnetic resonant imaging, cardiac autonomic function assessment, and questionnaires for post traumatic stress syndrome and depression.

1. The principal merits in this study are the extensive characterization of these patients, the perspective nature of this study, and the questionnaires about stress and depression.

2. In Table one they note that 6 of 13 patients had definite trauma within 2 weeks. I think it would be useful to put in the Results Section a list of the traumatic events experienced by these patients to see if they are similar to other studies. In addition, some patients with the tako tsubo syndrome do not have a traumatic event but, in fact, have an unexpected episode of joy, such as a surprise birthday party. I wonder whether or not any of these patients had events like this would explain acute sympathetic events.

3. The information on the stress and depression rating scale is presented in Table 5 as a median and inter quartile range. I wonder whether or not it would be useful to put the information on stress in a figure with a circle for each patient’s PTSS 10 questionnaire result at the initial finding and at 3 month finding. This would give us a better perspective of the distribution of results.

4. These patients do not appear to have depression at the time of the survey. Is there any information about prior episodes of depression in these patients?

5. Does the information collected on the psychiatric surveys provide enough information to determine whether or not these patients meet the DSM 4 criteria for acute stress disorder? It’s unlikely these patients have post traumatic stress syndrome at the time of presentation. They might have acute stress disorder. The follow up information appears to indicate that they do not develop post traumatic stress disorder following this acute medical event.
6. The catecholamine levels in these patients were relatively low. This might reflect the fact that only one blood sample was obtained in the morning of admission. Did the patients receive any sedative medications which might alter catecholamine response and reduce blood level?

7. In the discussion the authors state that, “Post traumatic stress is not uncommon in patients following myocardial infarction”. Therefore, they cannot conclude that stress is relevant to the development of this syndrome and it is possible that stress is just a feature of a normal response to acute events such as chest pain. It would be useful if the authors could provide a sentence or two about the frequency of post traumatic stress in patients with myocardial infarction in that paragraph of the discussion.

8. The authors do not support the use of the term stress-induced cardiomyopathy. I think it would be useful if they would discuss the pathogenesis of tako tsubo phenotype based on their study and review of this literature.

I would consider these comment as important but not crucial. Hopefully they might add to the manuscript. I don't think they have to respond to every comment provided there is a valid reason.

Kenneth Nugent

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.