Reviewer's report

**Title:** Evaluation of suspected Malignant Hyperthermia events during anaesthesia

**Version:** 1  **Date:** 11 March 2013

**Reviewer:** Sheila Riazi

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This is a retrospective evaluation of suspected MH episodes on the patients referred to an MH center between 2007-2011. The authors rationalized their question and objectives very well in the background. Unfortunately the data was limited, as many variables were not available to authors. However, they have showed that MH is still a concern for anesthesiologists.

**Major Compulsory Revisions:**

1. Authors mentioned evaluation of severity of the suspected MH episodes in the abstract. There is no result on severity. Did they mean severity according to the clinical grading scale, or complications? Please clarify.

2. Retrospective studies are limited due to unavailability of the data. However it would be interesting to review the suspected reaction, not only with regards to signs, but also complications. Can authors tell us also about the occurrence of complications? This shows the severity of the episodes.

3. Method section: The authors should specifically mention what signs they reviewed in the charts, did they look at tachycardia as well (is this part of the cardiac arrhythmias they mentioned?), how about serum/urine myoglobin? They calculated CGS score at the end, but many variables they were looking at, may not have been available for each patient. In addition the definition of the signs should be clear in the methods. In the result, they mentioned increased ETCO2, or metabolic acidosis, what are the definition for these according to authors?

4. Results: Since the focus of the paper is on the probands with suspected reactions, I think the demographics (female, male) should be described only on the 19 patients.

5. Three patients who had their reactions in 1990s were also recruited, as their IVCT was performed within the study period. However, specifically the patient who had the reaction in 1992, is over 20 years ago. This may contradict the objective of the study, unless the volatile used was sevo/des, is this the case?? If it is, it should be explained.

6. It is very informative to know the number of patients with each signs, however, it might be more useful if they also use percentages (as denominator may not be clear to reader all the time).

7. Discussion: Third paragraph, the authors mention the patients who had a reaction solely with succinylcholine. There were 3 MHEh patients within this
group, who should be mentioned here. As they are treated as MH clinically, and according to North American criteria they are labeled as MHS as well.
8- Discussion, end of the third paragraph, again the numbers for patients with MMR should be stated as percentages as well.
9-Discussion- Can the authors explain why succinylcholine was used in elective surgeries, was that for possible difficult airway?
10-Discussion-fifth paragraph, please mention the percentage for occurrence of MMR in your group of patients.
11-Discussion-second page, third paragraph-mention the percentage of your patient who received dantrolene.

Minor Essential Revisions:
1-Background: MH is mostly “ an: inherited… (delete “a” before mostly)
2-Background:trigger potency of currently applied volatile anesthetics “ seems” (delete “is”).
3-Results: the first paragraph can be rewritten to clarify the recruitment, maybe a diagram can clarify it better.
4- The table can be reorganized into three columns, according to IVCT results, with rows containing the triggers, signs, etc. The present format of the table looks more like a raw data table, and difficult to draw up conclusion.

Discretionary Revisions:
1- The full description of IVCT can be shortened, and a reference can be used instead.

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