Reviewer's report

Title: Trigeminal Electrophysiology in Patients with Orofacial Pain and Temporomandibular Disorders

Version: 3 Date: 26 March 2010

Reviewer: John H Kalbfleisch

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Major Compulsory Revisions
none

Minor Essential revisions

(1) Signed informed consent procedures need to be stated in the Methods section.

(2) The Mann-Whitney significance level is directed at the comparison of group medians (appropriate). The authors can consider showing significance levels of the t-test for comparing group mean levels (significance level = P-value). This can be added to Table 1.

Discretionary Revisions

(3) page 7, line 8, change “parameters” to “statistics”.

(4) page 7, line 11, insert “in medians” following “intergroup differences” (at the end of the sentence).

(5) page 7, line 14, consider changing “no-normal” to “non-normal”.

(6) Table 2. This is acceptable, but I feel that it can be replaced with a Figure that gives readers more insight into the results. The authors can consider a figure that is a (horizontal) dotplot of individual %values for each of the two study groups. This is displayed in two major sections, one on top of the other. The two sections are the two measurement scales (R-MEP% and JJ%). Therefore, each section has two dotplots (of 33 and 36 points). Superimposed on the dotplot distribution the group statistics (mean, median, percentiles) can be identified, but the measurement scale cut-point needs to be shown (a vertical line). If the dot-plot distribution is
very skewed, the measurement scale can be shown on a log-basis (or some similar transform). This figure allows the reader to additionally see the diagnostic-test characteristics of sensitivity and specificity for the authors-selected cutpoints.

From Table 2: JJ% has sensitivity=0.75 and specificity=0.95. R-MEP has sensitivity=0.10 and specificity=0.95. If one uses means and sd’s from Table-1, and assumes normality, JJ% has approx sensitivity=0.71 and specificity=0.93; R-MEP% has approx sensitivity=0.25 and specificity=0.92. A similar presentation of sensitivity-specificity could be performed for JJ% for case values where R-MEP > 75% (as in Table 3).

(7) Tables can be revised to the standard format for biomedical journals. One horizontal line below the column headings, and one horizontal line at the bottom of the columns (above any footnotes). Remove vertical all lines.

(8) Anticipating that some readers will implement the suggested evaluations, I would suggest the authors can take a set of raw measurements for one subject and show how the Table 1 derived measures are calculated. This can be placed in an appendix.

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

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests. John H. Kalbfleisch