Author's response to reviews

Title: Self-reported cold sensitivity in normal subjects and in patients with traumatic hand injuries or hand-arm vibration syndrome

Authors:

Ingela K Carlsson (Ingela.k.carlsson@hotmail.com)
Birgitta Rosén (birgitta.rosen@med.lu.se)
Lars B Dahlin (lars.dahlin@med.lu.se)

Version: 2 Date: 21 January 2010

Author's response to reviews: see over
Dear Editor,

Thank you for reviewing our manuscript and for interesting and valuable comments. Enclosed you will find our revised manuscript and comments to each question raised by the reviewers. We hope that you will find our revised manuscript suitable for publication. This manuscript will also be included in my doctoral dissertation. The title on my thesis is: Cold sensitivity in injured and normal hands. Consequences for daily life. It will be published in February 2010 and I (Ingela Carlsson) will have the copyright.

Sincerely

Ingela K Carlsson  Birgitta Rosén  Lars B Dahlin
OT, MSc  PhD, Associate professor  MD, PhD, Professor in Hand Surgery
We are grateful for the constructive comments from the referee and have tried to change the manuscript in accordance to the suggestions as follows:

Reviewer: Noriaki Harada
Reviewer's report:
Major points

1. The multiple comparison procedure for the Mann-Whitney U-test may be necessary; if it was performed, the concrete method must be described in the data analysis section.
Comment: As described in the data analysis the Kruskal Wallis Test was used to identify significant differences between multiple subgroups and the Mann Whitney U-Test to analyse further significant differences between subgroups.

2. Limitation from the response rates of patients and normal subjects which were not so high, together with the effects of dropout subjects, might be better to be discussed more.
Comment: Thank you for this comment.
We have changed the text to the following at page 4.
A high response rate was obtained in the patient group and in the normal population. One hundred and twenty two patients (77%) (amputation n=53, nerve-injury n=39, HAVS n=30) and 122 subjects (64%) from the normal population responded.

3. The effect of gender difference on the results is not discussed enough; the male/female ratios are not same among three groups.
Comment: There was no significant gender difference in cold sensitivity (CISS score) in any of the groups. The small proportion of women in the study corresponds to the usual situation in the clinic and for hand injuries and HAVS in general. The ratio of included male/female in the normal random sample was comparable with the group of traumatic hand injuries.
We have changed the text accordingly, page 11-12.

4. The effect of age difference is discussed to some extent as the CISS score is not affected by age; is it too optimistic?
We have changed the text to the following, page 10
However, we have previously described that age peer se has no impact on cold sensitivity in neither normal’s nor hand injured patients; thus, ruling out the possibility that age may explain the difference in symptoms between the groups [6].

5. We can guess that all patients with the HAVS investigated in this study have ‘white finger’; it may be better to describe exactly and to indicate the HAVS stages, such as Stockholm workshop scales including sensory-neural symptoms.
Comment: We have added information about the number of HAVS patients suffering from vibration-induced white fingers and sensorineural symptoms according to the different stages in the Stockholm Workshop scale in Table I and also changed the text in the result section.
We have changed the text to the following:

Twenty-five out of 30 patients with HAVS had according to the Stockholm Workshop scale vibration-induced white fingers, 27 of 30 had sensorineural symptoms and 22 of 30 had both white fingers and sensorineural symptoms (Table I). Twenty-six of the 30 patients had an impaired vibrotactile sense, while the remaining four patients, in addition to the other criteria for HAVS had affected vibration threshold values at high frequencies. Six out of 30 patients with HAVS were operated with carpal tunnel release; however, there was no significant difference in CISS score between operated and non-operated patients (p=0.64).

6. The location of the symptoms like ‘numbness’ and ‘aching and pain’ etc should be expressed in the text.

We have changed the text to the following, page 6

The predominant problems on exposure to cold among the patients were weakness, stiffness, numbness, skin colour change, pain and aching in their injured hands (Question no 1 in the CISS questionnaire, Fig 2). Patients with HAVS had significantly more difficult problems in their hands with weakness (p=0.022), numbness (p=0.016), aching and pain (p=0.001) on exposure to cold than patients with a traumatic injury (Fig 2).

7. The following sentence in the last paragraph of P5, ‘A reference material (normative data) …..Sweden (www.hrql.se)’, must be described properly in the appropriate place. It is also better to add reference/s for the term ‘mean deviation from norms’.

We have added the following sentence

Fig 4a and 4b. Normative data with comparable gender and age distribution and was distributed by the Health Related Quality of Life group in Gothenburg, Sweden (www.hrql.se).

8. Ref 6 is not an accepted paper for publication at present; it must be described exactly. Ref 24 must have its journal name.

Comment:
Both references are now in press. The text is changed accordingly.

Minor points
1. Abbreviation of ‘visual analogue scale question’, VAS question, must be described at P5 L8.

We have changed the text to the following, page 5

See Fig 2 and Table II for detailed information) [19], a visual analogue scale (VAS) question (0-10) …..

2. At P10 L4-5 from bottom, ‘PWES’ should be used instead of ‘Potential Work Exposure Scale’.

We have changed the text to the following, page 11

The frequent exposure to cold, as shown by high scores on the PWES, put hand-injured patients in an exposed position and forced them to change their work.

3. The bar for ‘HAVS’ in Fig 1 is not completed.

Comment: It has been corrected.
4. The values of ‘q1-q3’ for ‘swellings’ in Fig 2 must be properly set.
Comment: It has been corrected.

5. The ‘CI’ must be explained exactly in Fig 4a/b.
We have changed the text to the following:
(Fig 4a and Fig 4b)
Mean deviation from norms (95% CI) for patients with ….

Reviewer: Aleid Ruijs
Reviewer's report:
Discretionary revisions:

1. In the conclusion of the abstract you noted that cold sensitivity is particularly high in HAVS patients, although I would say that the 45% after hand injuries is also very high.
We have changed the text to the following:
Conclusion: Severe and abnormal cold sensitivity may have a profound impact on work capacity, leisure, disability and health-related quality of life. It is frequently seen in patients with traumatic hand injuries and particularly apparent in patients with HAVS.

2. In the methods section of the abstract, it might be clearer to specify that the hand injury group consists of amputations and hand injuries.
We have changed the text in the abstract to the following:
…. were investigated in normal subjects (n=94), hand injured patients (amputation and nerve injuries, n=88) and patients with HAVS (n=30).
We have changed the text in the method section (study group) to the following:
During the cold season of 2004 a questionnaire was sent to all patients (n=159) with a registered diagnosis (patient register at University Hospital Malmö) of a traumatic hand injury (partial and complete amputations n=70, major and digital nerve lesion n=54) or HAVS (n=35), excluding those below 18 years of age.

3. Could you note more clearly in the methods section the time-period between injury and testing, a mean with a range for example?
We have changed the text to the following, page 4
Sixteen (range 8-28) months had elapsed between the injury and the completion of the questionnaire.