

Sensitization in neck pain: a comparison between whiplash-associated disorders and mechanical neck pain subjects

by

Matteo Castaldo

Introduction: neck pain represents one of the most frequent musculoskeletal disorders, with a huge impact in terms of health-care costs and subjects' disability. Sensitization mechanisms are claimed to play a role in whiplash associated disorders (WAD), while it's relevance in mechanical neck pain (MNP) is still controversus.

Aim: to study the difference in TrPs, PPTs, pain level, disability, and response to manual therapy (MT) between WAD and MNP patients. Furthermore, a better under standing of the role of health history and TrPs on sensitization in neck pain.

Studies: the difference in the distribution of TrPs in neck and shoulder muscles between WAD and MNP patients was studied in the first paper. In the second one, the response to MT treatments between the two groups was studied.

Correlations between clinical and neurophysiological outcomes in the two groups were studied in the third paper, as well ass the role of active TrPs on sensitization levels.

Finally, the role of health history (medications, surgical operations, comorbid musculoskeletal pain, medical conditions) on sensitization in neck pain patients was studied in the last paper.

Results: we found that active TrPS are more prominent in WAD than in MNP, which is confirming the idea that WAD patients are more sensitized than MNP patients (considering that TrPs are claimed to be generators/perpetuating of sensitization mechanisms). Nevertheless, these two groups exhibited similar improvements in the short term with MT treatments. Furthermore, the correlations between clinical and neurophysiological outcomes are similar between the two groups, and in both groups the presence of active TrPs was related to higher pain intensitiy ,disability levels, and lower PPTs.

Finally, in neck pain subjects, the duration of health history conditions was associated with lower PPTs (signs of sensitization).

Conclusions: sensitization mechanisms may be present in both WAD and MNP patients, and although greater signs of sensitization may be found in WAD patients, this does not necessary limits the response to MT treatment in the short term. Active TrPs seems to be associated with higher sensitization in patients in both groups. Health history should be investigated in the anamnesis, as this could reveal which patients are more prone to show sensitization features.

Sensitization in neck pain: a comparison between whiplash-associated disorders and mechanical neck pain subjects

Ph.D. lecture

by

Matteo Castaldo

Monday 30 October 2017



DEPARTMENT OF HEALTH SCIENCE AND TECHNOLOGY
AALBORG UNIVERSITY

This thesis is based on Matteo Castaldo's research work at:



SMI
Department of Health Science and Technology
Aalborg University
Denmark

To fulfill the requirements for the Ph.D. degree, Matteo Castaldo has submitted the thesis: Sensitization in neck pain: a comparison between whiplash-associated disorders and mechanical neck pain subjects, to the Faculty Council of Medicine at Aalborg University.

The Faculty Council has appointed the following adjudication committee to evaluate the thesis and the associated lecture:

Professor Michele Sterling
Griffith University
Australia

Professor Deborah Falla
University of Birmingham
United Kingdom

Chairman:
Professor Michael Voigt
Aalborg University
Denmark

Moderator:
Professor Lars Arendt-Nielsen
Aalborg University
Denmark

The Ph.D. lecture is public and will take place on:

Monday 30 October 2017 at 13:00
Aalborg University – Room D2-106
Fredrik Bajers Vej 7 D2
9220 Aalborg East

Program for Ph.D. lecture on

Monday 30 October 2017

by

Matteo Castaldo

Sensitization in neck pain: a comparison between whiplash-associated disorders and mechanical neck pain subjects

Chairman: Professor Michael Voigt
Moderator: Professor Lars Arendt-Nielsen

13.00	Opening by the Moderator
13.05	PhD lecture by Matteo Castaldo
13.50	Break
14.00	Questions and comments from the Committee Questions and comments from the audience at the Moderator's discretion
16.00	(No later than) Conclusion of the session by the Moderator

After the session a reception will be arranged