8th Interdisciplinary World Congress on Low Back & Pelvic Pain

Dubai

October 27 ~ 31// 2013

Intercontinental Hotel Dubai Festival City

Advances in Multidisciplinary Research for better Spinal/Pelvic Care

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Jan Hartvigsen, Denmark
Jonathan Hill, U.K.
Linda van Dillen, U.S.A.
Ron Donelson, U.S.A.
Ben Wand, Australia

14.25 Back pain in relation to pregnancy: a longitudinal 10-year follow-up of 369 women diagnosed with pelvic girdle pain during pregnancy
Helen Elden

14.35 Mode of delivery and persistence of pelvic girdle syndrome 6 months postpartum
Elisabeth Bjelland

14.45 Lumbopelvic pain in pregnancy, association between sick-leave, pain and disability in Norway and Sweden
Hilde Stendal Robinson

14.55 A clinical evaluation of self-administered tests for pelvic girdle pain in pregnancy
Monika Fagevik Olson

15.05 Finger joint mobility and previous pregnancies as antenatal markers of pregnancy induced back pain
Anne Lindgren

15.15 Diagnostic sacroiliac joint injections: is a control block necessary?
Bruce Mitchell

15.25 Prolotherapy for sacroiliac joint pain
Bruce Mitchell

15.35 Developing a dynamic elastomeric fabric or orthosis (DEFO) to aid in the management of athletic pelvic pain
Leanne Sawle

15.45 Research insights in the pathophysiology of pelvic pain: implications for diagnosis and treatment
Ursula Wesselmann

15.55 Discussion

Parallel Session V - Al Bahara Ballroom

Neuroplasticity and Lumbopelvic Pain: New Insights and Implications for Rehabilitation
Moderator: Paul Hodges

14.00 Introduction
Paul Hodges

14.05 A randomized controlled trial: the investigation of the effectiveness of transversus abdominus and multifidus muscle training on female patients with low back pain in physical treatment and rehabilita
Yildiz Erdoganoglu

14.15 Effects of pain expectations on neuromuscular control of the spine in patients with chronic low back pain and healthy participants
Yves Henchoz

14.25 Changing movement/motor control patterns using bio-feedback with motion sensor technology in people with back pain: a pilot trial
Rob Laird

14.35 Association between core muscle endurance, stress urinary incontinence and low back pain: a case-control study
Einas Al-Eisa

14.45 Inspiratory muscle training improves proprioceptive postural control in individuals with recurrent non-specific low back pain
Lotte Janssens

14.55 Anticipatory postural activity in chronic low back pain patients after trunk muscle fatigue
Sanaz Davarian

15.05 The influence of center pressure on trunk and hip extensor muscle activity during lifting
David MacDonald

15.15 Morphological change of transverse abdominis and multifidus in patients with recurrent low back pain
Shwu-Fen Wang

15.25 Validation and reliability of the abdominal drawing in maneuver in subjects with low back pain
Karsten Kaping

15.35 Trunk muscle recruitment patterns during neuromotor control exercises
Benedicte van Damme

15.45 Trunk motor control during multi-directional tracking tasks
Seyed Javad Mousavi

15.55 Comparing EMG in women with low back pain during selected functional tasks
Jeremy Houser

16.05 Tactile acuity of the trunk in chronic low back pain
Roberto Meroni

16.15 Open- and closed-loop control of the trunk are differentially affected in acute low back pain
D. Klyne

16.25 Discussion

THURSDAY OCTOBER 31, 2013

Parallel Sessions VI - Al Ras Ballroom

Effective Exercise Training and Treatment Modalities for the Lumbopelvic Spine
Moderators: Lieven Danneels & Andry Vleeming

08.00 Introduction
Lieven Danneels

08.05 Effects of exercise program to prevent low back pain in office workers: a one-year cluster-randomized controlled trial
Prawit Janwantanak

Topic LUMBAR PAIN -- **Category of presentation** ORAL

TACTILE ACUITY OF THE TRUNK IN CHRONIC LOW BACK PAIN

Name and title presenter

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Introduction

Chronic non-specific low back pain is a common problem with high costs. Many factors can contribute to motor dysfunction after an initial episode of pain and many people are not aware that they are moving differently. The loss of proprioceptive acuity is an element that can contribute to motor dysfunction. Recent literature suggests that two point discrimination (TPD) threshold at the back is greater in patients with back pain than in healthy controls, and greater TPD threshold at the back relates to decreased voluntary lumbopelvic control. These findings raise the possibility that decreased tactile acuity may contribute to poor motor control, which has implications for back pain rehabilitation in particular and for movement retraining in general.

Purpose/Aim

to study TPD threshold in a sample of CLBP patients, to verify if a 6 week sensory discrimination training improved TDP threshold, low back pain, function, movement patterns

Materials and Methods

A blinded randomized clinical study involving a sample of 77 patients with chronic non-specific low back pain. Subjects aged between 18 and 65 years, with low back pain more than 12 months, for at least 90 days within the past year were enrolled in the study. While patients with red flags or yellow flags, structural pathologies, spine surgery, pain below the knee were excluded. Patients underwent an interview and physical assessment with a physiotherapist and completed a body chart, the Baecke scale, the SF 36 questionnaire, the Oswestry disability index, the Roland–Morris Disability questionnaire and two 100-mm VAS to describe both back pain at the moment of evaluation and average back pain. The TPD was assessed bilaterally in the back.

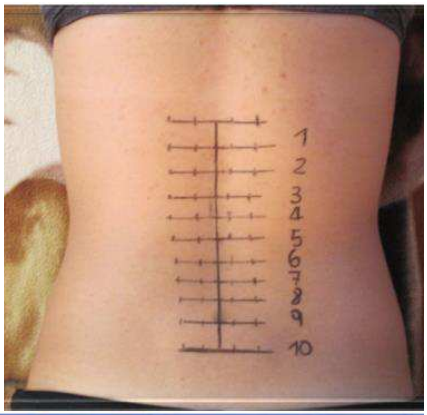

FIGURE 1 TPD assessment grid on the subject's back, a plastic caliper was used to test the TPD threshold in the different areas.

The movement impairment evaluation was based on Sahrmann examination.The sample was divided into two groups (experimental and control group) by randomization: 40 patients were submitted to the sensory discrimination training, while 37 patients took part in the control group. The treatment group underwent 3 session per week lasting 6 weeks (grand total of 18 sessions). All the enrolled subjects were evaluated at baseline (t0), at 6 weeks (t1) and after another 6 weeks follow up (t2).

FIGURE 2 TPD treatment grid example on subject's back (subject with unilateral pain). The subjects, while looking at a picture of their back with the points represented, were asked to recognize which point the therapist was touching and which kind of pointer was used (thin or thick).

Results

Treated patients and controls were homogeneous showing no differences in sex, age, weight, height, body mass index, pain, Baecke scale , SF 36 questionnaire, Oswestry disability index and Roland–Morris Disability questionnaire and TDP threshold. Also the movement impairment evaluation was similar between patients and controls. Movement

impairment evaluation at t1 demonstrated an improvement in treated subjects on rotation signs, extension signs and total symptoms. Patients had a significant improvement of pain intensity (VAS mean t0= 4,8mm and VAS mean t1=2,9mm, p=0,015). Also the Oswestry disability index and the Roland–Morris Disability questionnaire disability scales showed a significant decrease after the period of training. Improvement at t1 were kept at t2.

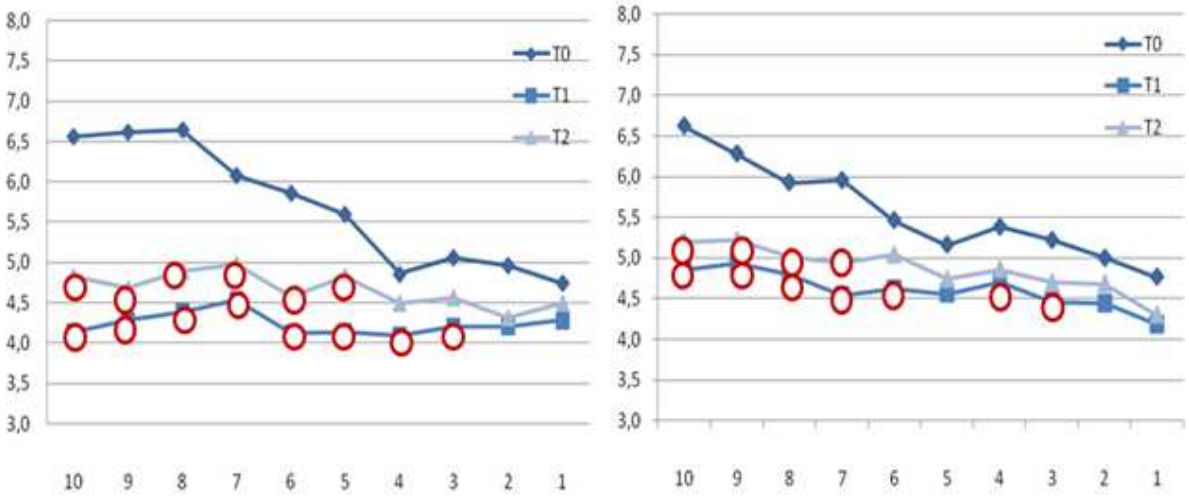

Figure 3 TPD changes (cm) over time, levels are reported on the horizontal axis with 10 representing the most caudal level (Fig.1). Red circles represent significant changes (p<0,05)

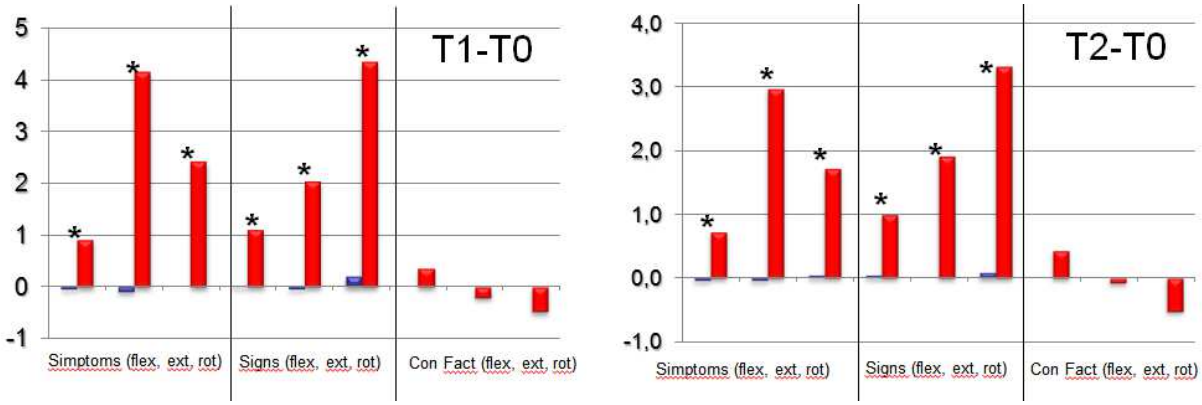

Figure 4 Movement System Impairment assessment changes (item counts), the graphs represent changes at T1-T0 and T2-T0. Note that while movement-related symptoms and dysfunctional signs decreased no significant changes have been found in the contributing factors (e.g. muscle excessive length or tissue rigidity etc..)

Relevance

Understanding strategies to improve pain and motor control is a key factor for low back pain treatment

Conclusions

Our data suggests that tactile training might play a role in improving symptoms and movement pattern in subjects with LBP.

Implications

Tactile training might be a useful tool for the treatment of people with LBP

Keywords

Low back pain, two point discrimination, treatment

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