Increased postural stiffness in patients with knee osteoarthritis who are highly sensitized

Hirata, Rogerio Pessoto; Skou, Søren Thorgaard; Simonsen, Ole; Rasmussen, Sten; Graven-Nielsen, Thomas

DOI: 10.1016/j.sjpain.2017.04.028

Publication date: 2017

Document version
Publisher's PDF, also known as Version of record

Citation for published version (APA):
vascularization and other lncRNAs as predictive indicators for the development of chronic postoperative pain.

http://dx.doi.org/10.1016/j.jspain.2017.04.025

**Painful diabetic polyneuropathy and quality of life in Danish type 2 diabetic patients**

Sandra Sif Gyldfadottir a, b, Diana Hedevang Christensen b, Sia Kromann Nicolsaen b, Reimar Wernich Thomsen b, Jens Steen Nielsen c, Mustapha Itani d, Søren Sindrup d, Troels Staelhelin Jensen e, Nanna Brix Finne Tiet f

a Danish Pain Research Center, Department of Clinical Medicine, Aarhus University, Aarhus, Denmark
b Department of Clinical Epidemiology, Department of Clinical Medicine, Aarhus University, Aarhus, Denmark
c Danish Center for Strategic Research in Type 2 Diabetes, Odense, Denmark
d Department of Neurology, Odense University Hospital, Odense, Denmark
E-mail address: sif@clin.au.dk (S.S. Gyldfadottir)

**Background and aims:** Painful polyneuropathy (PPN) is a disabling complication of diabetes. This study aims to determine its prevalence and relationship with Quality of Life (QoL) in a nationwide prospective cohort of incident recently diagnosed Danish type 2 diabetic patients.

**Methods:** We sent a detailed questionnaire on neuropathy, pain and QoL to 6726 patients prospectively enrolled from general practitioners and hospital specialist outpatient clinics into the Danish Centre for Strategic Research in Type 2 Diabetes (DD2) cohort. Patients who reported pain in both feet and a score ≥3 on the Douleur Neuropathique (DN4) questionnaire were considered to have possible PPN. QoL and pain intensity were measured on a numeric rating scale (NRS, 0–10). The Michigan Neuropathy Screening Instrument (MNSI) was used to assess neuropathy.

**Results:** A total of 5371 (79.8%) returned a complete questionnaire. 848 (15.8%) recently diagnosed type 2 diabetic patients reported pain in both feet. Of the 619 patients with pain who completed the DN4 questionnaire, 404 (65.2%) had a DN4 score ≥3, corresponding to a prevalence in the total population of possible PPN of 10.3%. Mean pain intensity was 5.2 (SD 2.2) and 89% had a MNSI score ≥3. Patients with possible PPN had a substantially lower QoL score than those without PPN (median QoL score 6 versus 8 (p < 0.001)), also when correcting for MNSI score.

**Conclusions:** Ten percent of newly diagnosed type 2 diabetic patients in Denmark had possible PPN. Patients with PPN had lower QoL than patients without PPN.

http://dx.doi.org/10.1016/j.jspain.2017.04.026

**“What about me?”** A qualitative explorative study on perspectives of spouses living with complex chronic pain patients

L. Thrysøe Hansen a, b, L.I. Nielsen a, b, P. Gazerani a, b, L. Pettrini a, b

a Zealand University Hospital in Køge, Denmark
b Faculty of Medicine, Aalborg University, Denmark
E-mail address: ltg@mail.dk (L.T. Hansen)

**Aims:** Being a close relative of a chronic pain patient affects family life. No study has been carried out in Denmark to explore relatives’ life experiences and challenges while living with complex chronic pain patients. Hence, the aim of the study was to investigate the experiences of living with chronic pain patients from their spouses’ perspectives. In particular, this study focused on how spouses describe: (i) their everyday tasks and roles as a spouse; (ii) the types of changes and challenges that the pain condition brings into their partnership lives; (iii) a gender difference in these experiences; and (iv) the type of help they wish to receive from the healthcare system.

**Methods:** Two focus group interviews were conducted in Mul tidisciplinary Pain Center, Køge, including a total of 11 spouses (6 men). The spouses were contacted via their partners who were referred to public pain clinics. Focus group interview was chosen because is a suitable method for exploratory studies. The approach was phenomenological and transcriptions of interview records were used for analysis.

**Results:** Eight categories emerged from the data analysis: psychological burden, physical burden, the pain invisibility, roles, loss, worries concerning medicine, self-care, and needs concerning help and support. The differences between gender were vague. Spouses for whom the patient pain condition was a new situation (<1 year) appeared to worry more.

**Conclusions:** The study demonstrated that the spouses’ lives were dramatically affected. They had to support the family financially, do most of the household chores, be optimistic, a parent, and a pain care giver. The spouses experienced daily worries about several points including pain medicine by the patient. This study also highlighted an essential need for psychological support for coping with the changing life situation, the point that is currently neglected to a great extent.

http://dx.doi.org/10.1016/j.jspain.2017.04.027

**Increased postural stiffness in patients with knee osteoarthritis who are highly sensitized**

R.P. Hirata a, b, c, S.T. Skou a, b, c, O. Simonsen a, b, c, S. Rasmussen a, b, c, T. Graven-Nielsen d

a Center for Sensory-Motor Interaction (SMI), Aalborg, Denmark
b Orthopedic Surgery Research Unit, Aalborg University Hospital, Aalborg, Denmark
c Research Unit for Musculoskeletal Function and Physiotherapy, Institute of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark
d Department of Physiotherapy and Occupational Therapy, Næstved-Slagelse-Ringsted Hospitals, Region Zealand, Slagelse, Denmark

**Aims:** To evaluate the effect of widespread pain sensitization on postural stability during quiet standing tasks in patients with knee osteoarthritis.

**Methods:** Patients (56) stood quietly on a force platform for 1 min in 4 conditions (each repeated 3 times): (i) firm surface (FS) with open eyes (OE), (ii) FS with closed eyes (CE), (iii) soft foam surface (SF) with OE, and (iv) SF with CE. Postural stability was quantified by Center of Pressure (CoP) variables extracted from the force platform. Pressure pain thresholds (PPTs), were assessed bilaterally with a handheld pressure algometer (1 cm² probe) at: (i) four sites in the knee region (3 cm medial to the midpoint of the medial edge of the patella; 2 cm proximal to the superior edge
of the patella; 3 cm lateral to the mid-point of the lateral edge of the patella; and centre of the patella), (ii) tibialis anterior muscle, and (iii) extensor carpi radialis longus muscle. The PPT values from tibialis anterior and extensor carpi radialis longus muscles were used to divide the patients in high and low sensitization groups (two-steps clustering).

**Results:** PPT values at bilateral knees sites were lower in the high sensitivity [median (range) of all sites: 423 (153, 1129) kPa] compared with low sensitivity group [822 (305, 2051) kPa] (P<0.05). CoP range in the anterior–posterior direction was reduced in high sensitivity group (41 ± 16 mm) compared with the low sensitivity group (51 ± 16 mm) during the SS with CE (P<0.05) condition.

**Conclusions:** The lower CoP Range suggests stiffer postural strategy in patients with higher widespread pain sensitivity compared with low sensitivity patients during sensory restrictions. The lack of mobility found in high sensitivity patients under such restrictions might be related to the impaired integration of sensory information due to the parallel processing of the nociceptive information.