quantitative sensory examination, with a protocol adapted from Rollke et al. [2] While only 3/6 patients in the pain-free group reported hypoesthesia, an area of hypoesthesia to tactile-, heat- and cold stimuli was identified in all subjects when examined (Table 1).

The most striking difference between the group reporting pain and the one not reporting pain was the presence of paradoxical heat sensation, cold allodynia, abnormal temporal summation, and the presence of deep pain during/after pressure pain threshold testing with the algometer in the group with pain.

Conclusion: Self-reported sensory changes under-estimated sensory changes. Sensory testing revealed signs of peripheral nerve injury changes in all subjects, while signs of central nervous changes were found predominantly in patients with persistent pain.

References

[1] Kaasa T, Romundstad L, Roald H, Skolleborg K, Stubhaug A. Hyperesthesia one year after breast augmentation surgery increases the odds for persisting pain at four years. A prospective four year follow-up. Scandinavian Journal of Pain 2010;1:24.
[2] Rollke R, et al. Quantitative sensory testing: a comprehensive protocol for clinical trials. European Journal of Pain 2006;10:77–88.

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Sensory phenotypes in patients with peripheral neuropathic pain evaluated with quantitative sensory testing

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Background: In patients with neuropathic pain, Quantitative Sensory Testing (QST) can define different sensory phenotypes thought to be related to different underlying mechanisms. One phenotype with abnormal sensitization of cutaneous nociceptors has been termed *irritable nociceptors*.

Methods: This study is a part of a randomized, double-blind, placebo controlled, crossover trial with the anticonvulsant oxcarbazepine. The study is ongoing. In this report, baseline QST measures from patients with peripheral neuropathic pain due to either polyneuropathy (PNP) or peripheral nerve injury (PNI) are analyzed. QST evaluates thresholds for cold and heat detection (CDT, WDT), thermal pain (CPT, HPT), vibration (VDT), pin prick, mechanical detection and pressure pain. Furthermore, wind-up ratio and dynamic mechanical allodynia (DMA) are evaluated. Patients with irritable nociceptors are defined as patient with normal CDT and WDT and either mechanical or thermal allodynia or hyperalgesia.

Results: By March 2012, 28 patients with PNI and 24 with PNP were included. There was no difference in pain duration (66.2 (53.7) vs. 64.0 (43.3) months, $p = 0.87$) or pain intensity (NRS, 0–10) (6.6 (1.6) vs. 6.3 (1.7), $p = 0.54$), but patients with PNI were significantly younger (48.8 (15.1) years) compared to patients with PNP (62.4 (8.5) years), $p < 0.001$. The percentage of *irritable nociceptors* in the PNI group was 39.3% and in the PNP group 29.2% ($p = 0.44$). The percentage of patients with DMA was 39.3% and 33.3%, respectively ($p = 0.66$). Significantly more patients with PNI had thermal allodynia (28.6% vs. 0%, $p = 0.005$), 6 reported cold allodynia and 4 heat allodynia.

Conclusion: Preliminary results show that there was no significant difference in percentage of *irritable nociceptors* between the two groups, but more patients with PNI had thermal allodynia.

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Is health related quality of life related to the pattern of chronic pain?

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Background/aims: When studying chronic pain in the general population, other factors besides prevalence may be equally important to establish the scope of the problem. Health related quality of life (HRQoL) is an important indicator for how chronic pain influences and interferes with the individual's daily life. The relationships between different characteristics in the nature of pain and HRQoL have been investigated, showing number of pain locations and pain severity to be important. However, little is known about the relationship between pattern of chronic pain (constant/intermittent) and impact on HRQoL. The purpose of this study was to investigate the relationships between the pattern of chronic pain and impact on the individual's HRQoL in a large nationwide population based sample.

Methods: A postal questionnaire on pain and HRQoL (SF-36), including information letter was sent to a sample of 4500 individuals, aged 20–70 years, randomly drawn from the Icelandic National Registry.

Results: Of 4500 questionnaires mailed 1586 were returned and completed (35.2%)

Majority of respondents were women (56.5%) and the majority were married or cohabitating (73.7%). The total sample mean age was 46.2 years (women 45.3, men 47.3) and respondents were significantly older than non-respondents.

The total prevalence of pain $\geq$3 months was 47.5% with mean duration of 9.3 years (SD = 9.96). One third (31.9%) of participants with pain $\geq$3 months reported constant pain and 21.4% daily intermittent. The rest reported frequent pain (27.8%) and periodical pain (18.9%).

There was a significant relationship between the pattern of pain and both physical and mental components of HRQoL. Participants experiencing constant pain had the lowest scores on both scales.

Conclusions: The results of this study show that both physical and mental components of HRQoL among individuals experiencing chronic pain are significantly related to the pattern of pain. Constant and daily pain is associated with poorer HRQoL than intermittent or periodical pain.

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Comparison between ropivacaine local infiltration analgesia with ketorolac or placebo for total knee replacement surgery

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Background/aims: Optimal pain treatment with minimal side-effects is essential for early mobilization and recovery in patients undergoing total knee replacement surgery. Local infiltration analgesia (LIA) with local anaesthetic might be effective and adjuncts

such as ketorolac may provide additional effects on opioid requirements and pain. We tested the hypothesis that adding ketorolac significantly improves analgesia after total knee replacement surgery.

Methods: Sixty patients were enrolled in this prospective double-blinded study and allocated to either group R (placebo) or Group RK (ketorolac 120 mg). All patients received high-volume LIA with 150 ml ropivacaine (300 mg) with epinephrine added either placebo or ketorolac (30 mg) combined with eight 10 ml ropivacaine doses (100 mg) added either placebo or ketorolac (15 mg) administered every 6 h through an intra-articular catheter for 48 h. postoperatively. The primary outcome was patient-controlled morphine consumption from 0–6 and 0–48 h after surgery. Time to first rescue administration, pain intensity (0–100 mm visual analogue scale) at rest and during mobilization and side-effects were recorded until 96 h after surgery.

Results: Six and forty-eight morphine consumption was significantly reduced in group RK compared with group R. Time to first rescue analgesia was significantly prolonged with 4 h in group RK [median (IQR)] 490 min (248–617) compared with 223 min (115–319) group R ($P < 0.02$). Pain at rest and during movement was significantly reduced for 48 h with the addition of ketorolac. Length of hospital stay was reduced with one day in group RK [median (IQR)] 2 days (2–3) compared with group R 3 days (2–3) ($P = 0.004$).

Conclusions: Ketorolac resulted in a 75% reduction in 48 h postoperative morphine requirements. This was also significantly associated with prolonged analgesia, reduced pain intensity scores at rest and during movement and reduced length of hospital stay.

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Treatment with topical capsaicin: Experience from a pain clinic

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Background: Neuropathic pain is usually treated with antidepressants and anticonvulsant. The use of systemic treatment is, however, limited due to poor tolerability and low efficacy. Qutenza, a topical capsaicin patch (8%), is a relatively new treatment for patients with peripheral neuropathic pain (PNP) conditions. The indication for using topical capsaicin treatment is peripheral neuropathic pain in patients without diabetes.

Aim: To describe the use of topical capsaicin treatment in a pain clinic in patients with PNP.

Methods: Case series of patients in a neuropathic pain clinic.

Results: Since October 2010, 40 patients with PNP with different aetiologies have been treated with topical capsaicin; 14 patients had nerve injuries in feet or lower leg or polyneuropathy, 13 patients had nerve lesions related to fingers, hands or arms, seven patients had pain after thoracotomy, four patients postherpetic neuralgia, and two patients had other lesions.

Almost half of the patients (47%) were responders and achieved a decrease in pain intensity as well as increased their quality of life (QoL). Responders received 1–6 treatments with capsaicin. Most responders were found in the post-thoracotomy group, of which 86% had a clinical significant reduction in pain. In the group with injuries to the hands, fingers and arms, 46% experienced a reduction in pain. Only 23% of patients with PNP in the feet and lower leg were responders; these patients had a clinical significant increase in QoL.

Conclusion: In 40 patients with PNP who were treated with topical capsaicin, we found an increase in QoL and a decrease in mean pain intensity of 3 measured on a VAS scale (0–10) in 47% of the treated patients.

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Distribution of concussion related symptoms after whiplash injury in risk strata

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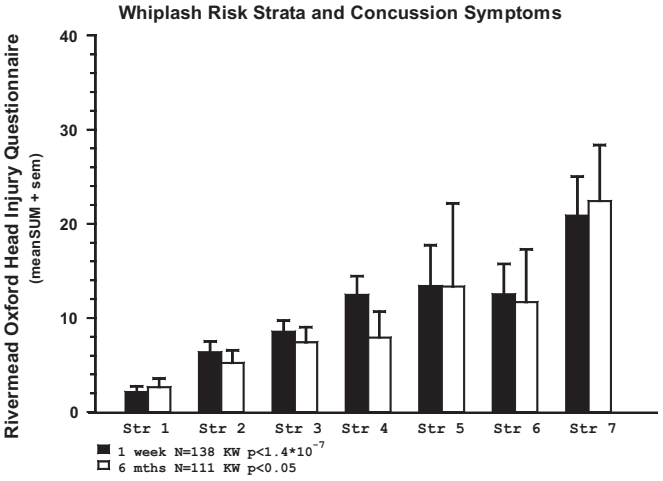
Background/aims: The presence and severity of concussion related symptoms after acute whiplash injury are debatable. In this study we examine the distribution and development of the burden of concussion related symptoms in whiplash patients.

Methods: Consecutively 141 acute whiplash patients and 40 ankle injured controls were recruited from emergency units and were examined after 1 week, 1, 3, 6, 12 months obtaining neck/head VAS score, number-of-non-painful complaints, epidemiological, social, psychological data and neurological examination, active neck mobility, and furthermore muscle tenderness and pain response, strength and duration of neck muscles. Risk factors derived (reduced CROM, intense neckpain/headache, multiple non-pain complaints) were applied in a Risk Assessment Score and divided into 7 risk-strata (refer Kasch et al., Spine 2011). After 1 week and 6 months whiplash patients fulfilled the Rivermead Oxford Head Injury questionnaire (10 items, score from 0 = no change to 4 = very marked change, Danish Version, total score range from 0 to 40).

Results: 138 acute whiplash patients fulfilled the Rivermead Oxford Head Injury questionnaire after 1 week and 111 after 6 months. The distribution was markedly different in the risk strata, in stratum 7 the sum score was a factor 10 higher than stratum 1 after 1 week (Kruskal–Wallis, $p < 1.4 \times 10^{-7}$) and remained high 6 months after injury ($p < 0.05$).

Conclusion: Mild concussion symptoms do not necessarily reflect eventual concussion, but are found after injuries with no direct head trauma and amnesia e.g. whiplash injuries. The Risk Assessment Score fits nicely with the burden of concussion related symptoms after whiplash injury.



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