The interleukin-1α gene C>T polymorphism rs1800587 is associated with increased pain intensity and decreased pressure pain thresholds in patients with lumbar radicular pain

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Aims: Previous studies have suggested that many inflammatory cytokines, including interleukin (IL)-1α, may be associated with lumbar radicular pain after disc herniation. In the present study, we examined how variability of the IL-1α gene affects pain intensity and the pressure pain threshold (PPT) in patients with symptomatic disc herniation.

Methods: A total of 121 patients with lumbar radicular pain due to disc herniation were recruited from Oslo University Hospital, Norway, and followed up at 6 weeks and 12 months. The primary outcome measures were pain intensity scores for the lower back and legs using a visual analog pain scale (VAS) and PPT for the gluteal muscles. Genotyping was carried out using a predesigned TaqMan assay for IL-1α rs1800587. The effect of the IL-1α genotype on the VAS and PPT was analyzed by repeated measure analyses of variance.

Results: The IL-1α gene C>T polymorphism rs1800587 affected VAS and PPT scores in patients with symptomatic disc herniation. Patients with the CT/TT genotype reported a higher VAS leg pain intensity ($p = 0.002$) and also a lower PPT in the gluteal muscles (left $p = 0.016$; right $p = 0.016$) compared to patients with the CC genotype during 1 year of follow-up.

Conclusions: The present data show that the IL-1α CT/TT genotype rs1800587 may be associated with increased pain intensity, and corresponding reduced PPT during the first year after disc herniation.

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Levels of *N*-acylethanolamines in the interstitium of trapezius muscle during the tissue trauma: A microdialysis study on women with chronic widespread pain

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Aims: Since the insertion of MD probes causes an acute tissue trauma, analyses of microdialysates during this period has previously been disregarded in favour of waiting until stable baselines are achieved. The aim of this study is to compare the levels of NAEs in women with chronic widespread pain (CWP) to the healthy controls (CON) during the tissue trauma period.

Methods: 18 women with CWP were included in this study. Inclusion criteria were female sex, age range 20–65 years, and widespread pain according to the American College of Rheumatology (ACR) classification. 20 CON were recruited. Inclusion criteria were female sex age range 20–65 years, and pain-free. All participants were examined by a standard and validated clinical examination of the upper extremities. MD was conducted in trapezius muscle and dialysate were sampled every 20 min, and the samples of interest in this study were collected in the two first hour after catheter insertion. CMA 63 (catheter: membrane 30 mm length, 0.5 mm diameter, 20 kDa cut-off, flow rate: 5 μl/min) was used. The levels of NAEs were analyzed by liquid chromatography tandem mass spectrometry (LC–MS/MS).

Results: Oleoylethanolamine (OEA) and Palmitoylethanolamine (PEA) levels were significantly higher in CWP compered to CON during tissue trauma period (Mann–Whitney *U*-test: $P > 0.001$ for OEA and $P \leq 0.05$ for PEA).

Conclusions: Previous biochemical studies of patients with CWP have often focused on sensitizing substances. Here we investigated the levels of lipid signaling molecules, with anti-inflammatory and pain-relieving properties, during acute tissue trauma. The results demonstrate that the levels of OEA and PEA differ significantly between CWP and CON. A better understanding of the interplay between these lipids and peripheral pain signaling might provide new therapeutic opportunities for patients with CWP.

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Quality pain management in the hospital setting—A concept evaluation

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Aims: To gain an understanding of the concept of quality pain management (QPM) in the hospital setting, and to define the concept.

Methods: A concept evaluation based on the method by Morse and colleagues was done. The literature was searched according to selected key words in five databases. Over 5000 articles were found but data were limited to 37 articles directly related to both quality and pain management in adults in the hospital setting, and published in peer-reviewed journals or by an official organization. Data were extracted from these articles and then synthesized according to definition, characteristics, boundaries, preconditions, and outcomes of QPM.

Results: QPM is a multidimensional concept that is commonly used but remains vaguely defined. A common understanding of the concept is nonetheless evident in the literature. QPM refers to the structure, process, and outcomes of care rooted in equitable, effective, patient-centered, safe, and efficient services. The structure encompasses competent staff and staff accountability, organizationally supported evidence-based policies, and access to interprofessional and specialized care. The process consists of screening, assessing and reassessing pain, individualized and evidence-based treatment, communication of pain and pain treatment, and patient and family education. Finally, outcomes include

increase in patient satisfaction, reduced pain severity, less functional interferences, and decrease in both prevalence and severity of adverse effects from pain or its treatment.

Conclusions: QPM is a complex concept that despite common use lacks a clear definition. The relationship between structure, process, and outcome needs to be studied in order to improve QPM. The conceptual model put forward in this study needs to be further refined and tested.

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