

participants reporting chronic pain (≥ 3 months) were tested by using bivariate and multivariate statistical analysis.

Results: The prevalence of chronic pain among respondents was 47.5%. Among participants reporting chronic pain, 53.2% had consulted a health care provider for pain during the previous six months. Predictors for pain related health care utilization were pain interference with daily life and pain pattern (daily pain) as well as physical components of HRQoL. Even though health care utilization was not related to gender, there were gender differences in pain-related predictors for health care utilization. Interference with daily life and pain pattern were the strongest predictors among women, but interference with life and the physical components of HRQoL were the strongest predictors for men. Pain related health care utilization was not related to socio-demographic variables.

Conclusions: Pain related variables are better predictors of chronic pain related health care utilization than socio-demographics. Even though gender does not predict chronic pain-related health care utilization, there are gender differences in the relationships between pain-related variables and health care utilization. These gender differences warrant further exploration.

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Cerebrospinal fluid levels of substance P (SP) N-terminal fragment SP_{1–7} in patients with neuropathic pain

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Aims: Neuropathic pain is a complex and painful condition, which is difficult to treat and causes a lot of suffering. The substance P (SP) system is well known to be involved in nociceptive signaling and it has previously been shown that the cerebrospinal fluid (CSF) level of SP is decreased in neuropathic pain. In this study we analyzed CSF from chronic neuropathic pain patients for the levels of SP_{1–7}, an N-terminal fragment of SP with the ability to alleviate thermal as well as mechanical hypersensitivity in different animal models of chronic neuropathic pain, e.g. [1,2].

Methods: CSF was collected from 11 neuropathic pain patients, treated with SCS, who had refrained from using their spinal cord stimulator for 48 h. Control CSF was collected from 11 patients without any known neurological disorder, who underwent minor surgery under spinal anesthesia. The CSF samples were analyzed for the levels of SP_{1–7} using radioimmunoassay.

Results: The results revealed a decrease in the level of SP_{1–7} compared to controls. We believe that the lower level of SP_{1–7} most likely is a consequence of reduced amount of its precursor SP in the neuropathic pain patients.

Conclusions: Our results indicate that the SP system is changed in patients with neuropathic pain and that SP-related peptides, including SP_{1–7}, might serve as biological markers for the pathophysiology of chronic neuropathic pain.

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Characterization of small nerve fibers in painful distal symmetric polyneuropathy and healthy controls

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Aims: The introduction of skin biopsies to examine small nerve fiber morphology together with functional measures such as quantitative sensory testing (QST) has led to an improvement in diagnosing patients with small fiber neuropathy (SFN). Quantification of intraepidermal nerve fiber density (IENFD) is an important measure in SFN. However, the relationship between structure and function is not straightforward and the morphological and functional fiber characteristics are still unclear. This study aimed to combine structural and functional measurements to improve the diagnosis of distal symmetric polyneuropathy and small fiber involvement. Additionally, we investigated whether patients and healthy controls have differential patterns of correlations between structural and functional nerve measurements.

Methods: 17 patients with painful distal symmetric polyneuropathy (DSP) and 19 controls underwent comprehensive small fiber assessments that included quantitative sensory testing, response to topical capsaicin and analysis of skin biopsy samples (IENFD, epidermal and dermal nerve fiber length densities (eNFLD, dNFLD) and swellings).

Results: DSP patients had reduced sensitivity to cold and heat, diminished capsaicin response, and lower IENFD, eNFLD and dNFLD (all $p < 0.0003$). The correlation between structural and functional parameters was better in controls than in DSP. A diagnostic approach of combined IENFD and eNFLD utilization, increased DSP diagnostic sensitivity from 82.0% to 100% and specificity from 84.0% to 89.5%.

Conclusions: A correlation is found between functional and structural small fiber parameters for DSP and controls, and an approach to improve diagnostic accuracy in DSP is suggested.

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