

Review

What is different about spinal pain?

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Abstract (provisional)

Background

The mechanisms subserving deep spinal pain have not been studied as well as those related to the skin and to deep pain in peripheral limb structures. The clinical phenomenology of deep spinal pain presents unique features which call for investigations which can explain these at a mechanistic level.

Methods

Targeted searches of the literature were conducted and the relevant materials reviewed for applicability to the thesis that deep spinal pain is distinctive from deep pain in the peripheral limb structures. Topics related to the neuroanatomy and neurophysiology of deep spinal pain were organized in a hierarchical format for content review.

Results

Since the 1980's the innervation characteristics of the spinal joints and deep muscles have been elucidated. Afferent connections subserving pain have been identified in a distinctive somatotopic organization within the spinal cord whereby afferents from deep spinal tissues terminate primarily in the lateral dorsal horn while those from deep peripheral tissues terminate primarily in the medial dorsal horn. Mechanisms underlying the clinical phenomena of referred pain from the spine, poor localization of spinal pain and chronicity of spine pain have emerged from the literature and are reviewed here, especially emphasizing the somatotopic organization and hyperconvergence of dorsal horn "low back (spinal) neurons". Taken together, these findings provide preliminary support for the hypothesis that deep spine pain is different from deep pain arising from peripheral limb structures.

Conclusions

This thesis addressed the question "what is different about spine pain?" Neuroanatomic and neurophysiologic findings from studies in the last twenty years provide preliminary support for the thesis that deep spine pain is different from deep pain arising from peripheral limb structures.

The complete article is available as a provisional PDF. The fully formatted PDF and HTML versions are in production.

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Research

A pilot randomized controlled trial comparing the efficacy of exercise, spinal manipulation, and neuro emotional technique for the treatment of pregnancyrelated low back pain

Caroline D. Peterson, Mitchell Haas and Thomas Gregory

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Abstract (provisional)

Background

This pilot randomized controlled trial evaluated the feasibility of conducting a full scale study and compared the efficacy of exercise, spinal manipulation, and a mind-body therapy called Neuro Emotional Technique for the treatment of pregnancy-related low back pain, a common morbidity of pregnancy.

Methods

Healthy pregnant women with low back pain of insidious onset were eligible to enroll in the study at any point in their pregnancy. Once enrolled, they remained in the study until they had their babies. Women were randomly allocated into one of three treatment groups using opaque envelopes. The treatment schedule paralleled the prenatal care schedule and women received individualized intervention. Our null hypothesis was that spinal manipulation and Neuro Emotional Technique would perform no better than exercise in enhancing function and decreasing pain. Our primary outcome measure was the Roland Morris Disability Questionnaire and our secondary outcome measure was the Numeric Pain Rating Scale. Intention to treat analysis was conducted. For the primary analysis, regression was conducted to compare groups on the outcome measure scores. In a secondary responder analysis, difference in proportions of participants in attaining 30% and 50%

improvement were calculated. Feasibility factors for conducting a future larger trial were also evaluated such as recruitment, compliance to study protocols, cost, and adverse events.

Results

Fifty-seven participants were randomized into the exercise (n = 22), spinal manipulation (n = 15), and Neuro Emotional Technique (n = 20) treatment arms. At least 50% of participants in each treatment group experienced clinically meaningful improvement in symptoms for the Roland Morris Disability Questionnaire. At least 50% of the exercise and spinal manipulation participants also experienced clinically meaningful improvement for the Numeric Pain Rating Scale. There were no clinically meaningful or statistically significant differences between groups in any analysis.

Conclusions

This pilot study demonstrated feasibility for recruitment, compliance, safety, and affordability for conducting a larger study in the future. Spinal manipulation and exercise generally performed slightly better than did Neuro motional Technique for improving function and decreasing pain, but the study was not powered to detect the between-group differences as statistically significant. Trial registration ClinicalTrials.gov (Identifier: NCT00937365)

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Research

Self-reported recognition of undiagnosed life threatening conditions in chiropractic practice: a random survey

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Abstract (provisional)

Background

The purpose of this study was to identify the type and frequency of previously undiagnosed life threatening conditions (LTC), based on self-reports of chiropractic physicians, which were first recognized by the chiropractic physician. Additionally this information may have a preliminary role

in determining whether chiropractic education provides the knowledge necessary to recognize these events.

Methods

The study design was a postal, cross-sectional, epidemiological self-administered survey. Two thousand Doctors of Chiropractic in the US were randomly selected from a list of 57878. The survey asked respondents to state the number of cases from the list where they were the first physician to recognize the condition over the course of their practice careers. Space was provided for unlisted conditions.

Results

The response rate was 29.9%. Respondents represented 11442 years in practice and included 3861 patients with a reported undiagnosed LTC. The most commonly presenting conditions were in rank order: carcinoma, abdominal aneurysm, deep vein thrombosis, stroke, myocardial infarction, subdural hematoma and a large group of other diagnoses. The occurrence of a previously undiagnosed LTC can be expected to present to the chiropractic physician every 2.5 years based on the responding doctors reports.

Conclusion

Based on this survey chiropractic physicians report encountering undiagnosed LTC's in the normal course of practice. The findings of this study are of importance to the chiropractic profession and chiropractic education. Increased awareness and emphasis on recognition of LTC is a critical part of the education process and practice life.

The complete article is available as a provisional PDF. The fully formatted PDF and HTML versions are in production.