RELATION BETWEEN NERVE FIBER TYPE LESION AND NEURODYNAMIC TESTS IN PATIENTS WITH LUMBOSACRAL RADICULAR PAIN

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Introduction

Lumbosacral radicular pain (LRP) is an important health care burden with a prevalence ranging from 1.2 to 43%. Neurodynamic tests are frequently used for the physical examination of nerve related pain. Baselgia and al. reported that negative neurodynamic tests are correlated with pronounced small nerve fiber sensory deficit in patients suffering from median nerve compression [(1)]. Nonetheless, such a correlation has never been studied yet regarding LRP.

Purpose/aim

This study aims to evaluate if negative neurodynamic tests are associated with more pronounced small nerve fibers sensory deficit in patients suffering from LRP.

Material and methods

The study consisted of a single assessment session. In order to be included patients had to suffer from LRP associated with a positive slump test or a nerve dysfunction pointed out by means of muscle manual testing, tendon reflex examination and/or clinical sensory testing (CST). Five clinical test developed to test small nerve fiber function were included in the CST[2].

Results

Among the 8 patients recruited, 6 had a positive slump test and 7 presented at least one positive sensory test for the small nerve fibers (figure 1). Patients presenting with a negative slump test did not have a greater small nerve fibers dysfunction than patients with a positive neurodynamic test.

Conclusions/Implication

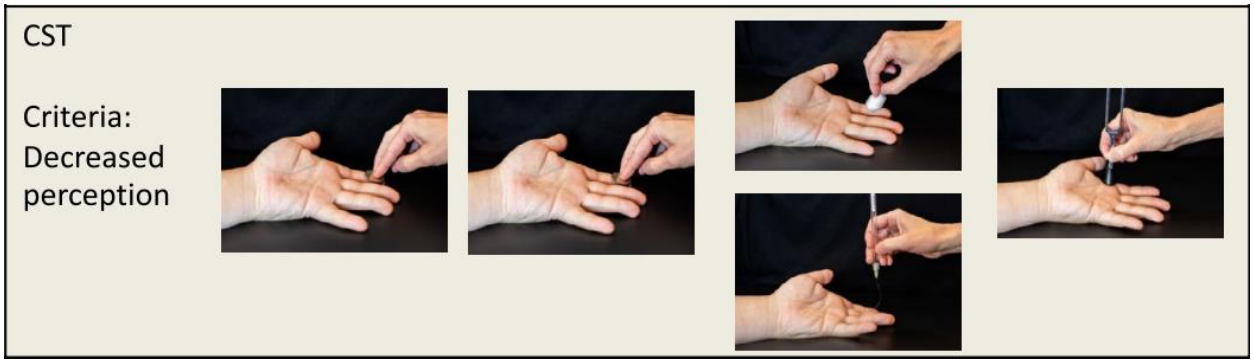
In this pilot study with patients suffering from LRP, negative neurodynamic tests did not appear to be associated with more small nerve fiber dysfunctions. However, considering the small sample size, these results need to be confirmed in further studies

Reference

1. Baselgia, L. T., Bennett, D. L., Silbiger, R. M. & Schmid, A. B. Negative neurodynamic tests do not exclude neural dysfunction in patients with entrapment neuropathies. *Arch. Phys. Med. Rehabil.* **98**, 480–486 (2017).

2. Zhu, G. C. *et al.* Concurrent validity of a low-cost and time-efficient clinical sensory test battery to evaluate somatosensory dysfunction. *Eur. J. Pain (United Kingdom)* **23**, 1826–1838 (2019).

(1) Baselgia, L. T., et al. Negative neurodynamic tests do not exclude neural dysfunction in patients with entrapment neuropathies. Arch. Phys. Med. Rehabil. 98, 480–486 (2017).



	Positive small nerves fibers test	Slump test results	Warm detection Threshold	Cold Detection Treshold	Mechanical pain treshold
Patient 1	0/6	Positive	0	0	0
Patient 2	1/6	Positive	1	0	0
Patient 3	1/6	Positive	1	0	0
Patient 4	2/6	Negative	0	2	0
Patient 5	3/6	Positive	2	1	0
Patient 6	3/6	Negative	1	0	2
Patient 7	5/6	Positive	1	2	2
Patient 8	5/6	Positive	2	2	1