

Central neuropathic pain in MS: The involvement of spinal cord lesions

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Introduction

- Central neuropathic pain (CNP) is a relatively common condition in MS patients (up to 30%).
- CNP is often debilitating and excruciating.
- Underlying mechanism behind CNP in MS is unclear, and CNP may be therefore under-treated.

Literature review

- Information on CNP in MS is scarce.
- Only 3 QST (quantitative sensory testing) and 2 MRI studies investigating the nature and pathophysiology of CNP in MS.
 - *These studies had inconclusive results in regards to sensory and anatomical characteristics.*
 - *High variability in methods, populations, tools.*
 - *No follow-up studies.*

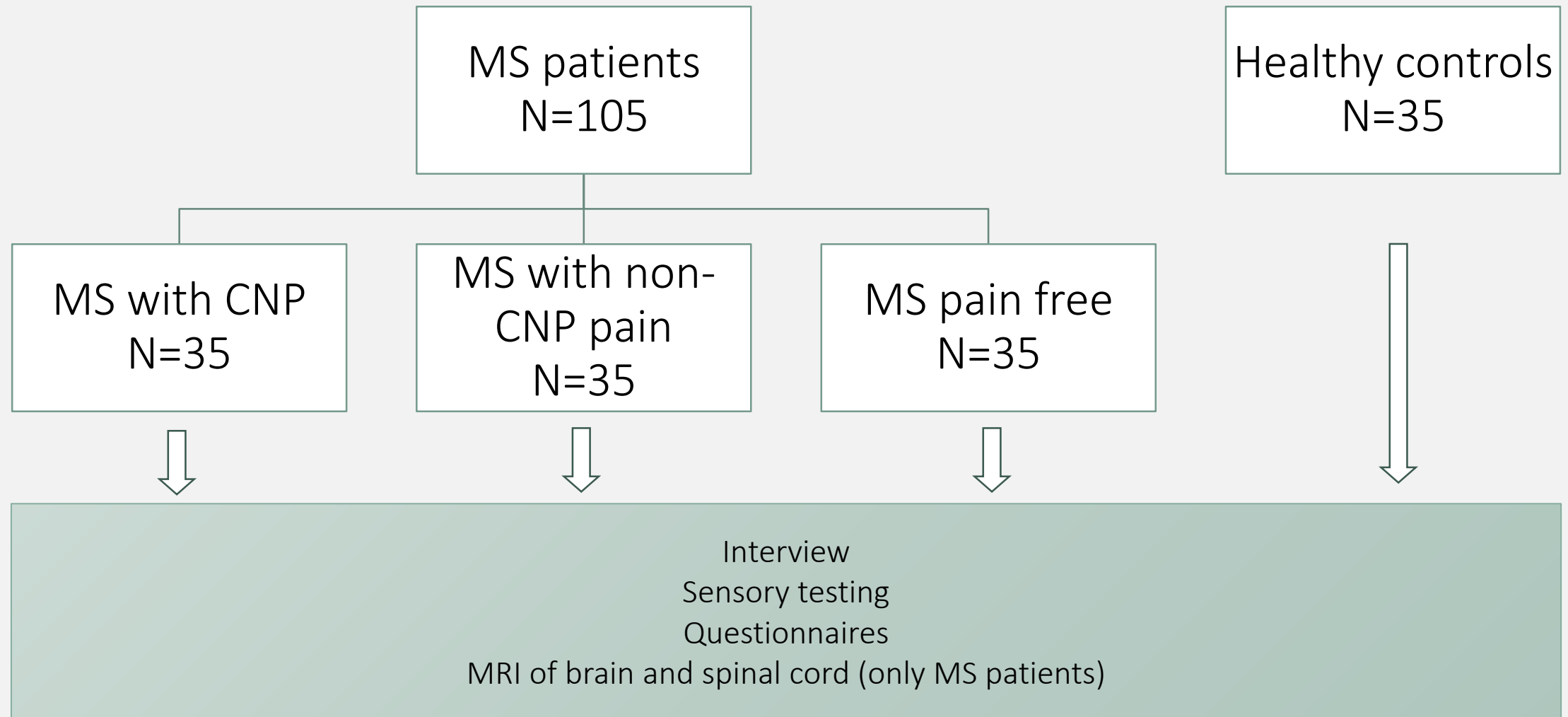
Aims of the current study

- QST part

- Characterize & quantify sensory abnormalities in pain perception and pain modulation among MS patients with CNP compared to MS patients without CNP.

- MRI part

- Localize and quantify cerebral and spinal MS lesions in MS patients with CNP compared to MS patients without CNP
- *Do they affect anatomical structures that are involved in pain perception and modulation?*
- *Do they correlate with CNP characteristics?*



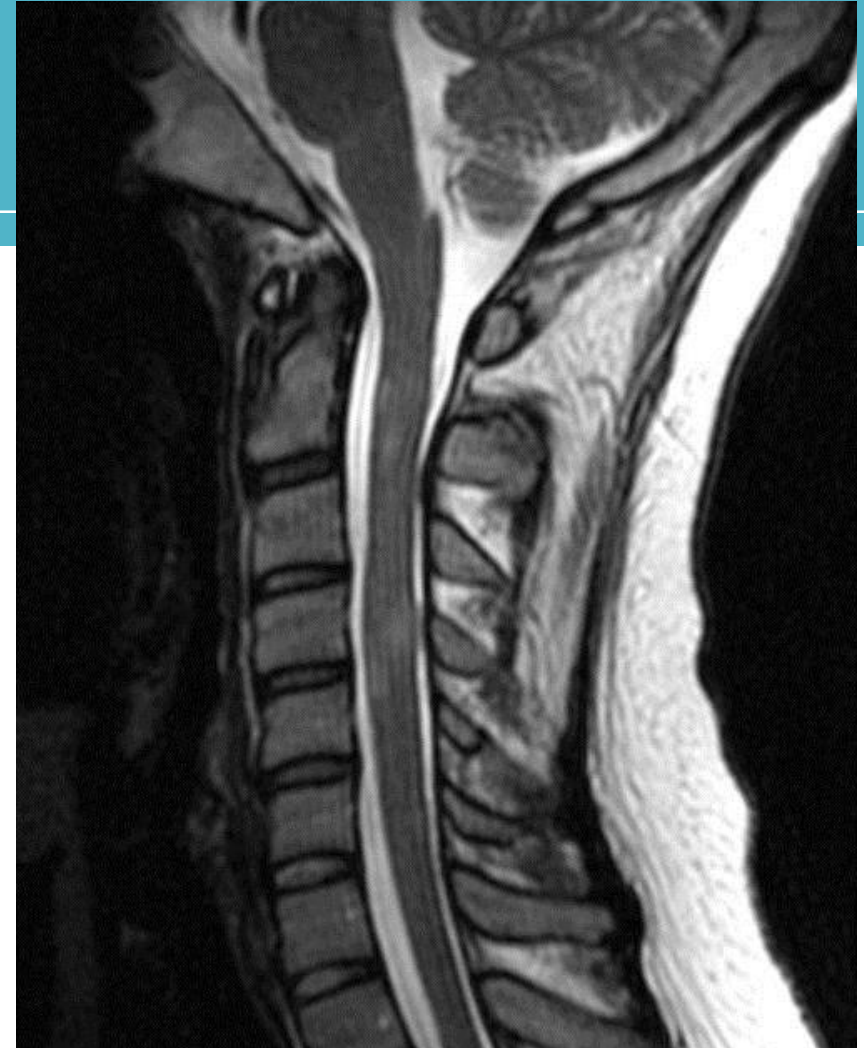
Cross sectional study

Methods

- Study type – cross-sectional.
- Sample size- determined based on mean & SD of previous studies assessing the main outcome measure: CNP.
- For $\alpha=0.05$, statistical power of 80%, the calculated sample size was 20. Also determined based on N of previous MRI studies.
- Inclusion criteria: a diagnosis of CNP or lack of, disease of over 12 months; age > 18 years.
- Exclusion criteria: cognitive impairment preventing subjects from understanding and following simple orders; pregnancy; neurological disease other than MS; psychiatric disease, systemic illness that can affect sensation (Eg. DM).

Methods

- Evaluation of spinal lesions using MRI
 - *Lesion volume*
 - *Location of the lesion*



Thank you for listening!