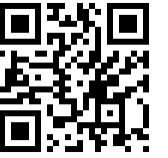




Pain relief following 60-day peripheral nerve stimulation (PNS) of the cervical medial branch nerves: a real-world retrospective review

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BACKGROUND

- Axial neck pain is prevalent and often debilitating.¹⁻³
- Conventional treatment options commonly lack efficacy or are neurodestructive.^{1,4,5}
- 60-day percutaneous PNS targeting the cervical medial branch (CMB) nerves is a potential non-destructive treatment for axial neck pain.
- The present work is a retrospective review of real-world outcomes from patients receiving a commercial 60-day PNS treatment targeting CMB nerves.



METHODS

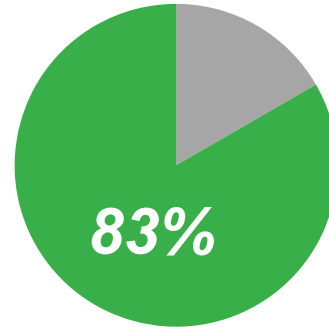
- Anonymized records reviewed from a national real-world database of patients who:
 - i) previously underwent commercial implantation of 60-day PNS leads targeting cervical medial branch
 - ii) opted in to provide data to the device manufacturer
 - iii) baseline and end of treatment outcomes available
- Outcomes summarized at end of treatment (EOT)
- Responders = substantial (≥50%) pain relief and/or clinically significant improvement in quality of life as measured by the Patient Global Impression of Change (PGIC)



RESULTS & DISCUSSION

83% (25/30) of patients were responders at the end of treatment.

Responders had ≥50% pain relief and/or clinically significant improvement in quality of life

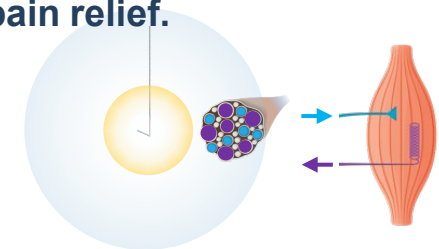


- Responders
- Non-responders

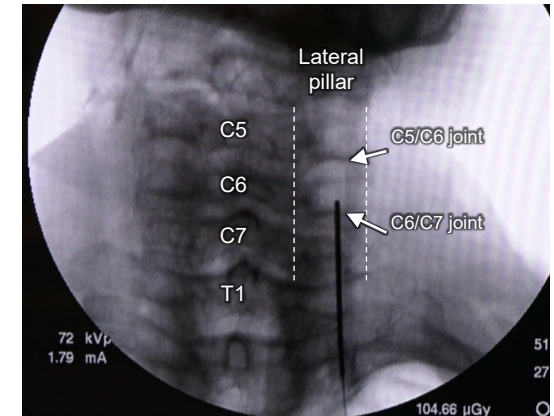
53% Average pain relief experienced by responders

Stimulation targeting efferent fibers in the cervical medial branch nerves is intended to produce comfortable, cycling tension in core cervical musculature for pain relief.

- Stimulation of efferent motor fibers (blue) induces muscle tension
- Comfortable muscle tension activates proprioceptive afferent sensory fibers (purple) in response to stretch & tension
- Afferent messaging to cortex has been theorized to engage central mechanisms to provide sustained pain relief⁶



Example fluoro-guided approach to the cervical medial branch nerves



Example fluoroscopic image showing AP view with stimulating probe targeting medial branch over lateral lamina of C6

CONCLUSIONS

- Sixty-day peripheral nerve stimulation treatment targeting the cervical medial branch nerves produced significant improvements in pain and/or quality of life a majority of patients.
- This real-world evidence suggests that a 60-day PNS treatment targeting the cervical medial branches is a promising, non-destructive option for axial neck pain.

REFERENCES

1. Douglass and Bope 2004; 2. Cote et al., 1998; 3. Rao 2002; 4. Carragee et al., 2009; 5. Cohen and Hooten, 2017; 6. Deer et al., 2021
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