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RESEARCH ARTICLE

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Thoracic Zygapophysial Joint Thermal Neurotomy: An Additional Successful Prospective Case Series in a Community Practice

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Summary of background data: There are techniques for diagnosing thoracic zygapophyseal joint pain, and it is feasible to undertake percutaneous thermal neurotomy of the medial branch nerves of such identified painful joints.

Objectives: To determine to what extent thermal neurotomy of thoracic zygapophysial medial branch nerves can provide useful relief.

Methods: This was a retrospective audit of consecutive prospectively gathered data at Capital Pain and Rehabilitation Clinic, Canberra, Australia of patients with thoracic joint pain 2009-2018. This is an additional 10 years of data to that published earlier by the author [1]. The primary outcome was 'good to complete' change of >50% in Numerical Rating Scale of pain for >6 months. Secondary outcomes Functional Rating Index (FRI), Depression Anxiety and Stress Scale (DASS 21) and Patient Specific Functional Scale (PSFS). Results are presented as success rates. The thermal neurotomy was undertaken by a single practitioner using conventional monopolar lesions at 80° centigrade for 60 seconds at four target points for each medial branch nerve, after 2 positive diagnostic intra-articular blocks.

Results: Of 54 complete data sets the success rate for 50-75% relief for 3 months or more was 20% and for >75% relief was 26% for the known outcomes, total success rate of 46% (36%-60%, 95%CI). The mean NRS pain change was 6.5 to 4.1 ($p<0.001$). The broader usefulness of the procedure is reflected in the clinically useful improvements in PSFS, FRI and DASS with small to large effect size.

Discussion/Conclusion: This additional consecutive case series continues an earlier case series to show that large numbers of patients with thoracic zygapophysial joint pain will obtain useful and often complete pain relief for neurotomy-concordant periods of time. Moreover, reducing the nociceptive output from these painful joints will assist in improving their physical and psychological function.

References: Speldewinde GC. Outcomes of percutaneous zygapophysial and sacroiliac joint neurotomy in a community setting. Pain Med 2011; 12(2):209-18.

A Prospective Consecutive Case Series of High Frequency 10 KHZ Spinal Stimulation for Chronic Pain in a Community Practice

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Summary of background data: Efficacy of paresthesia-independent SCS particularly of 10kHz in the real world is often debated.

Objectives: To evaluate a consecutive series of patients who underwent HF10-SCS for various chronic pain conditions in a typical non-affiliated, provincial multidisciplinary private pain practice setting.

Methods: Over 6-years, 2012-2018, 64 consecutive patients underwent a HF-SCS trial. Those reporting a successful trial phase (≥50% pain relief) were offered implant with a permanent Nevro HF10 system. Outcomes were collected prospectively and consecutively with a mean follow up range of 9-75 months. Results are presented as success rates.

Results: 64 patients trialed, 56 (88%) successful trials, 52 were implanted:

- FBSS: 31 trials, 4 failed; 23 implanted, 21 achieved >50% relief (9 achieved >80% relief),
- Non-surgical back pain: 18 trials, 2 failed; 14 implanted, 11 known achieved > 50% relief, (9 >80%),
- Painful peripheral neuropathies (mixed): 7 trials, 1 failed; 5 implanted, the 5 known achieved >80% relief,
- Chronic daily headache: 4 trials all implanted, 4 >50% relief (3 >80%)
- CRPS (foot): 2 trials, both implanted, both >50% (1 >80%).
- 1 chronic itch (PCV 21 years) implant >95% relief,
- 1 traumatic paraplegia: at-level T11 neuropathic pain, trial failed.

Implant success rate of >50% relief was 85%; for >80% pain relief it was 52%. The average duration 28 months at last follow-up, range of 9-74 months.

Discussion and Conclusions: From this independent typical community setting this data demonstrates that implanted HF-SCS had an outstanding 85% success rate for reliable, safe and effective >50% relief (and 55% for >80% relief) of a wide variety of intrusive pain conditions. This is similar to those published (1). Efficacy in the non-neuropathic conditions adds weight to the evidence that neuromodulation is modifying central sensitisation, or nociplastic factors and not by the commonly held view of neuropathic pain factors per se.