

A Complex Decision: Peripheral Nerve Stimulation in Complex Regional Pain Syndrome



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Introduction

Complex regional pain syndrome (CRPS) is a chronic, allodynic, and hyperalgesic pain condition resulting from central and peripheral nervous system dysfunction.

The use of neuromodulation - spinal cord stimulation (SCS) and peripheral nerve stimulation (PNS) - has burgeoned in CRPS.

This case highlights a discussion of CRPS and the appropriate neuromodulation technique with unique factors that could contraindicate the use of SCS or PNS in CRPS patients.

Interventions

2 stellate ganglion nerve blocks over 4 weeks were trialed with minimal improvement.

PNS trial of the left infraclavicular brachial plexus posterior cord and left axillary nerve.

Key Takeaways

SCS and PNS have shown benefits in CRPS. Contraindications are patient-specific and should be considered before trials and permanent implantation.

Examples of Contraindications

Ehlers-Danlos Syndrome

Cardiac Devices

Uncontrolled Coagulopathy

Active Infections

Psychiatric Disorders

Substance Abuse

The Case

A 32-year-old female with Ehlers-Danlos syndrome, dormant left shoulder Parsonage-Turner syndrome, and left labral repair 5 weeks prior presents with new-onset left shoulder pain, shiny-erythematous skin color changes, temperature abnormalities, hair loss, and diffuse allodynia.

Despite conservative management, her refractory symptoms prompted a discussion on neuromodulation.

A PNS trial of the left infraclavicular brachial plexus posterior cord and left axillary nerve was well tolerated and resulted in 85% pain relief, weaned opioids, and improvement of skin changes.

SCS was initially considered but history of Ehlers-Danlos and previous friable tissue and concern for dural leaks directed consideration towards PNS.

References

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