

Cervical Spinal Cord Stimulation Provides Analgesic Relief for Facial Pain Related to Trigeminal Trophic Syndrome: A Case Report

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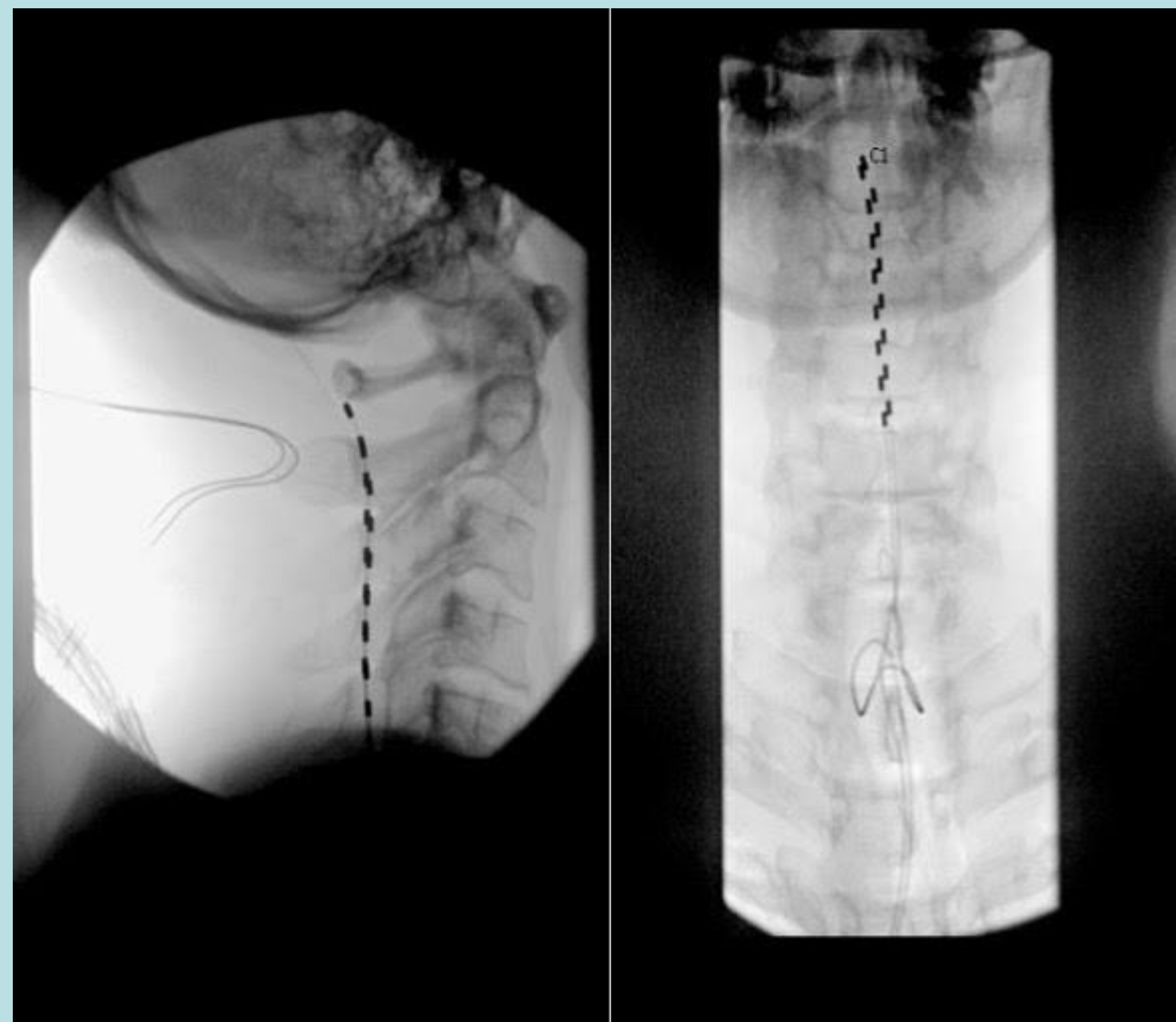
Introduction

Trigeminal Trophic Syndrome (TTS) is a disorder affecting the trigeminal ganglia and presents with trigeminal dermatome anesthesia and paresthesia [1]. The most common cause is iatrogenic; however, there is evidence of association with cerebrovascular accidents [2,3]. The neuropathic facial pain mimics trigeminal neuralgia, wherein spinal cord stimulation (SCS) has been effective [4]. Considering high-level cervical stimulation has been used for refractory trigeminal neuralgia, it was hypothesized that a similar approach would help manage TTS [5].

DISCUSSION

Definitive analgesia options are limited in TTS. The utilization of a spinal cord stimulator to address TTS is a novel concept, and the effectiveness in addressing this presentation is especially encouraging. The mechanism of action regarding spinal cord stimulators aligns closely with the current treatment paradigm for TTS, which consists of agents designed to address neuropathic pain orally or via transcutaneous electrical stimulation. This case report adds to the literature that facial pain related to TTS can be successfully treated with high-level cervical SCS. The clinical utility of neuromodulation in TTS warrants further investigation for the long-term analgesic management associated with this disease.

Associated Imaging



Figures 1-2: High-level cervical spinal cord stimulation trial. Two 45-centimeter octrode leads were advanced cephalad from the pedicle of the T1 vertebral body and threaded up the C1, C2, C3, C4, and C5 levels. Initial trial settings included intensities of 3.0-3.2 mA, pulse widths of 350-370 μ s, and frequencies of 100Hz. The patient gained the most relief from settings consisting of an intensity set at 2.7 mA, a pulse width of 520 μ s, and a frequency of 100 Hz.

Case Presentation

This case presents a 34-year-old male with intractable left-sided facial pain for an extended period of time following a cerebrovascular event, who experienced significant pain relief following cervical SCS therapy. For years, this patient experienced ongoing neuropathic pain along the left side of his face into his nose, along with nasal erythema, and otolaryngology formally diagnosed the patient with TTS. Further diagnostic and therapeutic workup was completed by multiple specialists with varied yet ineffective results. Numerous oral medications, including nortriptyline, amitriptyline, pregabalin, and venlafaxine, failed to provide pain relief. The patient pursued interventional treatments as well: botulinum injections, lidocaine injections, left deep cervical plexus block at C2, radiofrequency ablation of the left infraorbital nerve, and radiofrequency ablation of the left deep C2 cervical plexus. The interventions at C2 provided some short-term relief, which sparked the idea of providing sustained stimulation to the C2 dorsal sensory nerves via spinal cord stimulation, an off-label use for managing TTS. A high-level cervical spinal cord stimulation trial was conducted, and the patient reported excellent pain and symptom control over the subsequent week. Thereafter, he underwent successful implantation of a spinal cord stimulator, with sustained analgesic relief and resultant improvement in his quality of life.

References

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