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Poster

Peripheral Nerve Stimulation for Trigeminal Neuropathic Pain: A Case Series

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Abstract

Introduction. The fifth cranial nerve carries tactile, proprioceptive, and nociceptive afferents of the face, mouth, and portions of the meninges. Injury or disease of this nerve can lead to trigeminal neuropathic pain (TNP), described as a constant, burning facial pain often in an area of partial sensory deficit, which is frequently disabling. TNP is caused by injury to the nerve from events such as infection, trauma, surgery, or dental procedures to the face or cranium. TNP is often difficult to manage and refractory to conventional treatment. The use of peripheral nerve stimulation (PNS) for various neuropathic pain syndromes have been well documented including occipital neuralgia, postherpetic neuralgia, post-traumatic neuropathic pain, and complex regional pain syndrome. PNS as a treatment of TNP is a promising treatment modality for this otherwise difficult chronic pain syndrome that does not have the same concerns of tolerance and dependence as opioid therapy. Methods. We present a case series of three patients who have undergone successful PNS of the V1 and/or Maxillary V2 branches of the trigeminal nerve for TNP secondary to facial surgery, trauma, or herpetic infection. The facial pain that each patient experienced caused significant social of vocational dysfunction and was unresponsive to conservative management. Outpatient trials of externalized PNS demonstrated significant pain relief for each patient. PNS electrodes and pulse generators were implanted under general anesthesia. Results. The first case was a 71 year-old that had 11 years of TNP over his left face after enucleation of is eye. PNS electrodes implanted in the left V1 and V2 distribution provided 100% relief rated by a visual analog pain scale (VAS) of his pain 2 years since his surgery. The second case is a 52 year-old male that sustained significant facial trauma with subsequent left-sided TNP 18 months after his injury. Implanted PNS electrodes along the V1 and V2 distribution provided this patient with 100% pain relief over 2 years of follow up. A third patient suffered from postherpetic facial pain unresponsive to medial management. Two PNS electrodes implanted in the right V1 distribution provided 60% pain relief over 6 months of follow up. Conclusion. Patients with TNP have significant morbidity and are typically difficult to manage. This case series demonstrates an 87% reduction of pain for patients with common causes of trigeminal neuropathic pain that have failed medical management and treated with

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PNS. Further studies of PNS for trigeminal neuropathic pain are warranted.

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