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Case report: radiofrequency neuroablation of the sphenopalatine ganglion in persistent idiopathic facial pain associated with fibromyalgia

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Introduction

Persistent idiopathic facial pain (PIFP) is a neuropathic craniofacial pain disorder that may phenotypically overlap with refractory headache syndromes, frequently resulting in delayed diagnosis, polypharmacy, and pain chronification. Patients with fibromyalgia are particularly susceptible to central sensitization and persistent neuropathic pain after peripheral injuries, including invasive dental procedures. Recent evidence supports the role of the sphenopalatine ganglion (SPG) as a therapeutic target in refractory craniofacial pain syndromes due to its involvement in trigeminovascular and autonomic modulation.

Case presentation

A 45-year-old female patient with fibromyalgia developed chronic bilateral facial pain, predominantly affecting the left hemiface, following dental extraction, implant placement, and bone grafting. She presented with continuous neuropathic pain, bilateral facial allodynia, and significant functional and psychobehavioral impairment. The condition was initially interpreted as refractory headache, leading to therapeutic escalation with strong opioids, dual-action antidepressants, muscle relaxants, and weak opioids as rescue medication, without satisfactory response. During her first consultation with an interventional pain specialist, she reported pain intensity of 8/10 on the visual analog scale, depressed mood, and severe impairment of self-care. Initially, intravenous sympathetic blockade was performed, resulting in transient improvement of the affective component of pain. Due to persistence of refractory symptoms, bilateral radiofrequency neuroablation of the SPG was performed. After six months of follow-up, the patient demonstrated sustained pain reduction to 2/10, complete withdrawal of strong opioids, and approximately 50% reduction in overall pharmacological burden, associated with functional recovery, social reintegration, and restoration of self-care.

Discussion

This case highlights the interaction between central sensitization, neuropathic craniofacial pain, and psychobehavioral comorbidities associated with refractory chronic pain. Dental trauma likely acted as a peripheral trigger in a nervous system already vulnerable due to fibromyalgia-related nociceptive amplification. Persistent allodynia and favorable response to autonomic modulation suggest significant involvement of trigeminovascular and sympathetic pathways. Moreover, prolonged opioid exposure in inaccurate diagnoses is associated with opioid-induced hyperalgesia, worsening functionality, and emotional distress. In this context, SPG radiofrequency emerges as a promising interventional strategy for refractory craniofacial pain phenotypes associated with central sensitization.

Conclusion

PIFP may mimic refractory headache disorders, contributing to delayed diagnosis and prolonged opioid exposure. SPG neuroablation demonstrated significant impact on analgesia, medication deprescription, and psychobehavioral recovery in complex craniofacial pain syndromes.

Keywords:
Persistent idiopathic facial pain
Sphenopalatine ganglion
Central sensitization
Fibromyalgia
Opioid deprescription

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