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IDIOPATHIC FACIAL PAIN: PATHOPHYSIOLOGICAL MECHANISMS AND CURRENT THERAPEUTIC STRATEGIES

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Abstract

Idiopathic facial pain is a poorly understood syndrome that remains ill-defined, difficult to assess, and challenging to treat. In the absence of an identifiable organic cause, it is often inadequately characterized, complicating both diagnosis and management. This chronic and frequently debilitating pain leads many patients to consult multiple healthcare providers, a situation further exacerbated by distinct psychological profiles, an urgent demand for relief, and the frequent inability of clinicians to provide effective solutions. The clinical spectrum includes several entities, such as burning mouth syndrome, persistent idiopathic facial pain, and atypical odontalgia. These pain conditions may be localized in oral mucosa or in teeth. Diagnosis is primarily based on the exclusion of dental, otorhinolaryngological, and neurological causes. A thorough patient history and meticulous clinical examination are essential for pain characterization. Therapeutic approaches include psychological support, pharmacological treatments (antiepileptics and antidepressants), and complementary interventions like laser therapy.
This review aimed to explore the underlying pathophysiological mechanisms and current therapeutic strategies, with the goal of optimizing patient care through more targeted and effective treatment modalities.

Key words: Orofacial pain, Atypical odontalgia, Persistent idiopathic facial pain, Stomatodynia.

Introduction

The oral cavity is a common site for certain chronic, debilitating pain conditions whose etiopathogenesis remains largely unknown. These conditions, grouped under the term idiopathic orofacial pain **(1, 2)**. include several clinical entities: persistent idiopathic facial pain (PIFP), atypical odontalgia (AO), idiopathic burning mouth syndrome (BMS), and certain forms of temporomandibular disorders (TMD). These entities are poorly understood, not defined, inadequately assessed, and frequently mismanaged. The situation is further complicated by the unique psychological profiles of affected individuals, their urgent need for relief, and the practitioner's limited ability to provide effective treatment. The clinical presentations of these entities are often similar, and they may coexist or appear sequentially in the same patient. They also share risk factors and an overall poorly understood etiology and pathophysiology, suggesting that common underlying mechanisms may be involved. The aim of this review was to provide an overview of these challenging conditions that pose a significant clinical dilemma for both patients and practitioners. Idiopathic TMDs were not discussed in this review, as their characterization remains too incomplete at this stage.

Idiopathic stomatodynia

Definition.
It refers to a persistent oral mucosal pain without any identifiable organic cause. Idiopathic stomatodynia is distinguished from secondary forms which are associated with systemic or local pathologies (e.g., anemia, diabetes). This condition is often labeled as burning mouth syndrome in international literature. **(1-3)**.

Prevalence.
Its prevalence is difficult to determine due to heterogeneous study populations and diagnosis criteria **(1)**. It predominantly affects postmenopausal women aged 38 to 78 **(1)**. Emotional disorders, especially anxiety and depression, are frequently-but not systematically-associated. A notable proportion of patients also express cancer-related fears. Interestingly, pain intensity does not correlate with psychological symptoms severity but rather with chronicity and treatment resistance **(1)**.

Clinical manifestations.
Idiopathic stomatodynia primarily include a persistent bilateral burning sensation affecting mainly the tongue, lower lip, and hard palate. Pain intensity is moderate to severe and must persist for at least 4–6 months to meet diagnostic criteria **(2-4)**. Additional symptoms commonly reported include dysgeusia (in ~70% of cases), with frequent perceptions of bitter or metallic tastes, and xerostomia (in 46–67% of cases), which is typically a subjective dryness often linked to medication use or psychological conditions. In some instances, objective salivary abnormalities are also observed **(1, 5, 6)**.
The pathophysiology of idiopathic stomatodynia remains unclear, though evidence points to subtle peripheral and central neurological abnormalities and possible norsteroidal metabolism dysfunction, especially related to stress and menopause **(1)**.

Treatment.
Therapeutically, management is complex and often unsatisfactory **(1)**. Topical clonazepam and alpha-lipoic acid show the most promising results, though the latter remains controversial. Other options, such as Selective serotonin reuptake inhibitors(SSRIs), tricyclic antidepressants, and gabapentin, yield inconsistent or limited outcomes. Oral clonazepam appears more effective in younger patients with recent symptom onset. Certain benzodiazepines and antipsychotics may help but pose risks due to side effects. Numerous other treatments are in use (e.g., capsaicin, lidocaine, tramadol), though robust clinical validation is lacking **(1)**.

Persistent Idiopathic Facial Pain

Definition.
PIFP is a rare, predominantly female condition defined by daily facial and/or oral pain lasting more than two hours for over three months, in the absence of neurological deficits. While previously referred to as atypical facial pain, PIFP is increasingly recognized as a distinct neuropathic entity, supported by both neurophysiological and psychological evidence **(3)**.
The pain is typically continuous, deep, unilateral, and poorly localized, often described with burning or mechanical-like sensations. It may persist for months or recur over years without interfering with sleep. Neurological symptoms such as paresthesia or allodynia may accompany the pain. Although some cases follow dental or surgical trauma, many arise without an apparent trigger, suggesting a complex, possibly neuropathic pathogenesis **(7,8)**.

Diagnosis.
The pain typically lacks identifiable cause and presents few objective findings upon neurological examination. According to IHS (International Headache Society) criteria, PIFP may begin unilaterally and later become bilateral. **(9)**. Quantitative sensory testing aids in evaluating sensory abnormalities. Pain is continuous, not paroxysmal, and does not disrupt sleep-two additional criteria proposed by Woda and Pionchon **(10)** that help distinguish PIFP from other facial pain syndromes.

Management.
The treatment is complex and often unsatisfactory, with patients frequently undergoing multiple unsuccessful or harmful treatments **(1)**. A multidisciplinary approach addressing both somatic and psychological factors is essential. Tricyclic antidepressants, especially amitriptyline, are the first-line pharmacologic treatment despite limited clinical evidence. Other agents like sumatriptan and venlafaxine have shown inconsistent or negligible results. Non-pharmacological methods, including hypnosis, may hold promise but remain insufficiently studied. Further controlled trials are needed to develop effective, evidence-based therapies. **(11)**.

Atypical Odontalgia

Definition.
AO is a persistent dental pain without identifiable pathology. It typically affects untreated, present teeth and manifests as continuous, non-paroxysmal pain described as burning, crushing, or dull. AO has a strong female predominance and often begins in midlife. Although initially localized, the pain may worsen and expand to nearby oral structures, especially if teeth are unnecessarily treated or extracted **(2)**.

Diagnosis.
AO is closely related to phantom tooth pain and may be a subtype of PIFP. Sensory abnormalities such as allodynia or thermal sensitivity are common. The condition is frequently mismanaged, leading to iatrogenic harm, and highlights the need for more precise diagnosis and non-invasive therapeutic strategies **(4)**.

Management.
Management of AO involves patient education and reassurance, emphasizing the legitimacy of the pain while avoiding unnecessary surgical interventions. Treatment strategies align with those for neuropathic pain. Topical therapy with capsaicin-lidocaine preparations may be useful in localized cases. Systemically, tricyclic antidepressants such as amitriptyline are first-line agents, followed by anticonvulsants like gabapentin or pregabalin in refractory cases. Given the lack of formal guidelines, a neuropathic pain framework remains the most pragmatic approach to AO management **(1)**.

Conclusion

Persistent idiopathic facial pain remains a diagnostic and therapeutic challenge. Optimal management requires a multidisciplinary approach that addresses not only physical symptoms but also the psychological, emotional, and social dimensions of the patient. Even without complete cure, this approach aims to restore a sense of humanity and integrity, offering meaningful relief.

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