

Tooth Pain Referred to Oral Medicine : What Was the Underlying Cause?

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Tooth pain is one of the most common reasons patients seek dental treatment and is typically associated with odontogenic conditions such as pulpitis, apical periodontitis, or periodontal disease. However, in some patients toothache persists despite the absence of identifiable dental pathology. These patients are often referred to the Department of Oral Medicine or an orofacial pain clinic for further evaluation. Failure to recognize non-odontogenic toothache may lead to repeated and unnecessary dental procedures, including endodontic treatment or extraction, without improvement of symptoms.

Non-odontogenic toothache can originate from a wide range of conditions involving the trigeminal system and adjacent structures. Neuropathic pain disorders represent an important category including trigeminal neuralgia and painful post-traumatic trigeminal neuropathy, which may present as sharp, episodic, or persistent toothache-like pain. Persistent idiopathic dentoalveolar pain defined in the International Classification of Orofacial Pain, is a chronic tooth-related pain condition that persists in the absence of identifiable clinical or radiographic abnormalities. It is characterized by continuous, typically unilateral pain localized to a tooth or dentoalveolar region, most often confined to a single site. The pain occurs without any identifiable event and lasts for more than 2 hours per day over a period exceeding 3 months. Musculoskeletal sources are also common. Temporomandibular disorders including myofascial pain involving the masticatory muscles can produce referred pain to teeth.

In addition, neurovascular conditions such as migraine and other primary headache disorders may manifest as toothache-like pain occasionally leading to misdiagnosis as dental disease. Maxillary sinus pathology such as sinusitis, may cause pain perceived in the maxillary posterior teeth. Less commonly, cardiovascular, neurological, and psychological systemic disorders may also contribute to atypical tooth pain.

This presentation will review various causes of non-odontogenic toothache encountered in patients referred to the Department of Oral Medicine. Selected clinical cases will be presented to demonstrate common diagnostic challenges and illustrate practical approaches to differential diagnosis.

Improved recognition of non-odontogenic tooth pain is essential to avoid unnecessary dental treatment and to guide patients toward appropriate management. A comprehensive diagnostic approach integrating dental, musculoskeletal, and neurological evaluation plays a critical role in identifying the true underlying cause of tooth pain and improving treatment outcomes.

Profile

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- * Fellow, Department of Oral Medicine, Seoul National University Dental Hospital Focused training in orofacial pain and temporomandibular disorders
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