Iatrogenic Pulpal Injury Masquerading as Atypical Odontalgia

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ABSTRACT
Several pain conditions may mimic atypical odontalgia (AO). Diagnosis of AO is made by ruling out other pain conditions. It is said that the most difficult diagnoses to rule out are pulpal pain condition. This report presents a case of iatrogenic pulpal injury mimicking AO.

Keywords: Atypical odontalgia, Iatrogenic pulpal injury, Idiopathic tooth pain, Phantom tooth pain, Pulpal pain.

INTRODUCTION
Atypical odontalgia (AO) also known as idiopathic or phantom tooth pain was first reported by McElin and Horton in 1947. It is a poorly understood condition and is often misdiagnosed. Patients often undergo multiple unnecessary dental or surgical procedures that are of minimal or no use in alleviating their suffering. Till now there is no universally acceptable criteria for its diagnosis. Further its etiology, diagnostics and management continues to be problematic.

Cases of atypical odontalgia mimicking odontogenic pain with patient undergoing unnecessary treatment have been previously documented. This article presents a case wherein iatrogenic pulpal injury mimicked atypical odontalgia.

CASE REPORT
A 70-year-old patient reported with a complaint of pain in the extraction site of lower left posterior tooth since one year. Patients pain characterization was complex, inconsistent and confusing with pain being absent during sleep. History revealed that pain had persisted after extraction of decayed mandibular left second molar one year back. Subsequently, the pain was diagnosed as trigeminal neuralgia by his dentist and the patient was prescribed carbamazepine tablets. Inspite of taking tablets regularly patient did not have substantial relief. Intraorally, left mandibular second molar was missing with healthy alveolar ridge. The adjacent teeth and surrounding mucosa was healthy with a shallow pocket distal to mandibular left first molar. Palpation of edentulous ridge in the region of mandibular left second molar and percussion of first and third mandibular left molars elicited equivocal response.

Based on patients pain characterization, clinical findings, history of traumatic event in the region and lack of response to carbamazepine it was provisionally diagnosed as AO. A periapical radiograph was taken to rule out pain of dental origin. Radiograph revealed a well defined tapering radiolucency extending obliquely downward from the distal aspect of distal root of first molar and superimposing on the pulp canal (Fig. 1). Radiographically, it was highly suggestive of tapered fissure bur injury. On inquiry patient confirmed that the missing tooth was surgically removed.

The patient was informed about the radiographic findings and treatment options outlined. As per patients wishes mandibular left first molar was extracted and the patient asked to discontinue carbamazepine tablets. The extracted tooth showed grooving on the distal root with exposure of the pulp tissue (Figs 2 and 3). So, inadvertently the dentist must have damaged the adjacent tooth thus leading to persistent of pain. After extraction healing was uneventful along with complete relief from pain.

DISCUSSION
AO characteristically presents as a pain located in a tooth or tooth site. Pain is persistent with an absence of any...
pathological, clinical or radiological finding. Commonly, AO follows dental or surgical procedures. Sleep is undisturbed and the results of local anesthetic injections are equivocal.

Pathophysiology of AO is not clearly understood. The most accepted theory is the deafferentation of the nerves caused by traumatic injury with the changes occurring at the level of peripheral, central and autonomic nervous systems.

Many diagnostic criteria have been proposed by various investigators. The diagnostic criteria proposed by Graff-Radford and Solberg in 1992 is very simple and focuses on all the typical characteristics of AO (Table 1). In 1995 Pertes et al revised the criteria and included the non-responsiveness of pain to dental treatment. However, the diagnosis is mainly by exclusion of other probable causes of pain. Differential diagnosis include pulpal pain, myofacial pain and pain of trigeminal neuralgia (Table 2).

AO is most commonly confused with dental pain of pulpal origin leading to unnecessary dental treatment. However, in our case, the scenario was reversed with pulpal pain due to iatrogenic trauma mimicking AO.

This report should alert the dentist to look for any such iatrogenic damage, as a majority of cases of AO are known to follow dental or surgical procedure. It also emphasizes the importance of radiographic examination in patients who have persistent pain after surgical procedures.

**Table 2:** Differential diagnosis between atypical odontalgia and pulpal pain

<table>
<thead>
<tr>
<th>Atypical odontalgia</th>
<th>Pulpal pain</th>
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<tbody>
<tr>
<td>1. Pain is constant and unchanging over weeks or months</td>
<td>1. Pain is oscillating and tends to worsen or improve with time</td>
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<tr>
<td>2. Local provocation (hot, cold, pressure) does not relate consistently to the pain</td>
<td>2. Local provocation (hot, cold, pressure) exacerbates the pain</td>
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<tr>
<td>3. No clinical or radiographic signs of pathology (decay, fracture) are present in the tooth.</td>
<td>3. Clinical or radiographic signs of pathology (decay, fracture) can be detected in the tooth.</td>
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<tr>
<td>4. Repeated dental therapies fail to resolve the pain</td>
<td>4. Dental therapy resolves the pain</td>
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<tr>
<td>5. Response to local anesthetia is equivocal</td>
<td>5. Local anesthetia resolves the pain</td>
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**REFERENCES**