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RESEARCH ARTICLE

NUERALGIA OR ODONTALGIA?

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ABSTRACT

Background: The most common and difficult aspect of general practice is the diagnosis and treatment planning. One of the commonest complaints presented to the practitioner is pain. This article attempts to account for cases with wrongly diagnosed dental pain as trigeminal neuralgia.
Methods: Cases from the nearby Government Hospital, Garhwa under treatment for trigeminal neuralgia in the last 6 months were studied reviewed and followed after dental intervention using radiographs and tests to diagnose as pain from odontogenic origin.
Results: The patients found absolute relief from the pain after treatment was rendered to their dental problems. These cases were found to be wrongly treated for neuropathic pain.
Conclusions: It is crucial to exclude orofacial pain from odontogenic origin before planning treatment for neuropathic pain emphasizing the importance of differential diagnosis and treatment planning in the patient's initial visits.

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INTRODUCTION

Trigeminal neuralgia (TN) also known as prototypic neuropathic facial pain, 'tic douloureux' is neuropathic pain arising from one or more branches of trigeminal nerve.[12] This condition is prevalent in patients over 50years of age presenting with sudden, unilateral, severe, brief, stabbing, lancinating, recurring pain. Similar kind of orofacial pain is odontogenic pain initiating from the teeth or their supporting structures, the mucosa, gingivae, maxilla, mandible or periodontal membrane. A common challenge faced by a practitioner of any specialty is proper diagnosis (provisional and differential to come to a correct treatment planning protocol (Lipton, 1993). Certain conditions demand expertise intervention of different fields in coming to a final diagnosis. This article considers differential diagnoses of orofacial pain Originating from neuropathic or odontogenic causes in turn completely altering the treatment plan. Three cases under treatment for neuropathic pain (trigeminal neuralgia) were found to be wrongly diagnosed by a non-dentist practitioner, who on dental intervention were completely relieved of pain by the end of our study.

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MATERIALS AND METHODS

A list of patients from May 2017 to November 2017 under treatment for TN in Sadar Hospital, Garhwa was collected. There were total six patients in the list and all of them were on Tegretol (Carbamazepine 200mg) once daily. Out of these patients 3 patients were not getting relief from the treatment protocol and they said the pain was exactly the same in character and intensity like before the treatment was started.

Case 1: A 45 year old male patient with chief complaint of pain in the cheek on the right side. The pain was sharp, shooting in nature, intermittent and unilateral. A clinical

examination by a general practitioner including both extra oral and intra oral, the exact etiology of the pain could not be determined. Patient expressed the pain as 'Unbearable' and did not find relief with non-steroidal anti-inflammatory drugs. A provisional diagnosis was made to be pain of neuropathic origin and patient was advised with Carbamazepine 200mg once daily for a month after which the patient still complained of similar pain without any relief. The patient was then referred for opinion to a dental professional when the patient visited our department. We re-visited all steps of a thorough clinical examination both intra-and extra-orally. Patient showed no obvious clinical findings in the teeth or adjacent supporting structures, other than slight tenderness to percussion in relation to upper right first molar and upper right second premolar (Fig. 1). A radiograph of the region showed proximal caries involving pulp in both the teeth. (Fig. 2) Endodontic therapy was advised and carried out for the both the teeth and porcelain fused metal crown was cemented. Patient was informed to report to us in case of pain. He was relieved of the pain completely. Patient was followed up for the next 3 months and no complaints were presented.

Fig. 1. Intra oral view showing no positive clinical findings

Fig. 2. Intra oral periapical view of the first molar and second premolar in the first quadrant

Case 2: Thirty two year old female patient complained of severe pain in the upper left cheek region since 2 months. Patient visited a general Practitioner who diagnosed it as chronic maxillary sinusitis after a Paranasal sinus View (PNS) and patient was advised antibiotics and nasal decongestants for the same. The patient was not relieved of pain and showed suicidal tendencies. Owing to the severe pain, the diagnosis of TN was made and patient was advised Carbamazepine 200mg once daily for a month. Patient still complained of similar pain without any relief. A dental consultation was advised. The patient visited our Department of Oral & Maxillofacial Surgery. After a detailed history taking intra-oral periapical radiograph was advised which showed root canal treatment in the upper first left molar that patient had undergone 2years ago. The gutta percha cone used for obturating the palatal canal had gone past the apex for approximately 5-6mm and into the maxillary sinus (Figure 3). Re-root canal was carried out immediately and GP in the palatal canal was retrieved. Obturation was done to the exact apical length of the root canal and apical seal achieved. Patient was followed up for the next 3 months and she was completely relieved of symptoms.

Fig. 3. Gutta percha cone in maxillary sinus as seen in radiograph

Case 3: 34 year old female patient was under treatment for trigeminal neuralgia i.e., carbamazepine 200mg one tablet every day since one and half months. Patient presented with severe, throbbing type of pain in the region of the lower right jaw region that he was unable to localize and showed the whole cheek. Patient visited Vananchal dental college and hospital as per physician's advice. Clinical and radiographic examination was carried out that showed proximal caries in the lower 1st molar extending to pulp (Fig. 4).

Fig. 4.

A diagnosis was made of chronic irreversible pulpitis that would require endodontic therapy. Endodontic therapy was carried out and the tooth restored with a metal crown. Patient was followed up 3 months and he reported absolute relief of pain with no specific complaints.

DISCUSSION

Diagnosis of neuropathic pain is a process of exclusion involving methodically ruling out localized pathology in form of odontogenic infection, periodontal disease, cracked/ fractured teeth, caries or failed root canal therapy (Michael, 2004). Several simple tests that may assist in diagnosis of dental pain include pulp sensitivity test, percussion test, probing, mobility test, palpation, radiographic examination etc., (Tara Renton, 2011). Numerous case reports of a wrongly diagnosed pain by a non-dentist can be found that the patient to be initiated with treatment for neuropathic pain with anti-seizure/anti-epileptic drugs like carbamazepine, baclofen, pheytoin etc., Atypical odontalgia also known as idiopathic or phantom tooth pain also presents as prolonged periods of constant throbbing or burning pain in teeth or alveolar process the diagnosis of which remains a exclusion after ruling out other pathologies of the head and neck (Shankland, 2001). The prevalence of dental pain and its characteristics in a study of 1,052 individuals within six months was 33.6% (World health organization:, 2013). The role of all medical personnel in improving oral health in children is being recognized (Ashleym, 2010). Though the incidence of dental caries can be reduced through dietary precautions, use of fluoridated toothpastes and other simple techniques and it can also be treated with improvements in restorative materials & techniques. Despite this, the number of children undergoing general anesthetics for dental extractions due to caries continuous to increase (Ashley, 2010 and Albadri, 2000). The pain In Trigeminal neuralgia follows one or more branches of the trigeminal nerve. It can last seconds to minutes, then disappear leaving pain free intervals between attacks. The paroxysms of pain may occur in rapid succession while the patient is awake, but they rarely occur during sleep. Trigger zones around the nose and mouth is also characteristic feature. Factors influencing the diagnosis of TN includes White & Sweet Criteria – 1. The pain is paroxysmal. 2. The pain may be provoked by light touch to the face (trigger zones). 3. The pain is confined to the trigeminal distribution. 4. The pain is unilateral. 5. The clinical sensory examination is normal.

Differential Diagnosis of and Neuropathic Pain (World health organization, 2011)

Odontogenic Pain	Neuropathic Pain
1.Pain is dull ache or occasionally sharp. 2.Response to stimuli like hot or cold,is predictable and proportionate 3.Pain is usually inconsistent and tends to get better over time 4.Pain disturbs sleep 5.There is often an identifiable source 6.Local anesthesia of the suspected tooth eliminates pain	•Pain is sharp shooting or burning •Response to stimuli like hot or cold, is not reliable •Pain is persistent and remains unchanged for weeks or months •Pain rarely disrupts sleep •Pain may be felt in multiple areas or teeth •Repeated dental therapies fail to resolve the pain.

Conclusion

Since the diagnoses and treatment plan for oro facial pain involves expertise in fields that involve general physician, ENT surgeon, neurosurgeon and/or a dental professional there are chances that the differential diagnoses may be over-looked as per the requirements of the specialist dealing with the case. Odontogenic pain may simulate neuropathic pain like trigeminal neuralgia. Various diagnostic tests need to be carried out to rule out pathology existing in the dental arena, only then should the treatment protocol for neuropathic pain should be initiated. Thus failure to consider these criteria may lead to misdiagnosis of the condition in turn altering in the treatment plan that fails to provide the desired result or relief of symptom.

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