Case Report

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CASE OF WELL DIFFERENTIATED SQUAMOUS CELL CARCINOMA PRESENTING AS TRIGEMINAL NEURALGIA: A RARITY

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ABSTRACT:

Trigeminal neuralgia is an extremely painful condition characterized by recurrent episodes of sudden, lancinating, shock-like pain lasting from a few seconds to minutes usually unilateral. Tumour, multiple sclerosis, abnormalities of the base of the skull, or arteriovenous malformation is the cause in 5 to 10% of the patients. Whereas squamous cell carcinoma has features of being either exophytic, ulcerative, infiltrative or proliferative causing destruction of soft as well as hard tissue. Only common feature of both of these is the associated pain, which differs in type, nature, and frequency. Both trigeminal neuralgia and squamous cell carcinoma are well recognised and distinctive in nature. The objective of this report was to describe a rare case of well differentiated squamous cell carcinoma presenting the symptoms of trigeminal neuralgia.

Key words: Trigeminal Nerve, Neuralgia, Neuroma, Squamous Cell Carcinoma.

INTRODUCTION:

The International Association for the study of pain defines TN as sudden, usually unilateral, severe, brief, stabbing, and recurrent pains in the distribution of one or more branches of the trigeminal nerve [1]. The international headache society classifies TN into idiopathic TN and symptomatic TN [2]. Trigeminal neuralgia is a well-known pain entity, affecting any of the three branches of the Vth cranial nerve; periodically resulting in severe pain. There is no other corresponding disorder below the neck and treatment of TN is different from other pain disorders. Objective signs aren't of any help in the diagnosis, there is no "gold standard" treatment for TN as well. The differential diagnosis of TN especially atypical presentation is important for dentist, maxillofacial surgeons and pain clinicians in order to avoid inappropriate interventions such as extractions and endodontic therapy and to initiate appropriate treatment. Trigeminal neuralgia has an annual incidence of 4.3 per 100,000 in the general population with discrete predominance of females (3:2). It peaks at around 60 to 70 years, and it is unusual before the age of 40 [3, 4].

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Hypertensive patients have a higher risk of developing trigeminal neuralgia than the general population. Approximately 80 to 90% of the cases classified as idiopathic have the cause of compression of the trigeminal nerve (5th cranial nerve) when it leaves the brain stem by an aberrant arterial or venous loop, especially of the superior cerebellar artery [3,6]. Tumour, multiple sclerosis, abnormalities of the base of the skull, or arteriovenous malformation causes TN in 5 to 10% of the patients [5]. The diagnosis is eminently clinical, although imaging studies or specialized tests might be necessary in patients with atypical manifestations: younger than 40 years, bilateral symptoms, dizziness or vertigo, hearing loss or changes, pain episodes lasting more than two minutes, pain outside the distribution of the trigeminal nerve, and visual changes [3]. The objective of this report was to describe a rare case of well differentiated squamous cell carcinoma presenting the symptoms of trigeminal neuralgia.

MATERIALS AND METHODS

CASE: A 70 year-old lady with a history of two years of severe (score of 8 in the visual analogue scale), shock-like and throbbing pain in the right V3 region, lasting from a few hours to days that increased by talking, chewing, and with cold weather. Patient described the trigger zone to be the mucosa of the alveolar ridge beyond the first premolar. She did not sleep well because of the pain. She did not give any history of habits such as alcohol or tobacco or betel quid chewing or any systemic disorder of hypertension or any other disease, nor was she a denture wearer. Physical exam showed thermal and mechanical allodynia in the left V3 regions. No sign of inflammation of the mucosa. She had used the following medications: tab carbamazepine (200 mg every eight hours) for six months and tab Baclofen 10 mg daily was added to improve the pain. Orthopantomogram revealed ridge resorption and circular radiolucency near the mental foramen. And CT confirmed a small solid enhancing lesion about 0.8 to 1.0 cm at the orifice of the mental foramen, suggestive of a Neuroma. Surgical treatment was planned to excise the lesion. Under standard aseptic conditions local anaesthesia with adrenaline 1: 80,000 block of the right inferior alveolar nerve along with mental nerve block was given. Crestal incision was planned and executed to expose the lesion the mental nerve was freed from its bony moorings and from the adjacent soft tissues. Haemostasis was achieved. The end of the inferior alveolar nerve was identified on the proximal side beyond the neuromatous growth. The nerve was ligated. Adjacent soft tissue was also excised alongside the nerve. Ensuring complete haemostasis the wound was irrigated copiously and flaps sutured. The biopsy specimen was sent for histopathologic examination, which were suggestive of well differentiated squamous cell carcinoma. The specimen was sent for immunohistochemistry for and it was confirmed to be squamous cell carcinoma. Since it was a N0 neck and we had already carried out wide excision a policy of wait

and watch was considered appropriate. The patient's pain score reduced from 8 on VAS to 2 on VAS. Patient was regularly followed up for two years post operatively and remains symptom free with no local or regional recurrence.

DISCUSSION

TN is a pain syndrome characterized by unilateral distribution of pain in one or more branches of the fifth cranial nerve. There are two types of TN. One is the well-known classical TN, which causes a sharp, stabbing, or electric- shock-like pain. These attacks may last for several minutes or hours, and pain-free periods between attacks are common, possibly continuing for weeks or even several years [7]. Although the pathogenesis of classical TN is still unclear, the proposed mechanism is focal demyelination caused by chronic compression and cross excitation between adjacent touch and pain-conducting fibers [1]. When the pain is of unknown cause and there are no other neurologic problems it can be diagnosed as Classical TN. Atypical TN is the other type, characterized by pain which is constant, burning, crushing, throbbing, or grinding in nature. These attacks may last for days, weeks, months, or years, and the pain-free periods are absent or of short duration [14]. In addition, such pain can arise without a definite trigger. Possible causes of atypical TN include cerebral aneurysms, head and neck tumours, multiple sclerosis, and cerebral abscesses, among others. In the case of tumours, especially, the symptoms of atypical TN are similar to neuritis, which are caused by either compressing the nerve directly or eliciting an inflammatory reaction indirectly by the release of its contents. The non-specific symptoms of atypical TN make diagnosis of the disorder difficult if not impossible. Atypical TN can mimic not only classical TN, but also dento-alveolar disease and temporomandibular joint disorder. In our case, the patient had a neuroma of the mental nerve. In this patient, several clinical features besides the burning pain led to the suspicion of atypical TN; these were the patient's age, sex, and sensory changes. The aetiology in 80-90% of patients with TN is the compression of the trigeminal nerve at or near the nerve root by an overlying vessel, which results in the demyelination of the trigeminal sensory fibers, whereas the aetiology in 5-8% of patients with TN is a tumour [14]. Facial pain caused by tumours is often related to neurologic abnormalities, such as sensory changes, loss of reflexes, and constant pain. In our patient, clinical features that may correspond with the features of atypical TN are female gender, age of 70 years, sensory changes such as allodynia in the distribution of the right mandibular nerve. The patient was prescribed carbamazepine and baclofen as a combination to relieve the pain, but, the efficacy of carbamazepine and the presence of a distinct trigger zone are irrelevant to the features of atypical TN. HPR suggested of well differentiated squamous cell carcinoma which is rare because typical signs and symptoms such as: ulceration, inflammation, proliferative growth, bleeding from the lesion, infiltration, or any exophytic growth, were all absent in

the patient [16]. In addition to the above features patient neither gave any history of tobacco chewing, betel nut quid habit, nor was any local irritant (sharp tooth cusp, denture irritation, etc.) an aetiological factor [17-18]. After peripheral neurectomy along with wide excision, patient was followed up for two years without any complaint or any local or regional recurrence. Since it was a N0 neck a wait and watch policy was applicable, had it not been a N0 neck with osseous involvement, the treatment would have been Neck dissection depending upon the nodal involvement and a segmental mandibulectomy with appropriate reconstruction.

CONCLUSION:

In conclusion, the clinical factors leading to suspicion of atypical TN are a constant burning sensation, pain in multiple dermatome levels, sensory deficits, age. The more of these features that are present, the higher the suspicion of atypical TN should be. In addition, we should consider not only intracranial tumours, but also neuromas and carcinomas as possible underlying causes of atypical TN.

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FIGURES:

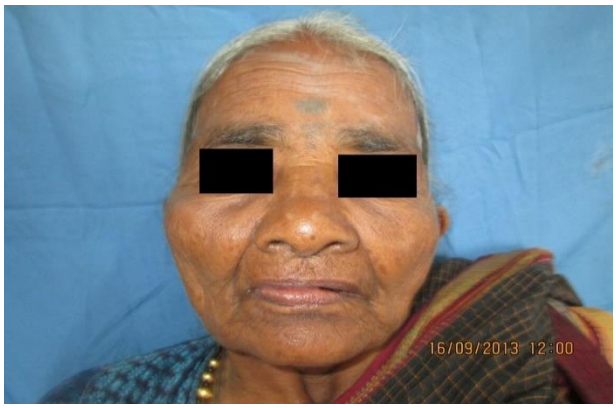


Figure 1: Pre -operative front view

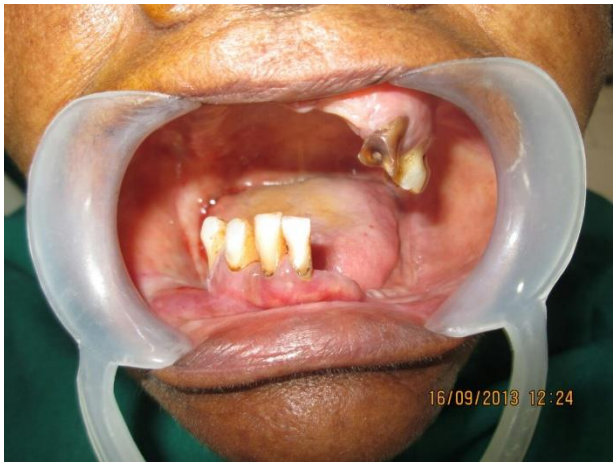


Figure 3: Pre- operative intra- oral view

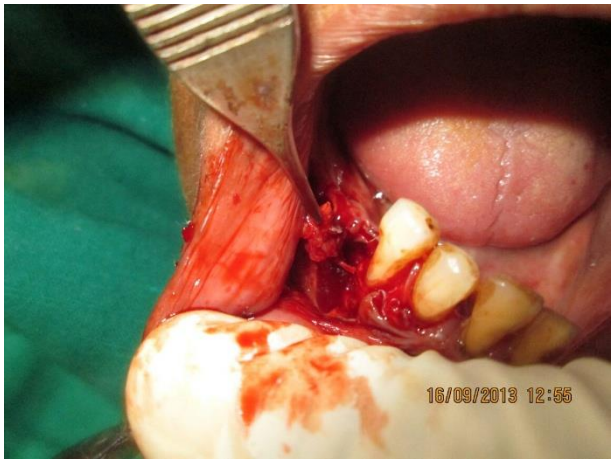
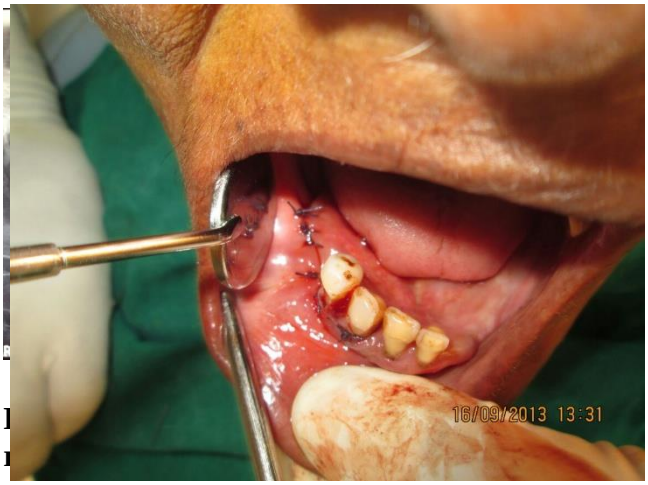


Figure 5: identification and ligation of the neuromatous growth along with release from the soft tissue



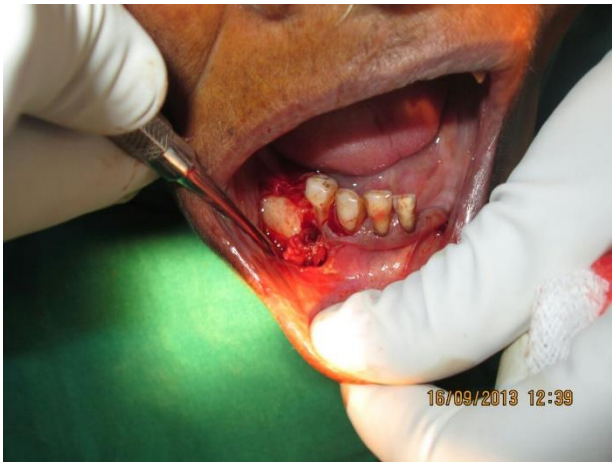


Figure 4: Exposure of the lesion

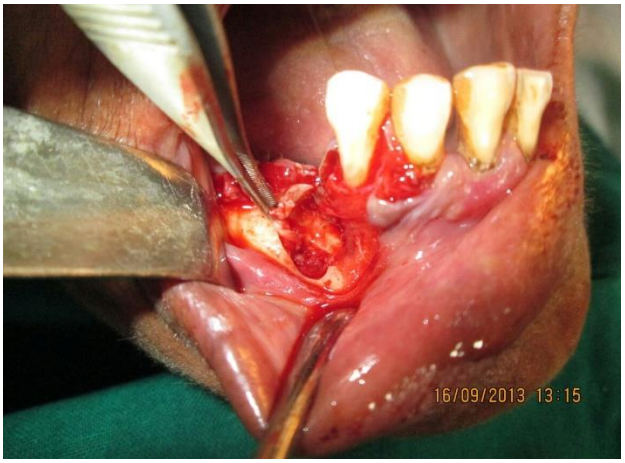


Figure 6: Intra oral view after excision of lesion

Figure 7: Closure Achieved after excision