

Original Article

## FREQUENCY OF UNNECESSARY TOOTH EXTRACTION IN PATIENTS WITH TRIGEMINAL NEURALGIA

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**Objective:** To determine the frequency of unnecessary tooth extraction in patients with trigeminal neuralgia.

**Methods:** Observational Cross-sectional study. Study Duration: 1st Jan, 2019 -31st DEC, 2019. All patients of TGN were interviewed for tooth extraction as remedy of their pain before the final diagnosis. They were also asked about number of teeth extracted in range of minimum to maximum. Then all data was shifted to SPSS and analyzed in terms of frequency.

**Results:** 63/141 (44%) of patients with trigeminal neuralgia had undergone unnecessary teeth extraction before exact diagnosis of disease.

**Conclusions:** Our study has shown that a high percentage of patients that were treated for idiopathic TGN initially consulted their local dentist and received dental therapy first. This pattern has long been known, was first systematically assessed decades ago, and surprisingly has not changed since. Dentists should work in collaboration with neurologists to evaluate orofacial pain syndrome patients for possible idiopathic TGN. This would result in early diagnosis of trigeminal neuralgia and its proper management and prevention of unnecessary tooth extraction.

**Keywords:** tooth extraction, unnecessary, trigeminal neuralgia, orofacial pain.

### Introduction

Trigeminal neuralgia (TGN) is a condition characterized by paroxysmal, excruciating pain and sudden, like a shock, which lasts a few seconds to two minutes. It is the most common among orofacial pain, returns in irregular periods, being triggered by stimuli not painful, as the simple act of speaking, or chewing.<sup>1</sup> Galassi, Blasi, Galassi et al. reported that the pain crisis may occur when the individual handling given areas of the face, called trigger zones. These areas are located ipsilateral to pain, usually around the nose and near the lips. The attacks often stimulate other responses such as salivation, facial flushing, lacrimation, or rhinorrhea. During a refractory period of pain, even in the presence of stimuli on the trigger zones, the painful process is not triggered.<sup>2</sup> In neuropathic pain it is common neuralgic pain in dentistry practice, so misdiagnosis is not uncommon due to lack of awareness, proper investigation and treatment.<sup>8</sup>

Clinically, the TGN can be confused with disorders related to teeth, facial bones and paranasal sinuses, leading to a variety of therapeutic incorrect. Disease severity is underscored by having one of the highest suicide rates in relation to any disease, and is considered one of the most painful diseases known.<sup>3</sup> Due to these symptoms, patients are likely to consult their local dentist when symptoms first develop and may receive further dental evaluation and treatment before they are referred to a neurologist.<sup>2</sup> Dentists should be accustomed with

TGN to differentiate it from orofacial pain and prevent unnecessary tooth extraction. Facial pain has a considerable impact on quality of life. It has been recently shown that TGN is the most frequent type of facial pain<sup>4</sup> and that, among facial pain syndromes, the overall incidence of TGN has remained constant<sup>5</sup> ranging from 12.6/100,000/year<sup>4</sup> 27/100,000/ year.<sup>3</sup>

### Methods

Observational Cross-sectional study. Study duration: 1<sup>st</sup> Jan, 2019 -31<sup>st</sup> Dec, 2019. Objective of the study to determine the frequency of unnecessary tooth extraction in patients with trigeminal neuralgia. we interviewed and collected data of 141 patients presented at neurology out-patient clinic at Lahore General Hospital, with characteristic clinical features and diagnosis of Trigeminal Neuralgia. Diagnosis was purely based on history, clinical examination and specific nature of pain and presence of trigger zones, Patients with atypical facial pain and diseases mimics trigeminal neuralgia were excluded from study.

### Results

We interviewed and collected data from 141 patients having diagnosis of trigeminal neuralgia. 84 were female's verses 57 males (F: M ratio 1.4:1) with age range 30-77 years. Out of these patients 63 (44.6%) of them got their teeth extracted before exact diagnosis of trigeminal neuralgia. Patients were divided into two groups on basis of their age. First group (30-40 years) included 14 females and 9 males

who got their teeth extracted. In second group (40-77 years) 25 were females and 15 were male. Total no. of teeth extracted were 2 to maximum of 8 teeth. (Table-1)

**Table-1:** Frequency of unnecessary tooth extraction in trigeminal neuralgia.

| Study variable   | Values            |
|--|-------------------|
| Total Number of Patients   | 141               |
| Male   | 84                |
| Female   | 57                |
| F:M Ratio  | 1.4:1             |
| Number of patients with teeth extraction before diagnosis of TGN | 63 (44.6%)        |
| Groups in reference to age                                       | 2 Groups          |
|  | Age < 40 Years    |
|  | Age > 40 Years    |
| Age > 40 years   | Female 14 Male 09 |
| Age < 40 years   | Female 25 Male 15 |
| Number of Teeth extracted  | Minimum 2         |
|  | Maximum 8         |

## Discussion

Trigeminal neuralgia (TGN) is a syndrome whose patients suffer from episodes of excruciating facial pain in the territory of one or more divisions of the trigeminal nerve that can arise spontaneously or after a gentle tactile stimulation of a trigger point on the face or in the oral cavity or that can be triggered by natural activities, such as chewing, speaking, washing the face, or brushing the teeth. When the pain involves the maxillary or mandibular division of the trigeminal nerve, primary odontogenic syndrome should be considered as differential diagnosis. However, usually, it should be relatively easy, after a throughout anamnesis and clinical examination, to identify if the pain originates from the teeth or not. Therefore, if from a patient perspective, it is understandable to ask for a dental evaluation after the appearance of the first symptoms; it is surprising from a neurological point of view that many patients with a vibrant history of idiopathic TGN have their teeth extracted

before a definitive diagnosis is made. A paper appeared in 1983 by Garvan and Siegfried<sup>6</sup> showed that 73 % of patients with trigeminal neuralgia had a dental assessment before diagnosis and that 65 % of them had a range from 1 to 32 teeth extracted.<sup>6</sup>

which corresponds to our study in which 63 patients (44.6%) despite having teeth extraction found no relief of their orofacial pain and presented to neurology department with no symptomatic relieve. On detailed examination and history taking we found that most of these patient presented to us with either preliminary diagnosis of TGN or definitive diagnosis had there multiple tooth extracted ranging from two to eight in number with no relieve in their pain otherwise.

Here I would like to highlight another important perspective of our study in which demographically out of 141 subjects of our study 63 got their tooth extracted whereas out of 63 majority that is 39 were female who responded poorly to tooth extraction as a management of their orofacial pain. Comparing to a study done in Pakistan back in 2013 with title of Spectrum of Trigeminal Neuralgia Out of 117 cases, 49 (41.9%) were males and remaining 68 (58.1%) were females. Among these 117 cases 108 underwent unnecessary dental extraction with no improvement in their symptoms.<sup>7</sup>

Despite an era of rapid advancements in science and medicine, there is no significant difference in unnecessary dental extraction in patients with trigeminal neuralgia. This is in part because of the treacherous nature of the disease that mimics the more common dental conditions. However, the solution to this problem is not just providing stronger educational provision for our dentist colleagues. "Facial pain" should be discussed with more frequency and in more depth in joint meetings between all specialties involved in the field. This paper also emphasizes the importance of what we recognize as "continuous medical education".

## Conclusion

In our study has shown that a high percentage of patients that were treated for idiopathic TGN initially consulted their local dentist and received dental therapy first. This pattern has long been known, was first systematically assessed decades

ago, and surprisingly has not changed since. Dentists should work in collaboration with neurologists to evaluate orofacial pain syndrome patients for possible idiopathic TGN. This would result in early diagnosis of

trigeminal neuralgia and its proper management and prevention of unnecessary tooth extraction.

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