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CASE REPORT

Trigeminal Neuralgia with Clinical and Radiological Findings: 3 Case Reports

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ÖZET

Trigeminal nevralji (TN) trigeminal sinirin (V) duyu dallarını tutan şiddetli ve geçmeyen ağrılar ile karakterize psikonevrotik bir hastalıktır. Hastalığın en tipik özelliği olan ağrı hastalar tarafından; kısa veya uzun süreli gelişen, elektrik çarpar tarzda, yanıcı, batıcı ve zonklar şekilde tarif edilmektedir. Ağrı sinirin duyu dallarının hepsini tutabileceği gibi maksiller (V2) ve mandibular (V3) sinirin innerve ettiği bölgelerde daha sık gözlenmektedir. Bundan dolayı yüz ağrısı ile karışan diş ağrıları için diş hekimlerine başvuran hastalarda uygun olmayan tedavilerden kaçınmak için diş hekimleri ve cerrahların yaptığı titiz, düzenli takipler ve kranial sinirlerin doğru muayenesi çok önemlidir. Aksi takdirde doğru klinik öykü ve ağrı tipi sorgulanmadığında hastalara yanlış teşhis kaynaklı kanal tedavileri hatta diş çekimleri uygulanabilmekte buna rağmen hastaların ağrıları geçmemektedir. Bu makalede ele alınan üç olguda da görüleceği gibi TN teşhisi konmadan önce hastaların birçok dişine kanal tedavisi uygulandığı daha kötüsü çekildiği tespit edilmiştir. Diş hekimlerinin TN kaynaklı ağrılar ile diş ağrıları arasındaki ayrım konusunda dikkatli olmaları hastalara uygulanacak yanlış tedavilerin önüne geçebilmeleri açısından çok önemlidir.

Anahtar Kelimeler: Ağrı, Trigeminal Nevralji, Yanlış Tedavi

ABSTRACT

Trigeminal neuralgia (TN) is a psychoneurotic disease involving the sensory branches of the trigeminal nerve (V) and characterized by severe and persistent pain. Pain, which is the most typical feature of the disease, is described by patients as short or long term, electric shock, burning, stinging and throbbing. Pain may involve all sensory branches of the nerve, and it is more common in areas innervated by the maxillary (V2) and mandibular (V3) nerve. Therefore, meticulous and regular follow-ups performed by dentists and oral surgeons and accurate examination of the cranial nerves are very important in order to avoid inappropriate treatments in patients who apply to dentists due to toothaches confused with facial pain. Otherwise, if the correct clinical history and pain type are not questioned, root canal treatments or even tooth extractions can be applied to patients due to misdiagnosis, also the pain does not go away. As can be seen in the three cases discussed in this article, it has been determined that many of the patients' teeth were treated with root canal treatment before the diagnosis of TN, and worse they were removed. It is very important for dentists to be careful about the distinction between TN-induced pain and toothache, in order to prevent incorrect treatments to be applied to patients.

Keywords: Pain, Trigeminal Neuralgia, Mistreatment

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INTRODUCTION

Trigeminal neuralgia (TN) is a neuropathic disease that mostly affects the sensory branches of the trigeminal nerve unilaterally and is characterized by severe pain. While the areas innervated by the mandibular and maxillary nerves, which are the terminal branches of the nerve, are more frequently affected, the ophthalmic (V1) branch is less affected. In TN, the right half of the face is more affected. While the age of onset of the disease is usually 50 years or older, it has also been reported to occur in children under 3 years of age. It is 3 three times less likely to occur in men than in women (1-2). There are certain parameters that are considered in the diagnosis of TN. Pain, which is the most serious symptom of the disease, is an important indicator in diagnosis (3). Pain in TN can be seen in the eyes, ears, lips, forehead, scalp, teeth, jaws like in any region innervated by the trigeminal nerve. Patients experience TN pain as very severe, burning, stinging, electric shock or stabbing and described it as short or long-term pain. The pain can cause from daily activities such as brushing teeth, eating, or lightly compressed air or hair touching to the face. In more advanced cases, tying a shawl around the neck and even loud noise causes pain (4). Since TN is a disease closely related to teeth and surrounding tissues, dentists should be very careful. If it is not diagnosed correctly, it is inevitable to apply wrong and ineffective treatments as a result of false toothaches that can be confused with TN pain.

CASE REPORTS

Case 1

A 58-year-old male patient, who was diagnosed with TN two months ago, applied to the Oral, Dental and Maxillofacial Radiology Department of Fırat University Faculty of Dentistry due to severe pain in his right upper teeth and swelling in the lower eyelid (Figure 1).

Figure 1: Extraoral appearance of case 1. Localized fluctuant swelling in the lower right eyelid and infraorbital area.

It was observed that the patient had a right arm amputation. In the anamnesis taken from the patient, it was learned that he had angiogram history one year ago and asthma. In the clinical examination of the patient, it was observed that there was an abscess and swelling under the right eye area, and it was learned that there was generalized (as the patient said) burning, stinging and throbbing pain in the right half of the face. In addition, the patient stated that he had difficulty in daily activities such as eating and drinking. In the intraoral examination accompanied by orthopantomography (OPG), tooth loss in the right maxilla posterior region and the presence of a root canal treated and deeply filled tooth were detected (Figure 2). The patient was informed that the general cause of his pain was TN, and he was referred to the relevant departments.

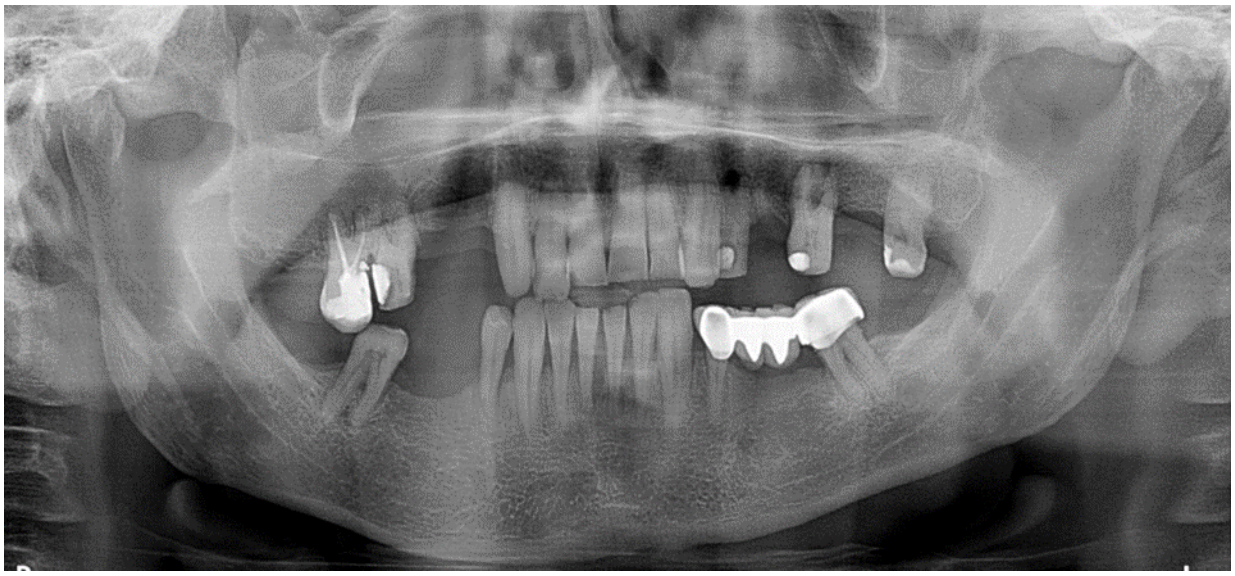

Figure 2: Orthopantomographic image of case 1. Multiple missing teeth secondary to tooth extraction caused by persistent and severe pain in the maxilla and mandible.

Case 2

A systemically healthy 47-year-old male patient who was diagnosed with TN five years ago applied to the Fırat University Faculty of Dentistry with the complaint of pain in the teeth under the fixed partial prosthesis in the left mandible posterior region. In the anamnesis taken from the patient, it was learned that he used Laroxyl 10 mg, Carbamazepine 20 mg daily and Alprazolam 1mg daily for TN pain. The patient complained of severe, electrifying, burning and throbbing pain on the left side of his face that started from his forehead and spread to his upper and lower jaws. In the clinical examination, it was determined that the patient's eyes were glided, and it was learned that this glide started shortly before the diagnosis of TN. In the intraoral examination performed with OPG, it was determined that there was 70% tooth loss in the maxilla and dental treatment was applied to the remaining teeth for various reasons (Figure 3). The patient, who is aware that the source of pain is not a tooth, explained that he had many teeth extracted due to pain until he was diagnosed with TN, but the pain did not go away, and stated that the person who made the initial diagnosis and referred the patient to the neurology service was a dentist. The patient was referred to the relevant departments for the evaluation of mandibular fixed partial prosthesis.

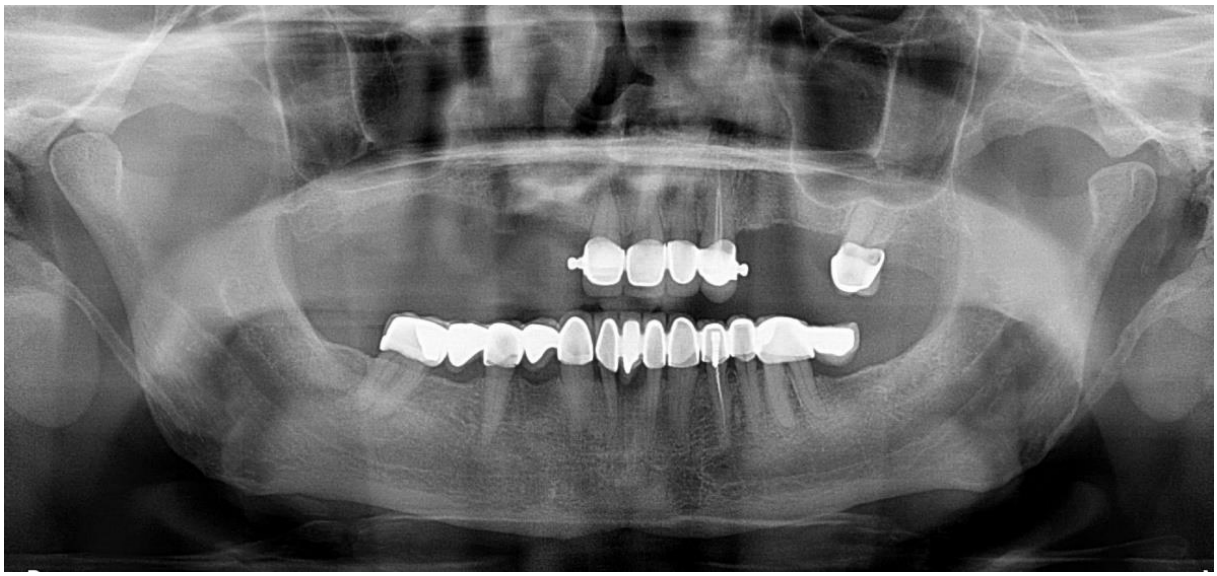

Figure 3: Orthopantomographic image of case 2. Common tooth extractions caused by persistent pain before the diagnosis of TN.

Case 3

A 68-year-old male patient applied to the Oral, Dental and Maxillofacial Radiology Department of Fırat University Faculty of Dentistry with the complaints of severe pain on the right side of face, mobility in teeth and intense bleeding in gingiva. In the anamnesis taken from the patient, it was learned that he had angiography 10 years ago and that he did not have any other systemic disease. The patient generally mentioned that he had electric shock, burning and stinging pains in the right half of his face, starting from the forehead and extending to the lower half, lasting from one minute to hours. In the intraoral examination with OPG, edentulousness in the right maxillary region and mobility due to advanced periodontitis in the existing teeth were detected (Figure 4). When the patient was asked about the loss of the right maxillary teeth, it was learned that he had extracted the teeth due to pain, but pain still did not go away. The patient was referred to the periodontology service with the diagnosis of advanced periodontitis and was consulted to the neurology service with the preliminary diagnosis of TN. Three patients included in the cases were informed about the study and their consents were obtained.

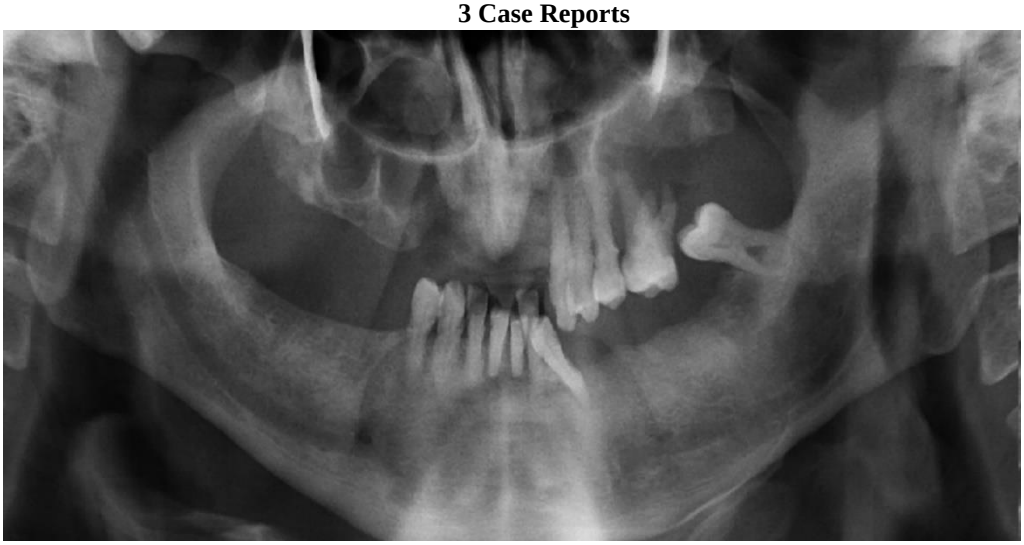

Figure 4: Orthopantomographic image of case 3. Total loss of teeth in the right region as a result of confusion of TN pain with toothache and accompanied by multiple tooth deficiency.

DISCUSSION

Diagnosis of facial pain is a task that requires meticulousness and expertise. Being able to interpret and diagnose pain correctly can save patients and physicians from many possible problems (5).

Since TN pain is seen in the oral cavity and face, patients may often confuse it with toothache and apply to the dentist first. During this time, the dentist may have applied many irreversible treatments or even extractions due to neuralgia-related pains that are confused with toothaches without being diagnosed correctly. Finally, when the patient is referred to the relevant department because of the pain that does not go away after dental treatments, may have already lost many of teeth. This is the case in all three cases we described in our article. The patients were exposed to many unnecessary treatments and extractions because the TN picture was confused with toothache. The biggest reason for this situation may be insufficient or forgotten knowledge of physicians on pain types (6).

The diagnostic grading system of neuropathic pain is difficult to apply in TN because it can be seen in any region innervated by the V2 and V3 nerves, which are branches of the trigeminal nerve that receives facial innervation. However, the presence of trigger zones in the patient and the clinical symptoms of these zones on physical examination are specific enough to clinically establish TN and diagnose possible neuropathic pain (7). In the cases in our article, there was generalized pain in the related half of the faces and certain trigger zones were not detected.

TN pain can be confused with trigeminal neuropathic pain. For example, it should be differentiated from the pain caused by the Herpes Zoster virus that involves the trigeminal nerve. Herpes Zoster involvement is manifested by burning, severe pain along the trigeminal nerve trace and vesicles seen on the skin-mucous surface (8). Herpes infection was not detected in the anamnesis of all cases in our article.

The age, gender, characteristics of pain and the affected area of the patients who apply to the clinic should be evaluated correctly. Noguchi et al. investigated the effects of age, gender, pain characteristics and carbamazepine use in patients diagnosed with TN. In their research, the average age was 60 and the incidence of TN was higher over the age of 50. While TN is more common in women, the age of detection in male patients is generally below the average. Although the mean age of the patients in our article was consistent with the

mean age determined in the study of Noguchi et al., the fact that all three patients in our study where male differs according to the literature. In the study of Noguchi et al., it was observed that the V2 and V3 branches of the trigeminal nerve were more affected (9). In our study, in addition to V2 and V3 involvement, involvement in V1 branch was observed in cases 1 and 2.

The definition of pain may vary from patient to patient. However, Melzack et al. described this pain as "sudden spontaneous pain" with a rate of 90% (10). All three cases in our article had symptoms consistent with Melzack et al. and, they had different pain definitions.

Evaluation and treatment of TN involves the multidisciplinary work of clinicians in various fields of medicine, including neurology, neuroradiology, neurosurgery, dentistry, maxillofacial surgery and pain medicine specialists. The classification system for TN should consider common differential diagnoses in these disciplines. The possibility of invasive treatment necessity in patients with classical TN whose pain is not adequately relieved by medication or patients with secondary TN emphasizes the importance of diagnostic certainty (11).

In cases of diagnosed TN, medical treatment in which carbamazepine and phenytoin are frequently preferred and interventional treatment options such as microvascular decompression, partial sensory rhizotomy, percutaneous radiofrequency thermocoagulation, percutaneous glycerol gangliosis, percutaneous balloon microcompression, gamma knife radiosurgery, cyberknife radiosurgery, cryotherapy, peripheral alcohol blockade, peripheral neuroctomy, peripheral glycerol injection is present (3). In our study, the patients are followed up with medical treatment.

As a result, in line with the information presented by the study, if the physicians do not ask the right questions without taking the correct anamnesis, considering only the patient's words, it may cause the patient to lose many teeth unnecessarily. In order to prevent this scene, dentists should know the typical pain tables of neuralgia and similar diseases and should always keep TN in mind in case of persistent pain and have the competence to refer the patients to the right department.

Conflict of Interest

There is no conflict of interest between the authors in the publication of this article.

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