ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at:www.ijdsir.com

Volume – 7, Issue – 6, November – 2024, Page No. : 82 - 85

Navigating Trigeminal Nuralgia: Hope for Rural Patient-A Case Report

[1]Dr. Sushma. S, Post Graduate, Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan, Karnataka

[2]Dr.Adarsh L.Pawar, Reader, Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan, Karnataka

[3]Dr.K.S. Manjunath, Professor and HOD, Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan, Karnataka

[4]Dr.Supreet J Kanekal, Post Graduate, Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan, Karnataka

Corresponding Author: Dr. Sushma. S, Post Graduate, Department of Oral and Maxillofacial Surgery, Sri Hasanamba Dental College and Hospital, Vidyanagar, Hassan, Karnataka

Citation of this Article: Dr. Sushma. S, Dr.Adarsh L.Pawar, Dr.K.S. Manjunath, Dr.Supreet J Kanekal, "Navigating Trigeminal Nuralgia: Hope for Rural Patient-A Case Report", IJDSIR- November – 2024, Volume –7, Issue - 6, P. No. 82 – 85.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Tic douloureux or Trigeminal neuralgia is a nerve disorder of the face defined as sudden, usually unilateral, severe brief, stabbing, lancinating, paroxysmal recurring pain in the distribution of one or more branches of 5th cranial nerve. It is described in innumerable terms ranging from "stabbing", suicidal, lancinating and electric shock like originating along the distribution of trigeminal nerve. The medical treatment fails in 30% of the patients, either through inadequate pain control or due to intolerable side effects therefore, surgical management is indicated in these patients. There are many available surgical procedures used for the treatment of TN. Peripheral neurectomy is simple, low-risk procedure that involves surgical avulsion of the post ganglionic part of the trigeminal nerve divisions, usually performed under local anesthesia for managing peripheral pain in TN.

Keywords: Trigeminal neuralgia, Peripheral neurectomy.

Introduction

Trigeminal neuralgia is almost always unilateral and can involve any or all divisions of the trigeminal nerve, although V2 and V3 are most commonly affected. The most common etiology of trigeminal neuralgia is vascular compression of the nerve root, frequently by the superior cerebellar artery. Various therapeutic interventions are available for trigeminal neuralgia, and

pharmacological therapy is the preferred initial intervention regardless of the underlying etiology. If medical treatment for trigeminal neuralgia is ineffective, surgery may be necessary. In rural and distant places, peripheral neurectomy is one of the safest and most successful procedures that may be performed under local anesthesia.

Case presentation

A 70-year-old man came to our oral and maxillofacial surgery department at Sri Hasanamba Dental College Hassan with the main complaint of persistent pain in his left midface area since 5 year, which he described as a 10/10 electric shock pain that flares up 8–10 times a day for a few seconds and gets worse when he eats, brushes, or talks. He also clutches his hand over the affected side of his face.The patient reports that after receiving medication at a private clinic, his discomfort lessened, but it returned a few months later. Extraoral trigger points were palpated in the superior labial region and lateral nasal area. Carbamazepine was not having any effect on the patient. For one hour, the symptoms were resolved by a diagnostic nerve block using 2% lidocaine and 1:800000 adrenaline in the infraorbital nerve area. There was recurrence of the symptoms when once the effect of anaesthesia effect is reduced.This confirmed the involved infra orbital nerve suggestive of infra orbital neuralgia. His preoperative VAS score was 8.

Carbamazepine and gabapentin was not having any effect on the patient. The patient had cryosurgery, but the pain persisted. He was informed of the benefits and drawbacks of every treatment strategy. Written `consent was obtained and the patient consented to a peripheral neurectomy of the infra orbital nerve. The visual analogue scale (VAS) was employed to measure pain both before surgery and during the post-operative phase. The patient gave informed written consent for the peripheral neurectomy of the affected trigeminal nerve branch.

Treatment

Surgical treatment

Patient painted and draped under standard aseptic precautions. Local anesthesia achieved on the right infraorbital nerve with 2% lidocaine 1:800000 adrenalines. A right vestibular incision placed from lateral incisor to first molar (fig a).A full thickness mucoperiosteal flap is reflected (fig b) to expose the nerve bundle (figc).The nerve bundle is free from investing muscles and skeletalination done. The nerve was held with mosquito forceps and twisted completely and removed from foramen.Irrigation with betadine and saline done. Hemostasis achieved and wound closure with 3-0 BBS. (fige). Analgesics and antibiotics were prescribed. Recalled after 10 days for suture removal and follow up was done at every 1st whose VAS score was 7/10, at 3rd month VAS score was 5/10, at 6th month VAS score was 3/10.After the neurectomy, the patient's symptoms got better.

Since neuralgia can be treated using a variety of techniques, including alcohol injections, stereotactic radiosurgery, cryosurgery, microvascular decompression, and radiofrequency thermo coagulation, A unique treatment for neuralgia in rural and isolated settings is peripheral neurectomy.

Discussion

Trigeminal neuralgia is a neuropathic facial pain syndrome, described as a sudden, severe, brief, stabbing, usually unilateral, recurring pain in the distribution of one or more divisions of the trigeminal nerve. The pain lasts from seconds to minutes and is triggered by trivial stimuli such as shaving, brushing the teeth, washing the face, talking, and eating.[(1)]It was more common among women compared to men[(2)]. Carbamazepine is the first

line drug if there is decrease in efficacy or tolerability of medication, surgery needs to be considered. Factors such as pain relief, recurrence rates, morbidity and mortality rates should be taken in to account while considering which technique to use. Peripheral neurectomy is a safe and effective procedure for elderly patients and in rural and remote centers where neurosurgical facilities are not available. It is also effective in those patients who are reluctant for major neurosurgical procedures [(3)]. Trigeminal neuralgia etiology can be classified into idiopathic, classic, and secondary. Classic trigeminal neuralgia is associated with neurovascular compression in the trigeminal root entry zone, which can lead to demyelination and a dysregulation of voltage-gated sodium channel expression in the membrane. These alterations may be responsible for pain attacks in trigeminal neuralgia patients[(8)]. Peripheral neurectomy provides short to medium-term good pain control for patients with TN. The preoperative severity of pain, anxiety, and depression levels improved markedly after the procedure[(6)]. Percutaneous trigeminal neurolysis remains a useful minimally invasive approach for the older patient and for the patient with medical comorbidity and a shorter life expectancy[(7)]. After avulsion of the involved nerves, a suitable-sized titanium screw was inserted into the mental and infra-orbital foramina. Obturation of the foreman prevented nerve regeneration, which further prolonged the pain remission period[(10)]. Peripheral neurectomy is one of the minimally invasive and expeditious forms of surgical modality for the treatment of trigeminal neuralgia. This treatment option is cost effective and provides long term relief from neuralgic pain[(11)].

References

1. Okeson JP. The classification of orofacial pains. Oral Maxillofacial Surg Clin N Am. 2008;20:133–44.
2. Koopman JS, Dieleman JP, Huygen FJ, de Mos M, Martin CG, Sturkenboom MC. Incidence of facial pain in the general population. Pain. 2009;147:122–7.
3. Ali FM, Prasant M, Pai D, et al. Peripheral neurectomies: a treatment option for trigeminal neuralgia in rural practice. J Neurosci Rural Pract. 2012;3:152–157.
4. Adams H, Pendleton C, Latimer K, et al. Harvey Cushing's case series of trigeminal neuralgia at the Johns Hopkins Hospital: a surgeon's quest to advance the treatment of the 'suicide disease.' Acta Neurochir (Wien). 2011;153:1043–1050.
5. Yuvaraj V, Krishnan B, Therese BA, Balaji TS. Efficacy of neurectomy of peripheral branches of the trigeminal nerve in trigeminal neuralgia: A critical review of the literature. J Maxillofac Oral Surg. 2019;18:15–22.
6. Lamichhane NS, Du X, Li S, Poudel DC. Effectiveness of peripheral neurectomy in refractory cases of trigeminal neuralgia. J Orofac Sci. 2016;8:86–91. .
7. Liu JK, Apfelbaum RI. Treatment of trigeminal neuralgia. Neurosurg Clin N Am. 2004;15:319–34.
8. Gambeta E, Chichorro JG, Zamponi GW. Trigeminal neuralgia: An overview from pathophysiology to pharmacological treatments. Mol Pain. 2020;16:1–18.
9. Chole R, Patil R, Degwekar SS, Bhowate RR. Drug treatment of trigeminal neuralgia: A systematic review of the literature. J Oral Maxillofac Surg. 2007;65:40–5.

10. Hong-Sai L. Surgical treatment of trigeminal neuralgia. J Oral Rehabil. 1999;26:613–7.
11. Chandan S, Halli R, Sane VD. Peripheral neurectomy: minimally invasive surgical modality for trigeminal neuralgia in Indian population: a retrospective analysis of 20 cases. J Maxillofac Oral Surg. 2014; 13:295–299.

Legend Figures

Figure 1:

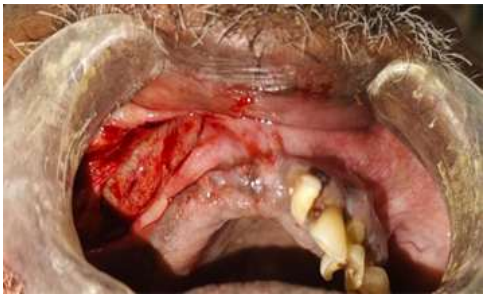

Figure 2:

Figure 3:

Figure 4:

Figure 5: