

Short note on trigeminal neuralgia

Deeksha Pharasi, Aakshi Kainthola

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ABSTRACT

The neurological condition Trigeminal Neuralgia (TGN), also known as "Tic Douloureux" affects the sensory portion of the fifth cranial (trigeminal) nerve and is characterized by recurrent episodes of intense, shock-like pain that are localized to one or more of the nerve's three major branches: The Ophthalmic (V1), Maxillary (V2), or Mandibular (V3). Typically, when certain trigger zones are stimulated by movement

or contact, painful, lancinating facial pain results. The lips, gums, cheek, or chin may all be affected by paroxysmal pain. TGN is uncommon before the third decade of life and affects roughly 1 person in 25,000 people in the general population.

Key Words: *Local anesthetic; Eye anesthetic; Trigeminal neuralgia; Antidepressants; Pharmacotherapy*

INTRODUCTION

Currently, the first-line treatment for Trigeminal Neuralgia TGN is pharmacotherapy, which includes analgesics, anticonvulsants, and antidepressants. Surgery is only used to address persistent, intractable pain. A strong surface local anesthetic, methocaine is a 2-(dimethylamino) ethyl ester of 4-(butylamino) benzoic acid, which blocks sensory nerve endings close to the application site. Amethocaine hydrochloride is a medication used in ophthalmology to numb the cornea during ophthalmological operations. Previous studies discovered that a single application of an eye drops of amethocaine did not provide any statistically meaningful pain alleviation [1-3].

TRIGEMINAL NEURALGIA

John Fothergill is credited with describing Trigeminal Neuralgia TGN for the first time in 1773 (also known as Fothergill's sickness). Avicenna's texts from the 11th century do, however, contain early accounts [1].

The fifth cranial nerve's distribution, which includes one or more of its branches, is where the International Association of Pain describes TGN as a recurrent, typically unilateral, short-stabbing pain [2]. A local anesthetic called methocaine hydrochlorides is particularly helpful for reducing discomfort after removing foreign objects from the eye and is used for minor conjunctival and corneal surgery. TGN may be benign Gasserian ganglion compression or due to multiple sclerosis or idiopathic (classic) (the sensory ganglion of the trigeminal

nerve) [4].

The trigeminal nerve supplies the face, teeth, mouth, and nasal cavity through its sensory root, which spreads into the trigeminal ganglion, which houses the cells that give rise to the sensory fibers and from which the three divisions of the nerve emerge. By chance, Zavon and Fichte 1991 learned that TGN might be treated using eye anesthetics (proparacaine). TGN patient Zavon discovered that his pain stopped for more than a year as soon as an eye anesthetic was used (to treat corneal ulcers). When they used the anesthetic on a second TGN patient, they were able to relieve their discomfort for more than a month [5].

Using eye anesthetics frequently has been linked to toxic keratopathy and slowed wound healing in the eyes. As a result, it was urged that eye anesthetics be used with extreme caution and that patients not wipe their eyes for at least an hour after the procedure. TGN treatment goals include eliminating pain, lowering the risk of recurrence, and lengthening the time before recurrence through the selective destruction of pain fibers without causing significant sensory loss, motor dysfunction, or other side effects. TGN may be treated surgically, using microvascular decompression, partial trigeminal rhizotomy, stereotactic radiosurgery, radiofrequency denervation, cryotherapy, or chemical denervation targeted at the trigeminal nerve's root (rhizotomy), ganglion (gangliolysis), or branches [6,7]. These, however, need additional skill, intrusive treatments, and a high risk of complications.

Department of Life Science, Graphic Era University, Dehradun, India.

Correspondence: Deeksha Pharasi, Department of Life Science, Graphic Era University, Dehradun, India, E-mail: deeksha_doon@hotmail.com

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Prior research has demonstrated the safety and efficacy of peripheral nerve blocks using high concentrations of local anesthetics for the treatment of TGN, providing pain relief for weeks following an infraorbital block [8,9]. Poor-quality methodological trials hinder the treatment of TGN as a whole.

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