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Title: Trigeminal neuralgia and scope of homoeopathy- A comprehensive review

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ABSTRACT

“Trigeminal neuralgia (TN), is described by severe stabbing or sharp intermittent paroxysmal facial pain mostly to one side of face along with the course of trigeminal nerve distribution, occurs due to degenerative condition of the compressed trigeminal nerve. Stimulation like touch, light, talking and chewing can lead to severe pain. Diagnosis is typically determined clinically and confirmed by magnetic resonance imaging including high resolution trigeminal sequence. TN may be managed by conservative management including antiepileptic and antidepressant drugs, surgery or other complimentary approach. There is ample of scope to treat TN with homoeopathic medicines and with its individualistic approach and also homoeopathy has shown its efficacy in different evidenced based published case reports.”

Keywords: Homoeopathy, Homoeopathic case reports, Trigeminal neuralgia

INTRODUCTION

TN or tic douloureux is of unilateral intermittent chronic facial pain affects trigeminal nerve or its other branches which supplies the

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forehead, cheeks and lower jaw. The pain could be so severe and debilitating that can hamper the quality of life of the affected

individuals and may lead them to depression and social withdrawal on account of frequent attacks of pain episodes^[1]

Classic TN can be defined as “A unilateral disorder characterized by brief electric-shock like pains, abrupt in onset and termination (fraction of second to 2 minutes), and limited to the distribution of one or more divisions of the trigeminal nerve.”^[2]

French physician Nicolaus Andre coined the term “tic douloureux” in the year 1756. TN has an incidence of approximately 4/100,000, with a large majority of cases occurring spontaneously. TN can affect both the sex but the rate of affection of TN is more with female sex (approximate male and female ratio 1:1.8), and the diagnosis is most common after 4th or 5th decades of life.^[3,4,5,6]

TN is very commonly and regularly observed in different parts of our country but the data of incidence rate and prevalence ratio is still unrevealed.^[7,8]

DIAGNOSTIC CRITERIA AND CLASSIFICATION

International Classification of Headache Disorders edition 3 (ICHD-3) diagnostic criteria for trigeminal neuralgia^[9]

- A. Recurrent paroxysms of unilateral facial pain in the distribution(s) of one or more divisions of the trigeminal nerve, with no radiation beyond, and fulfilling criteria B and C.
- B. Pain has all of the following characteristics:
 - a. Lasting from a fraction of a second to 2 min.
 - b. Severe intensity.
 - c. Electric shock-like shooting, stabbing or sharp in quality.
- C. Precipitated by innocuous stimuli within the affected trigeminal distribution.
- D. Not better accounted for by another ICHD-3 diagnosis.

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TN has been classified as follows according to the International Association for the Study of Pain (IASP) and the International Classification of Headache Disorders, Third Edition (ICHD-3)^[9,10] which are- Classical TN, which is the most common and constitutes 75% of cases, and pain, is related to neurovascular compressions with some changes in morphology (atrophy, distortion, indentation). Secondary TN comprises of 15% of total cases due to presence of underlying neurological disease like presence of tumour in cerebellopontine angle, or due to diseases like Multiple sclerosis (MS) or can be due to cyst or any severe facial injury and about 10% of total cases are Idiopathic where no apparent cause can be evaluated. Classical and idiopathic cases can presented as purely paroxysmal pain (PPP) and concomitant continuous type of pain (CCP).^[10,11]

PATHOPHYSIOLOGY

Trigeminal nerve (TRN) a general sensory nerve along with its three major divisions ophthalmic (V1), maxillary (V2) and mandibular (V3) carry touch, temperature and proprioception from different structures of head, face, and adjacent mucosal and meningeal tissues. The sensation from different area of face and mouth conducted through TRN to trigeminal nucleus then to thalamus and finally from thalamus to the somatosensory cortex of the parietal lobe via thalamocortical pathways.^[11]

The cause behind TN pain attacks is multifactorial. Most of the symptoms of TN caused by generation of ectopic action potentials in pain sensitive nerve fibres of TN due to focal compression of TRN root at midpontine level. The compressio caused by an abnormal tortuous blood vessels or by meningioma, posterior cranial fossa tumours, schwannomas etc. In the majority of cases of TN vascular compression is believed to age related brain sagging or increased vascular thickness.^[12]

Other theory says that in long run patient of multiple sclerosis may have chance to develop bilateral TN due to demyelination process at the root of entry zone. Then another study reveals that the principle infiltrative causes of TN are carcinomatous deposits within the nerve root and trigeminal ganglion. Simultaneously other evidenced based case reports also suggest that non-demyelinating lesions like infarction or angioma of the pons or medulla and autosomal dominant transmission are also responsible for development of TN.^[13,14,15]

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CLINICAL FEATURES

Classic TN is characterized by abrupt onset and termination of unilateral brief electric shock-like pain. Pain is often limited to the distribution of one or more {ophthalmic (V1), maxillary (V2) and mandibular (V3)} and more commonly the second and third divisions of the trigeminal nerve. Trivial sensory stimuli including washing, shaving, smoking, talking, brushing the teeth and/or exposure to cold air (trigger factors) can evoke the pain. Each attack lasts only seconds, but the pain may be repetitive at short intervals so that the individual attacks blur into one another. After many attacks within a few hours, the patient may describe a residual lingering facial pain.^[16,17]

Areas near to nasolabial fold and/or chin may be particularly susceptible to stimulation (trigger areas). In individual patients, pain attacks are stereotyped, recurring with the same intensity and distribution. Most TN patients are symptom free between attacks, and clinical examination is usually normal. Attacks of TN occur in clusters, and remissions can last for months. Attacks of pain during sleep are uncommon, but do occur. Frequent attacks may be associated with weight loss, dehydration, or depression.^[17,18]

DIFFERENTIAL DIAGNOSIS

To diagnose TN it requires detailed case history and relevant clinical and radiological investigations. Classical TN must have unilateral onset of recurrent paroxysmal electric shock like shooting or stabbing facial pain affect different area which are being supplied by the branches of trigeminal nerve with duration of few seconds to 2 minutes. The pain mostly triggered by touch, light, motion or exposure to cool breeze.^[14]

However it becomes a challenge to make differentiation between pure paroxysmal pain of classical TN and with other trigeminal neuralgic facial pain. Some painful facial conditions which may get confounded with the classical rare picture of TN are maxillary sinusitis, salivary gland stone, glossopharyngeal neuralgia, post herpetic neuralgia, burning mouth syndrome, alveolar osteitis, pulpitis, trigeminal autonomic cephalgias like cluster headache, paroxysmal hemicranias, short lasting unilateral neuralgiform headache attacks with cranial autonomic symptoms (SUNA), short- lasting unilateral neuralgiform headache attacks with conjunctival injection and tearing (SUNCT) requires indefatigable

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attention. Clinical and magnetic resonance imaging (MRI) combined together can evaluate the confounding factor in the diagnosis of TN and would help to proceed further in treatment protocol.^[17]

CONVENTIONAL MANAGEMENT OF TN

To combat the pain of TN conventional system of medicine usually takes two approach of treatment (non surgical and surgical) for different cases of TN depending upon the age of the individual, condition of general health, severity of symptoms and the underlying cause.^[17]

In non surgical or preventive approach anticonvulsants drugs like phenytoin and carbamazepine are frequently used since last 9 decades. Carbamazepine showed 70% efficacy rate in reduction of pain of TN but in long-run treatment with carbamazepine produce many side effects, including various hypersensitivity reactions, general weakness, upper gastro-intestinal symptoms (nausea and vomiting), neurological, renal and liver complications.^[17] Other new anticonvulsants drugs like oxcarbazepine, gabapentin, pregabalin, and topiramate also been tested and found poor efficacy in many trial. Local use of botulinum toxin A injections or capsaicin also demands high quality evidence to manage cases of TN.^[19]

Second approach surgical procedures are carefully being taken considering the risks and benefits for obstinate or intermittent TN or in the case of unendurable effects related to the conservative medications especially to younger patients. Three surgical method usually followed like Invasive, non-ablative method that is microvascular decompression said to have >70% success rate with 0.2 to 5% incidence rate of complications, where the suspected nerve compression usually removed and in second Invasive, ablative method where controlled lesioning of trigeminal ganglion or nerve root by balloon compression, radiofrequency thermocoagulation or by chemical application and last Non invasive, ablative method where radiation beam use at trigeminal root in posterior fossa. All above surgical procedures should be carefully considered keeping in view of their risks and benefits for the patients.^[17,18]

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HOMOEOPATHIC MANAGEMENT OF TN

As it is evident from several studies that use of carbamazepine as a conventional method of treatment induces several adverse effects, homoeopathy can surely be taken as a treatment of choice for betterment of pathological symptoms as well as emotional and mental well-being of the patients.

In Homoeopathic system of medicine, a person is examined thoroughly considering his or her past history; family history, personal history and physical as well as mental general symptoms to make the totality of symptoms and which ultimately help for the final selection of medicine. Some remedies which are frequently indicated in such cases are- ^[20,21]

- **Aconitum napellus**- First remedy in inflammations where complaints are more acute, sudden, and violent and caused by exposure to dry cold air or draughts of cold air. Left sided neuralgic pain with restlessness (physical and mental), tingling, and numbness.
- **Belladonna**- Vascular congestion with violent attack and sudden onset of right sided neuralgic pains that come and go suddenly with hot, red skin, flushed face and throbbing in carotid arteries, excited mental state and hyperaesthetic condition of all senses. Pain worse from touch, jar, noise, light and better by pressure.
- **Cedron simaruba ferroginea**- Pain especially on right side with marked periodicity is the characteristic.
- **China officinalis**- Spasmodic and throbbing pain with marked periodicity and parts are extreme sensitiveness to touch but relieved by hard pressure and warmth.
- **Gelsemium**- Neuralgia of face with hot, heavy, flushed, besotted looking along with general prostration (dizziness, drowsiness and dullness) are the marked characteristic. Where pain mostly aggravated by any emotion or excitement and even from thinking of complaint.
- **Glonoin**- Flushed face and left sided neuralgic pain with violent congestive headache worse from any kind of heat and with extreme mental irritability.
- **Magnesia phosphorica**- Suited for tired, languid, exhausted subject with right sided, severe paroxysmal neuralgic pain which appears and disappears suddenly and relieved by application external heat and pressure.
- **Mezerium**- Syphilitic character of pain, Left infra-orbital neuralgia extending into temple, worse at night, evening until midnight, chewing or opening mouth.

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- **Plantago major-** Has clinical reputation in the treatment of periodical trigeminal neuralgia worse 7am to 2pm, pain radiate to temples and lower face.
- **Sanguinaria canadensis-** Right sided neuralgic pain with headache starts from occiput, spreads upwards and settle in right eyes. Pain radiates from upper jaw in all direction. Worse from touch and motion, better from Kneeling, and pressing head firmly against floor.
- **Spigelia** - Neuralgia of the fifth nerve is very prominent in its effect. Left sided facial and supra-orbital, the pains coming at regular intervals aggravated by the least concussion, touch or motion, diminished by firm pressure.
- **Verbuscum thapsus-** Has marked action on the inferior maxillary branch of the fifth cranial nerve. Periodical (from 9am to 4pm) left sided neuralgic pain, affect zygoma, temporo maxillary joint and ear. Pain seems to come in flashes aggravated by least movement.

Though Trigeminal neuralgia is not a very common phenomenon, but there are published scholarly articles which narrates efficacy of homoeopathic treatment in such cases.

The article titled as “Individualized homeopathic treatment of trigeminal neuralgia: an observational study” was published in Homeopathy by Dr. N. Mojaver, F. Mosavi, A. Mazaherinezhad et al in the year 2007. In this study 15 patients were enrolled with ITN following inclusion and exclusion criteria and to measure the intensity of pain 100mm Visual analogue scale (VAS) was used. After case taking individualised homoeopathic medicine were selected and was given in oral liquid 30C potency once in a month. Monthly follow up has been done till the end of fourth month. At the end of study results were analysed and found that there was 60% in reduction of intensity and frequency of pain which were statistically significant ($P < 0.001$). So from the above study it was concluded that individualised homeopathic treatment can be an effective and safe method of the treatment for ITN.^[22]

Another case study on “Hypericum perforatum (St. John’s wort) as a Possible Therapeutic Alternative for the Management of Trigeminal Neuralgia (TN) – A Case Report” was published November 2016 in [Complementary Therapies in Medicine](#) by Khalil Assiri et al. It is found that a 53-year-old female patient visited orofacial pain clinic and giving history of severe paroxysmal sharp, shooting, electric like pain (30-40 attack/day) in right cheek and upper lip area since 2 months. She also explained same type of pain 3 years ago. Then after doing the clinical and radiological examination it was diagnosed with TN. As she was not getting an appointment for the clinic so she started taking

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homoeopathic medicine *Hypericum perforatum* 6C and 200C through internet source. They observed and follow-up the case and found she was pain free for a year. Different in vitro studies also stands that *Hypericum perforatum* has an antioxidant effect on neuropathic pain. Here from this case record we can say that homoeopathy has promising therapeutic action in the treatment of TN.^[23]

Another case report was published in the journal; Homoeopathic Links, 2018 named “Idiopathic Trigeminal Neuralgia: A Case Report”. A 51-year-old woman presented with right sided facial pain with redness of the eyes and excessive lachrymation for 5 years with an acute episode of pain since 2 days. Case was diagnosed as TN after doing the relevant clinical and radiological examination. Despite of any permanent relief under conventional medication, she opts for homoeopathic treatment. Where case was analysed and subsequently *Chelidonium* 30C, 200C and 1M, LM potency was prescribed. Followed by *Spigelia* 30C, 200C, 1M and *Pulsatilla* 200C, LM potency was selected next best remedy on the basis of symptoms similarity. Numerical rating scale for analysing pain and modified Naranjo criteria was used for causal attribution between homoeopathic intervention and outcome to established the role of individualised homoeopathy in the management of TN.^[24]

A case series can also be found titled as “Case Series of Trigeminal Neuralgia Managed With Classical Homeopathy” by Luisa Ferla, Aishwarya Madhusudhan, Seema Mahesh, published in September 2021. All the cases were under conventional treatment without any significant improvement. Individualised classical homoeopathic medicines like *Belladonna*, *Kalmia*, *Ignatia amara*, *Magnesia muriatica* and *Spigelia* were selected for all 5 different cases after doing repertorisation and final consultation with materia medica. Homoeopathic treatment option was chosen not only to primary pathology rather to consider the general well being of all the patients. These case series established the valid proven action of individualised classical homoeopathic medication in the treatment of neuralgic condition like TN.^[25]

CONCLUSION

Trigeminal neuralgia is a painful condition which affects the patient both physically and mentally due to the intensity and frequency of pain. But the conventional mode of treatment with anti-epileptic and muscle relaxant drugs permits only temporary relief and major chance of recurrence of the symptoms. Homoeopathy can be used as a useful alternative as well as adjuvant in case of treating patients with TN

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as the disease presents with diverse symptoms in each patient and psychological turmoil has a major role in its recurrence. But it needs more documentation of the cases, with appropriate clinical trials like randomized control trials that can generate the therapeutic potential Homoeopathy in cases of TN.

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CONFLICT OF INTEREST

None declared

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