



**28<sup>th</sup>** Annual Gabor Racz Advanced Interventional  
Pain Conference and Workshop  
Budapest, Hungary **August 25-27, 2025**



# Interventional Pain Management for Head and Neck Cancer

Dr. Manuel Herrero Trujillano, MD, FIPP, CIPS, EDPM



**28<sup>th</sup>** Annual Gabor Racz Advanced Interventional  
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# Conflicts of Interest

- No conflicts of interest



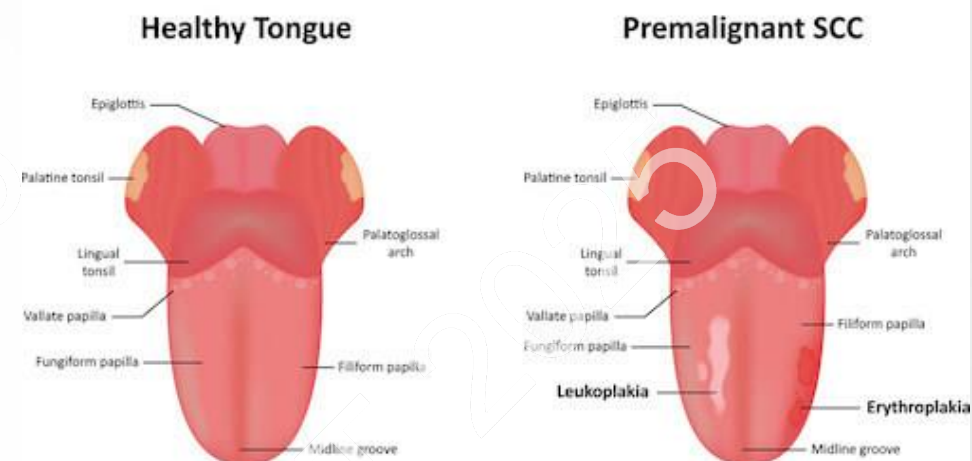
# Epidemiology

- Prevalence of pain in all cancer types is 50%, **in HNC is 70%**
- There are no universally accepted diagnostic criteria or classifications for HNC-related pain
- Prior studies have suggested that 43% to 80% of all patients receive inadequate pain management (diverse clinical signs and symptoms )

**Table 7** Demographics and Cancer-Related Characteristics of the Study Population (n = 100)

| Study Characteristics   | Classification           | Descriptive Statistic |
|-------------------------|--------------------------|-----------------------|
| Age (years)*            |                          | 49.71 ± 14.14         |
| Gender                  | Male                     | 68 (68%)              |
| Ethnicity               | Punjabi                  | 56 (56.6%)            |
|                         | Pushtun                  | 41 (41.4%)            |
|                         | Other                    | 2 (2%)                |
| Cancer type             | Squamous cell carcinoma  | 81 (81%)              |
|                         | Adenoid cystic carcinoma | 6 (6%)                |
|                         | Other carcinomas**       | 10 (10%)              |
| Primary site            | Tongue                   | 29 (29%)              |
|                         | Buccal mucosa            | 24 (24%)              |
|                         | Alveolar mucosa          | 23 (23%)              |
|                         | Other sites              | 24 (24%)              |
| Recurrence              |                          | 80 (80%)              |
| Prior chemotherapy      |                          | 68 (68%)              |
| Prior radiotherapy      |                          | 80 (80%)              |
| Prior surgery           |                          | 54 (54%)              |
| Concurrent chemotherapy |                          | 45 (45%)              |
| Concurrent radiotherapy |                          | 2 (2%)                |

## Squamous Cell Carcinoma (SCC)





*Pain Medicine*, 2025, **00**, 1–10  
<https://doi.org/10.1093/pm/pnaf051>  
Advance access publication 28 April 2025  
**Review Article**



## Prevalence and characteristics of persistent pain among head and neck cancer survivors: a systematic review and meta-analysis

Miguel Ángel Fernández-Gualda, MSc<sup>1,2,3</sup>, Paula Postigo-Martin , PhD<sup>1,2,3,4</sup>,  
Maria Fernandez-Gonzalez, PhD<sup>5</sup>, Lydia Martin-Martin, PhD<sup>1,2,3</sup>, Pilar Vargas-Arrabal, MSc<sup>6</sup>,  
Mario Lozano-Lozano , PhD<sup>1,2,3,\*</sup>, Carolina Fernández-Lao , PhD<sup>1,2,3</sup>

Due to the lack of studies, we are not able to reach a conclusion on the presence of persistent pain for each specific HNC cancer location. We assumed that different HNC cancer locations would present distinct persistent pain prevalence rates. Apparently, there are no articles that indicate which HNC cancer locations often present a higher percentage of persistent pain in HNC survivors. Therefore, it is not possible to compare our results obtained by means of the meta-regression. However, as shown in the analysis, the floor of the mouth exhibited the highest persistent pain prevalence.

Furthermore, we aimed to determine the prevalence rates of the different pain phenotypes. Unfortunately, only three studies specifically assessed neuropathic pain,<sup>46,52,53</sup> and only two studies specifically assessed nociceptive pain<sup>52,53</sup>; in contrast, the other included studies did not allude to any of the different persistent pain mechanisms defined by the International Association for the Study of Pain (IASP).<sup>57</sup> Thus, there is insufficient scientific evidence regarding the different persistent pain phenotypes among HNC survivors.



Journal of Pain Research

2023

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ORIGINAL RESEARCH

## Head and Neck Cancer-Related Pain: A Descriptive Analysis of the Pain Phenotypes

Shehryar Khawaja<sup>1-3</sup>, Roxanne Bavarian<sup>4</sup>, Summaiya Abdul Rehman<sup>1</sup>, Haroon Hafeez<sup>1</sup>

**Table I** Diagnostic Criteria for Head and Neck (HNC)-Related Pain

- (A) Any pain limited to the head, face, and neck region fulfilling criteria B-D.
- (B) Cancer in the head, face, and neck region has been diagnosed.
- (C) Evidence of causation demonstrated by at least one of the following:
  - (a) Pain developed in temporal relation to cancer or led to its discovery
  - (b) Pain has significantly worsened in parallel with the worsening of cancer, or pain has significantly improved in parallel with the successful treatment of the cancer
- (D) Location of pain is ipsilateral to the site of cancer

**Notes:** This is a modification of the International Headache Society Classification of Headache Disorders, third edition (ICHDH-3) diagnostic criteria for headache attributed to intracranial neoplasm with data from ICDH-3.<sup>10</sup>



# Phenotypes classification

1. Jaw Bone Pain phenotype
2. Myofascial Orofacial or Cervical Pain Disorder phenotype
3. Neuralgia phenotype
4. Persistent Facial or Dentoalveolar Pain Disorder phenotype
5. Burning Mouth or Face Disorder phenotype

No mention of interventional pain treatments according to phenotypes

# Neuralgia phenotype



**Table 4** Diagnostic Criteria for Neuralgia Phenotype

- (A) Pain fulfilling the criteria for HNC-related pain
- (B) Recurrent paroxysms of pain in the distribution(s) of one or more divisions of the trigeminal, glossopharyngeal, vagus, or cervical nerves, with no radiation beyond distribution of the nerve
- (C) The pain has all the following characteristics:
  - (a) Lasting from a fraction of a second to 2 minutes<sup>a</sup>
  - (b) Severe in intensity
  - (c) Electric shock-like, shooting, stabbing, or sharp in quality
- (D) Pain may be precipitated by innocuous stimuli within the affected nerve distribution
- (E) Pain may be associated with continuous or near continuous pain between attacks in the affected nerve distribution<sup>b</sup>
- (F) Pain may be associated with positive or negative signs<sup>c</sup>

**Notes:** <sup>a</sup>Episodes may be single or recurrent within a day. <sup>b</sup>Pain may be dull ache, soreness, nagging, burning, throbbing, or sharp in nature. <sup>c</sup>Positive signs include paraesthesia, dysesthesia, allodynia, and hyperesthesia. Negative signs consist of numbness, hypoalgesia, or hypoesthesia. This is a modification of the International Classification of Orofacial Pain, first edition (ICOP-1) diagnostic criteria and International Headache Society Classification of Headache Disorders, third edition (ICHD-3) diagnostic criteria for trigeminal neuralgia, and trigeminal neuralgia attributed to other cause with data from these studies.<sup>5,10</sup>

## Burning Mouth or Face Disorder Phenotype



**Table 6** Diagnostic Criteria for Burning Mouth or Face Disorder Phenotype

- (A) Pain fulfilling the criteria for HNC-related pain
- (B) Intraoral, facial, or cervical pain in the distribution(s) of one or more divisions of the trigeminal, glossopharyngeal, or cervical nerves
- (C) Recurring daily for > 2 hours per day<sup>a</sup>
- (D) The pain has all the following characteristics:
  - (a) Burning quality
  - (b) Felt superficially in the oral mucosa or skin
- (D) Pain can be spontaneous or precipitated by innocuous stimuli within the distribution of the trigeminal, glossopharyngeal, or cervical nerves
- (F) Pain may be associated with positive or negative signs<sup>b</sup>

**Notes:** <sup>a</sup>Pain is typically constant but may vary in intensity throughout the day. <sup>b</sup>Positive signs include paraesthesia, dysesthesia, allodynia, and hyperesthesia. Negative signs consist of numbness, hypoalgesia, or hypoesthesia. This is a modification of the International Classification of Orofacial Pain, first edition (ICOP-I) diagnostic criteria and International Headache Society Classification of Headache Disorders, third edition (ICHD-3) diagnostic criteria for burning mouth syndrome with data from these studies.<sup>5,10</sup>



## Jaw Bone Pain phenotype

**Table 2** Diagnostic Criteria for Jaw Bone Pain Phenotype

- (A) Pain fulfilling the criteria for HNC-related pain
- (B) Pain is localized to the jaw bone or temporomandibular joint
- (C) Pain has either or both of the following features:
  - 1. Pain may exacerbate with maximum assisted or unassisted jaw opening, right or left lateral, and/or protrusive movements
  - 2. Pain is exacerbated by pressure applied to the jaw bone or temporomandibular joint
- (D) Pain is described as a dull ache, soreness, nagging, or sharp in nature
- (E) Pain may be intermittent<sup>a</sup> or unremitting
- (F) Pain may be associated with positive or negative signs<sup>b</sup>

**Notes:** This is a modification of the International Classification of Orofacial Pain, first edition (ICOP-I) diagnostic criteria for primary temporomandibular joint pain, jaw bone pain, and jaw bone pain attributed to malignant lesion with data from ICOP-I.<sup>5</sup> <sup>a</sup>Episodes may be single or recurrent within any day, each lasting at least 30 minutes and with a total duration within the day of at least 2 hours <sup>b</sup>Positive signs include paraesthesia, dysesthesia, allodynia, and hyperesthesia. Negative signs consist of numbness, hypoalgesia, or hypoesthesia.

# Myofascial Orofacial or Cervical Pain Disorder phenotype



**Table 3** Diagnostic Criteria for Myofascial Orofacial or Cervical Pain Disorder Phenotype

- (A) Pain fulfilling the criteria for HNC-related pain
- (B) Pain is localized to the masticatory muscles or cervical muscles
- (C) Pain has either or both of the following features:
  1. Pain may exacerbate with maximum assisted or unassisted jaw opening, right or left lateral and/or protrusive movements, or flexion, extension, and/or rotational movements of the neck
  2. Pain is exacerbated by pressure applied to the masticatory or cervical muscles
- (D) Pain is described as a dull ache, soreness, nagging, or sharp in nature
- (E) Pain may be intermittent<sup>a</sup> or unremitting
- (F) Pain may be associated with positive or negative signs<sup>b</sup>

**Notes:** <sup>a</sup>Episodes may be single or recurrent within any day, each lasting at least 30 minutes and with a total duration within the day of a least 2 hours.

<sup>b</sup>Positive signs include paraesthesia, dysesthesia, allodynia, and hyperesthesia. Negative signs consist of numbness, hypoalgesia, or hypoesthesia. This is a modification of the International Classification of Orofacial Pain, first edition (ICOP-I) diagnostic criteria for primary myofascial orofacial pain, and secondary myofascial orofacial pain with data from ICOP-I.<sup>5</sup>



## Persistent Facial or Dentoalveolar Pain Disorder phenotype

**Table 5** Diagnostic Criteria for Persistent Facial or Dentoalveolar Pain Disorder Phenotype

- (A) Pain fulfilling the criteria for HNC-related pain
- (B) Pain distributed along oral cavity, face, or neck region, and does not appear to conform to distribution of the peripheral branches of cranial or cervical nerves <sup>a</sup>
- (C) Recurring daily for > 2 hours per day<sup>b</sup>
- (D) The pain has all the following characteristics:
  - (a) Dull, aching, throbbing, or nagging quality
  - (b) Poorly localized, can be felt deep or superficially in the oral mucosa or skin
- (D) Pain may be associated with positive or negative signs<sup>c</sup>

**Notes:** <sup>a</sup>Pain is not following distribution of peripheral branches of trigeminal or glossopharyngeal nerve <sup>b</sup>Pain is typically constant, but may vary in intensity. There are no intermittent episodes of shooting, electric shock-like, or stabbing pain. <sup>c</sup>Positive signs include paraesthesia, dysesthesia, allodynia, and hyperesthesia. Negative signs consist of numbness, hypoalgesia, or hypoesthesia. This is a modification of the International Classification of Orofacial Pain, first edition (ICOP-1) diagnostic criteria and International Headache Society Classification of Headache Disorders, third edition (ICHD-3) diagnostic criteria for persistent idiopathic facial pain and persistent idiopathic dentoalveolar pain with data from these studies.<sup>5,10</sup>



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Head and neck  
cancer pain

# Interventional Pain Treatment

## Trigeminal Neuralgia (TN)

- Up to 10% of TN cases have been reported to be 2ary to brain tumours: Meningioma (+++), acoustic neuroma, epidermoid tumour, pituitary tumour, glioma, lymphoma, arachnoid cyst and schwannoma
- The pathophysiology of the 2ary TN is similar to that of idiopathic or classical TN
- Histological studies have suggested that the tumor can cause partial trigeminal nerve injury or ganglion
- This can cause the formation of focal areas of axonal demyelination, dysmyelination or remyelination, which may regenerate spontaneous action potentials or cause abnormal coupling between primary afferents

### RED FLAGS

Young patient  
Bilateral  
V1  
Atypical sensory/motor  
Disproportionate pain



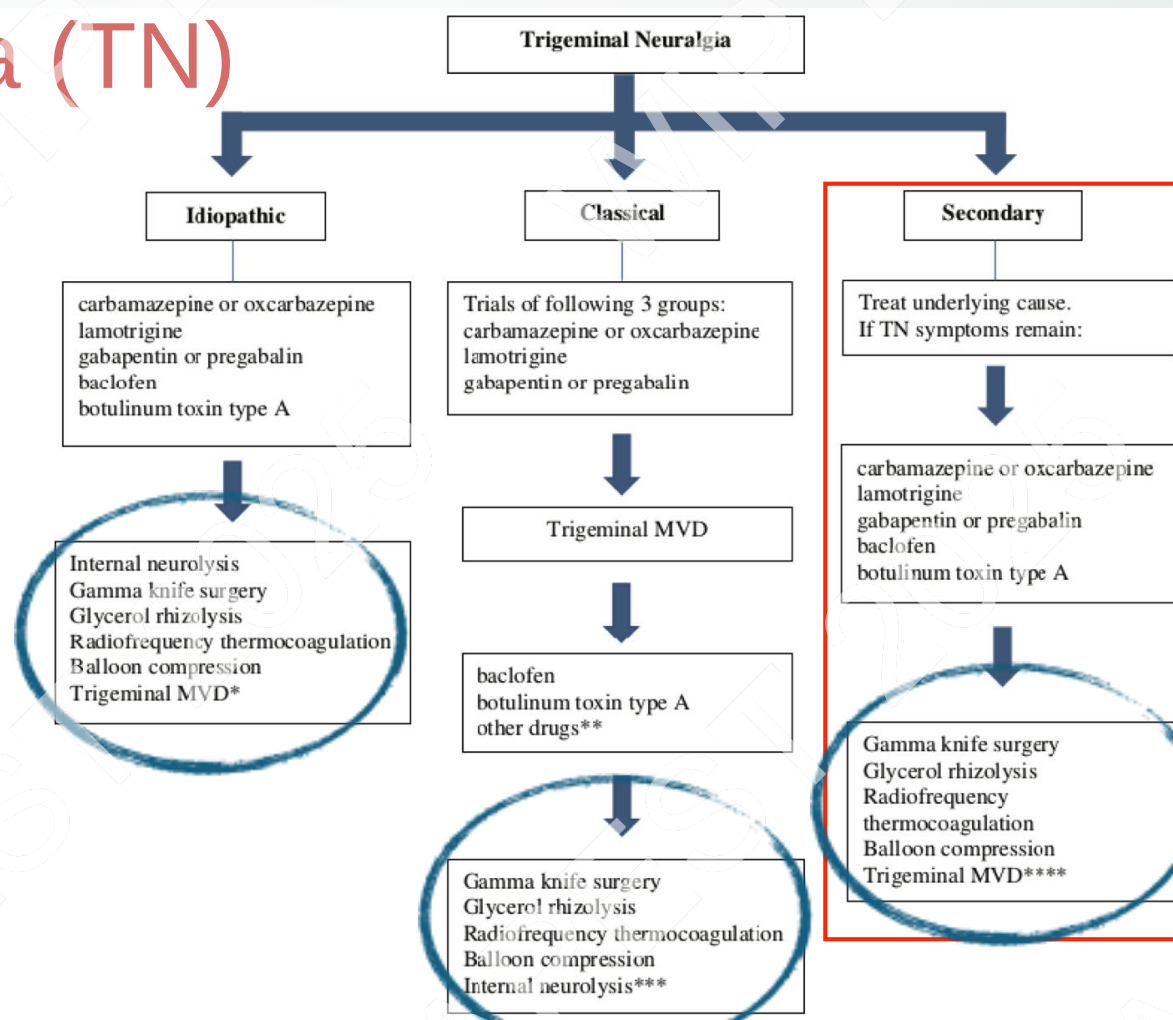
## Trigeminal Neuralgia (TN)

### Box 1 International Classification of Headache Disorders edition 3 (ICHD-3) diagnostic criteria for trigeminal neuralgia<sup>9</sup>

- 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:
  - 1. Lasting from a fraction of a second to 2 min.
  - 2. Severe intensity.
  - 3. 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.

- E. There may or may not be sensory deficits
- F. Causative lesion (other than vascular), which has been demonstrated by imaging techniques or surgical exploration of the posterior fossa

# Trigeminal Neuralgia (TN)





## Trigeminal Neuralgia (TN)

¿CRF and/or PRF?

- 1 trial comparing CRF with PRF proved **CRF to be more efficient than PRF** for pain relief (*Erdine et al, 2007*)
- 1 trial further analyzed different duration of treatments, showing the group receiving **long-term CRF treatment to be most effective**, followed by short-duration CRF, and concluded the PRF group to be the least effective group (*Li X, 2018*)
- Combined PRF + CRF showed **the greatest efficacy in the combined treatment groups**, followed by the CRF group, and finally the PRF group (*Elawamy et al, 2017*)
- In studies analyzing PRF treatments, **high-voltage regimens were shown to be more effective** when compared with standard-voltage regimens (*Luo F et al, 2017*)

# Trigeminal Neuralgia (TN)

Obs Retrospective study. 76 pax

Neurolysis is performed at temperatures of 60-80°C for 30-60 second

**Cureus**  
Part of SPRINGER NATURE

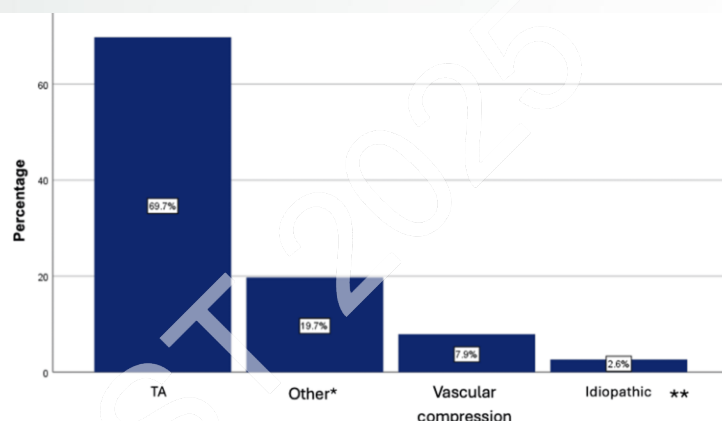
Open Access Original Article

## Effectiveness of Radiofrequency in Treating Pain Associated With Trigeminal Neuralgia in Oncologic Patients

Tania H. Ahuactzin Avendaño <sup>1</sup>, Rocio Guillen <sup>2, 1</sup>, Karen Patricia Segovia Sandoval <sup>1</sup>, Angel Juarez <sup>3</sup>, Ana Lady Sanchez Ortega <sup>3</sup>, Frida Paola Viveros Aguilar <sup>1</sup>

Review began 04/26/2024  
Review ended 01/01/2025  
Published 01/05/2025

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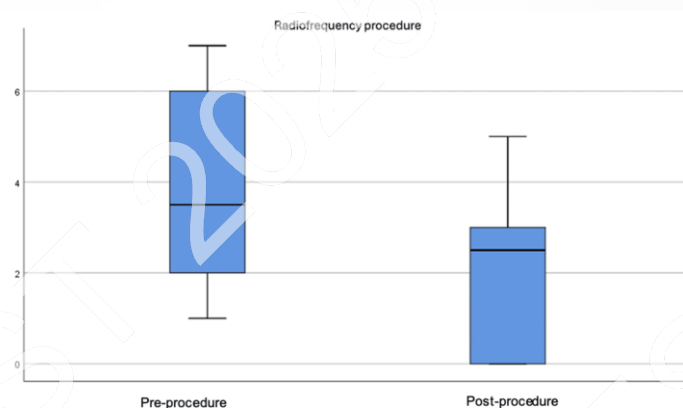


\* Herpes zoster, post-surgical treatment, and secondary to radiotherapy

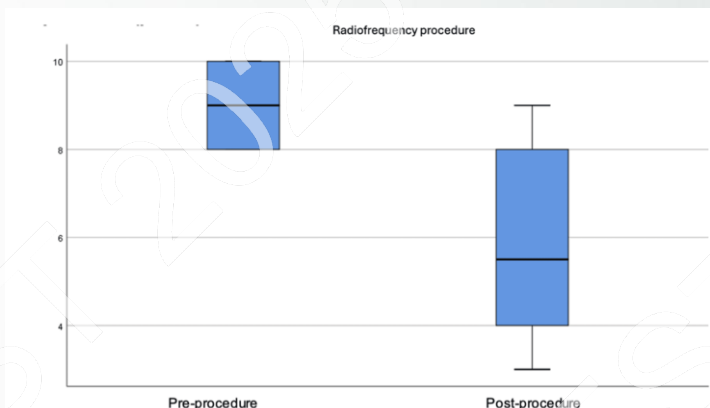
\*\*Unknown cause

**FIGURE 2: Probable cause of trigeminal neuralgia.**

TA: tumor activity



**FIGURE 5: Boxplot of the distribution of baseline pain severity before and after the procedure ( $p \leq 0.01$ ).**



**FIGURE 6: Boxplot of the distribution of incidental pain severity before and after the procedure ( $p \leq 0.01$ ).**

# Trigeminal Neuralgia (TN)

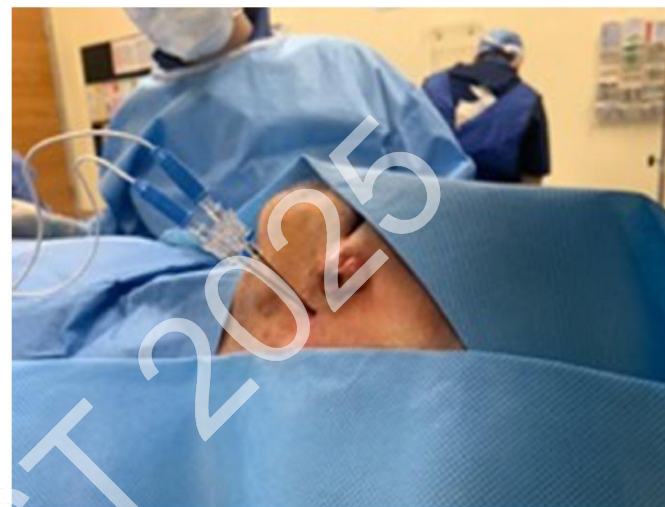
## Case report

### Bipolar radiofrequency ablation for cancer pain in the trigeminal distribution

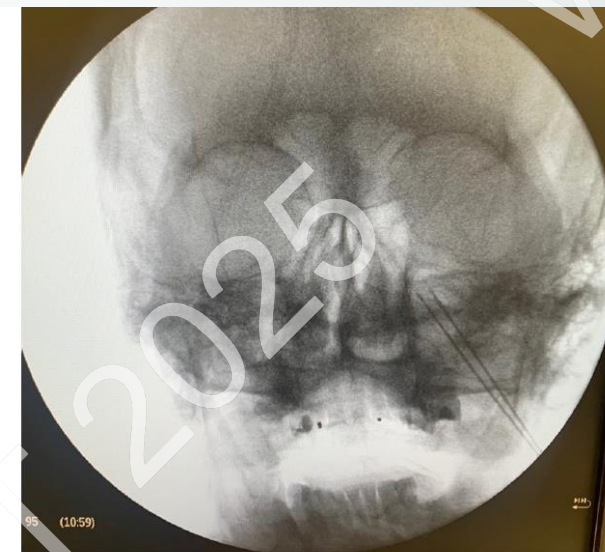
Victor M Silva-Ortiz <sup>1,2</sup>, Ricardo Plancarte-Sanchez<sup>2,3</sup>

#### CASE REPORT

A man in his mid-70s had a squamous cell carcinoma in the gingivobuccal complex with extension to the maxillary sinus and the skin of the left side of the face involving V2 and V3 region, with disabling



**Figure 1** Lateral view of the patient with the parallel two-needle approach. With the permission of the patient.



**Figure 3** Anteroposterior vision of fluoroscope with the two needles in parallel. With the permission of the patient.



## Peripheral nerves

- Auriculotemporal nerve
- Mental nerve
- Inferior alveolar nerve,
- Sphenopalatine ganglion (transnasal),
- Infraorbital nerve
- Superior alveolar nerves
- Supraorbital nerve
- Greater auricular nerve
- Greater and lesser occipital nerve
- Superficial cervical nerve plexus (C2–C4).



J Cancer Allied Spec 2020;6(2):2

Original Article

### Effectiveness of Nerve Blocks for the Management of Head and Neck Cancer Associated Neuropathic Pain Disorders; a Retrospective Study

**Khawaja Shehryar Nasir<sup>1</sup>, Haroon Hafeez<sup>1</sup>, Arif Jamshed<sup>2</sup>, Raza T. Hussain<sup>3</sup>**

<sup>1</sup>Department of Internal Medicine, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan, <sup>2</sup>Department of Clinical and Radiation Oncology, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan, <sup>3</sup>Department of Surgical Oncology, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore, Pakistan

April 2020/Accepted: 20 May 2020

| Study characteristic        | Category                                                        | Descriptive statistic |
|-----------------------------|-----------------------------------------------------------------|-----------------------|
| Age (years)                 | Mean                                                            | 44.44±12.97           |
| Gender                      | Male                                                            | 66.7% (18)            |
| Cancer type                 | Squamous cell carcinoma                                         | 85.2% (23)            |
| Metastasis                  |                                                                 | 59.3% (16)            |
| Prior surgical intervention |                                                                 | 48.1% (13)            |
| Prior radiotherapy          |                                                                 | 88.9% (24)            |
| Prior chemotherapy          |                                                                 | 88.9% (24)            |
| Concurrent radiotherapy     |                                                                 | 7.4% (2)              |
| Concurrent chemotherapy     |                                                                 | 51.9% (14)            |
| Primary tumour site         | Alveolar mucosa                                                 | 40.7% (11)            |
|                             | Tongue                                                          | 18.5% (5)             |
|                             | Buccal mucosa                                                   | 14.8% (4)             |
|                             | Parotid gland                                                   | 14.8% (4)             |
|                             | Other (nasopharyngeal, external auditory canal and hard palate) | 22.2% (6)             |

**Table 4: Summary of the outcome of nerve blocks**

| Study characteristic | Category                   | Descriptive statistic |
|----------------------|----------------------------|-----------------------|
| Pain score           | Immediately post-procedure | 0.26±1.02             |
| Relief in symptoms   | More than 48 hours         | 81.5% (22)            |
|                      | 1 week or more             | 74.1% (20)            |
|                      | 1 month or more            | 59.3% (16)            |
| Duration of relief   | Weeks                      | 6.10±6.50             |



**Cochlear Implants International >**

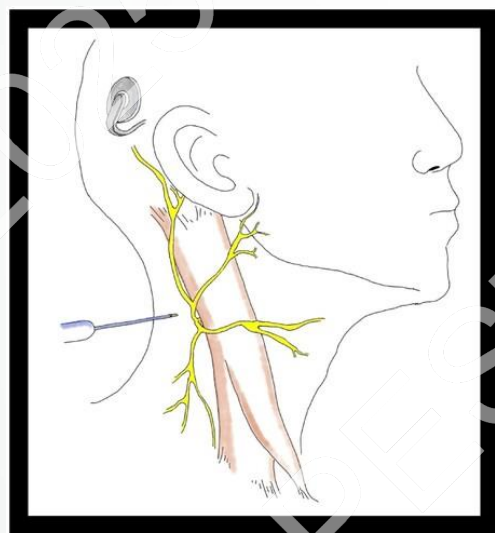
An Interdisciplinary Journal for Implantable Hearing Devices

Volume 26, 2025 - [Issue 2](#)

## Cryoablation of the superficial cervical plexus for post cochlear implantation lesser occipital neuralgia

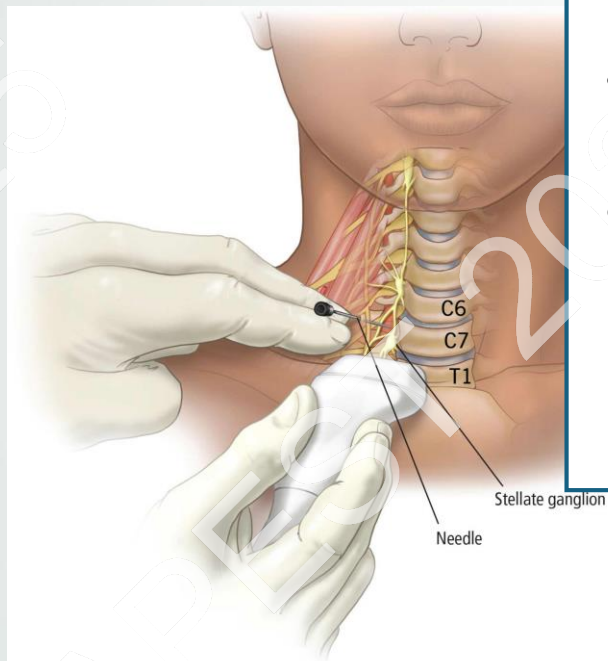
Gabriel Ricardo Lichtenstein <sup>1</sup>, Basher Mwassi <sup>1</sup>, Amit Wolfovitz <sup>2 3</sup>,  
Michelle Nigri Levitan <sup>4</sup>, Ofir Morag <sup>5</sup>, Yisgav Shapira <sup>2 3</sup>

2025



- Pain relief distribution of the lesser occipital, greater auricular, and transverse cervical nerves.
- This case demonstrates that SCP cryoablation may offer a viable, minimally invasive solution

# Stellate Ganglion



- Differentiation of sympathetically maintained (SMP) versus sympathetically independent (SIP) pain syndromes of the head or upper extremity
- Upper extremity/facial CRPS type I (reflex sympathetic dystrophy [RSD]), type II (causalgia)
- To increase upper extremity perfusion
  - Raynaud disease
  - Upper extremity arterial embolism
  - Intra-arterial drug injection

- Phantom limb pain
- Cluster or atypical vascular headache
- Glaucoma
- Optic nerve neuritis
- Head and face sympathetically mediated cancer pain
- Head/neck/thoracic acute herpes zoster or postherpetic neuralgia
- Hyperhidrosis of the head/neck/axilla/thorax
- Refractory atypical chest pain
- Pulmonary embolism
- Intractable angina pectoris
- Ventricular arrhythmia secondary to sympathetic imbalance
- Post mastectomy pain
- Meniere syndrome
- Scleroderma



*2024 Journal of Family Medicine and Primary Care*

## Stellate Ganglion

### Analgesic efficacy of stellate ganglion block in head and neck cancer pain: A case series

Seerat Chiraya<sup>1</sup>, Ajit Kumar<sup>1</sup>, Mohit K. Srivastava<sup>2</sup>, Gaurav Purohit<sup>3</sup>

**Table 1: Case description of the study participants**

| Case no. | Age/Sex (Year) | Malignancy              | Chief complaints                       | Management                                                                                                                     | Pre-block BPI score (Hindi) | Post block BPI score (Hindi) | Patient satisfaction with block | Requirement of second block | Time till pain relief                |
|----------|----------------|-------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------|---------------------------------|-----------------------------|--------------------------------------|
| 1.       | 50/M           | Carcinoma buccal mucosa | Progressive right sided facial pain    | Persistent pain after radiotherapy and chemotherapy, Pain managed with – acetaminophen, oxcarbazepine, morphine. SGB performed | 5/10                        | 1/10                         | Yes                             | No                          | 3 weeks                              |
| 2.       | 44/M           | Squamous cell Carcinoma | Chronic right facial pain              | Radiotherapy and right selective neck dissection. The appropriate SGB was assigned                                             | 8/10                        | 5/10                         | Yes                             | Yes, 3 weeks after block    | 6 weeks                              |
| 3.       | 55/F           | Carcinoma buccal mucosa | Burning tingling pain on the left face | 4 cycles of radiotherapy done. Pain medically managed with tramadol and acetaminophen. Left sided SGB given                    | 7/10                        | 3/10                         | Yes                             | No                          | Lost to follow up                    |
| 4.       | 63/M           | Squamous cell carcinoma | Right sided tongue pain                | Right sided ear and face received radiation therapy. Tapentadol is given to manage pain. Right sided SGB performed             | 6/10                        | 2/10                         | Yes                             | No                          | Patient died 20 days after the block |
| 5.       | 72/M           | Carcinoma buccal mucosa | Right sided tongue pain                | Tumor found inoperable; radiation given. Patient on                                                                            | 9/10                        | 4/10                         | Yes                             | Yes, 2 weeks later          |                                      |



## Stellate Ganglion

**Medicine**

Systematic Review and Meta-Analysis

OPEN

**A meta-analysis of ultrasound-guided stellate ganglion block on the quality of recovery after cancer surgery**

Yuhui Dong, BS<sup>a</sup>, Youbo Zuo, MD<sup>a,\*</sup> 

2024

This systematic review and meta-analysis suggests that ultrasound-guided SGB therapy is effective in reducing pain levels and improving mobility and quality of life compared to conventional treatments.

No HNC patients



## Sphenopalatine ganglion (SPG)

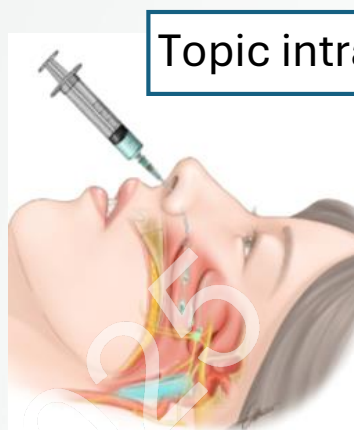
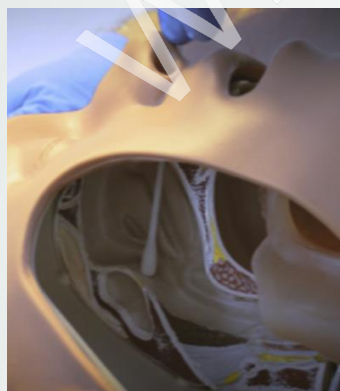
Indications based on the level of evidence

- Cluster headache: 2b, B
- Second-division trigeminal neuralgia: 2b, B
- To help reduce the need for analgesics after endoscopic sinus surgery: 1b, B
- Migraine headache: 2b, B

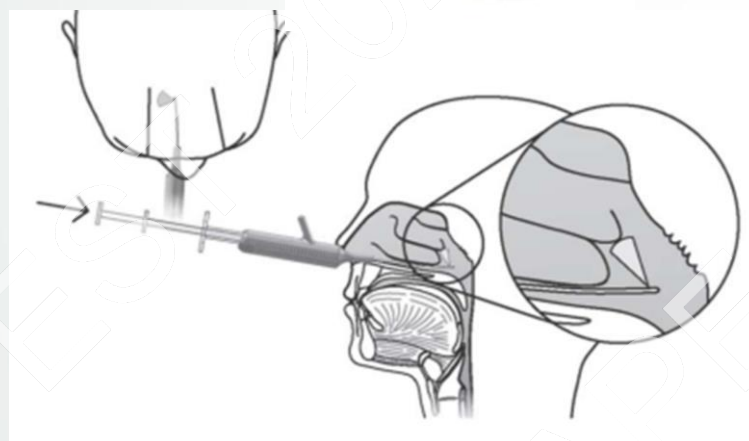
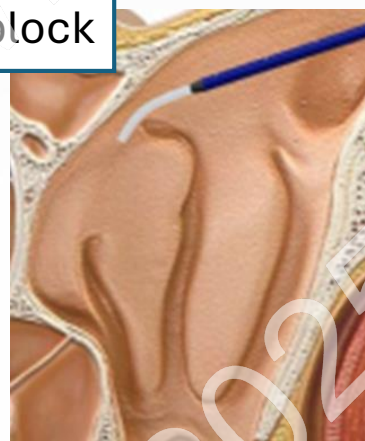
- Other headaches: 4, C
  - Hemicrania continua
  - Trigeminal neuralgia (1st and 3rd division)
  - Dural puncture headache
  - Intractable hiccups
  - CRPS
  - Intercostal neuralgia
  - Dysmenorrhea



## Sphenopalatine ganglion (SPG)



Topic intranasal block



- Different devices:
  - Cotton tip applicator (Trachi-Swab)
  - Gauze clogging
  - Intravenous catheter
  - Nasal telescopic cannulas:  
SphenoCath, Allevio SPG Nerve Block
  - Nasal sprays: Tx360 Nasal Injector, envase aerosol
- Advantages: easy technique, short time procedure, low risk (epistaxis, infection)
- Limitations: It requires L.A. diffusion



# Sphenopalatine ganglion (SPG)

## Original Article

### Home-based Application of Sphenopalatine Ganglion Block for Head and Neck Cancer Pain Management

Priti R Sanghavi, Bhavna C Shah, Geeta M Joshi

Department of Palliative Medicine, Gujarat Cancer and Research Institute, Ahmedabad, Gujarat, India

*2017 Indian Journal of Palliative Care*

**Table 2: Diagnosis of Patients**

| Diagnosis         | No of Patients |
|-------------------|----------------|
| CaBuccal Mucosa   | 50             |
| Ca Tongue         | 22             |
| Ca Alveolus       | 12             |
| Ca Larynx         | 4              |
| Ca Pharynx        | 4              |
| Ca floor of mouth | 8              |

**Table 3: Pre & Post-procedure VAS, Duration of Analgesia and Morphine Requirement**

|                                         | Pre Procedure | Immediate after procedure       | 1 <sup>st</sup> Visit | 2 <sup>nd</sup> Visit | 3 <sup>rd</sup> Visit | 4 <sup>th</sup> Visit         |
|-----------------------------------------|---------------|---------------------------------|-----------------------|-----------------------|-----------------------|-------------------------------|
| VAS (Mean±SD)                           | 8.56±1.05     | 2.46±1.23<br>( <i>P</i> <0.001) | 8.42+/-1.03           | 8.02+/-0.09           | 7.06+/-1.20           | 6.56+/-0.08                   |
| Duration of Analgesia (Mean±SD)         |               |                                 |                       | Range 1-7 days        |                       | 4.95±3.43 days                |
| Morphine requirement (mg/day) (Mean±SD) | 128.2±84.64   | 101.02+/-84.64                  | 120.02+/-74.06        | 127.08+/-60.55        | 124.98+/-58.50        | 133.8±81.93 ( <i>P</i> <0.05) |



## Sphenopalatine ganglion (SPG)

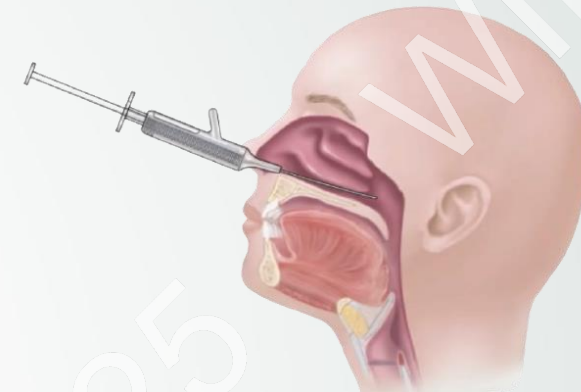
### CASE REPORTS

### **Sphenopalatine Ganglion Blocks in the Management of Head and Neck Cancer–Related Pain: A Case Series**

Pena, Israel MD; Knoepfler, Matthew L. MD; Irwin, Anna DO; Zhu, Xiaoying MD; Kohan, Lynn R. MD

[Author Information](#) ☺

*A & A Practice* 13(12):p 450-453, December 15, 2019. | DOI: 10.1213/XAA.0000000000001106



- 1st case series of performing SPG blocks utilizing TX360 nasal atomizers or angiocatheters to treat head and neck cancer–related pain
- Pain scores were reduced by 38% to 80% with an average pain relief duration of 23 days

# Burning mouth syndrome

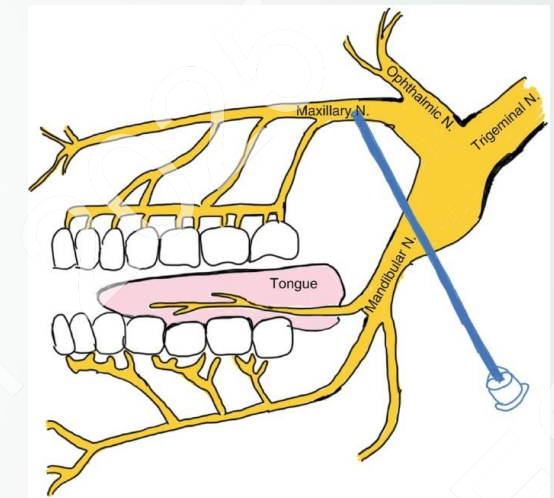
Local anesthesia nerve block for managing burning mouth syndrome: a scoping review

[Camila Barcellos Calderipe, DDS<sup>a</sup>](#) · [Laura Borges Kirschnick, DDS, MSc<sup>a</sup>](#) · [Thaís Cristina Esteves-Pereira, DDS<sup>a</sup>](#) · ... ·  
[Marcio Ajudarte Lopes, DDS, MSc, PhD<sup>a</sup>](#) · [Nathaniel Simon Treister, DMD, DMSc<sup>c,d</sup>](#) ·  
[Alan Roger Santos-Silva, DDS, MSc, PhD, FAAOM<sup>a</sup>](#)   ... [Show more](#)

ORAL SURGERY ORAL MEDICINE  
ORAL PATHOLOGY ORAL RADIOLOGY

2024

- Mandibular nerve and the stellate ganglion blocked in 50% studies
- Maxillary nerve and lingual nerve blocked in 25% study each.
- L.A.: lidocaine (50%) and bupivacaine (50%).
- Considerable improvement compared to the initial conditions when the mandibular and/or maxillary nerve were targeted.



# Oral mucositis

- Affecting up to 40% chemotherapy, 85% of patients undergoing bone marrow transplantation and 95-100% receiving head and neck radiotherapy.
- Characterized by mucosal inflammation, ulceration, and severe pain
- Freq reported among the most common and distressing symptoms experienced by patients during cancer therapy
- Pharmacological treatment: lidocaine, doxepin, benzydamine, methylene blue, opioids, gabapentin, palifermin, caphosol, and ketamine
- **Interventional treatment???**

Journal of Pain Research 2025

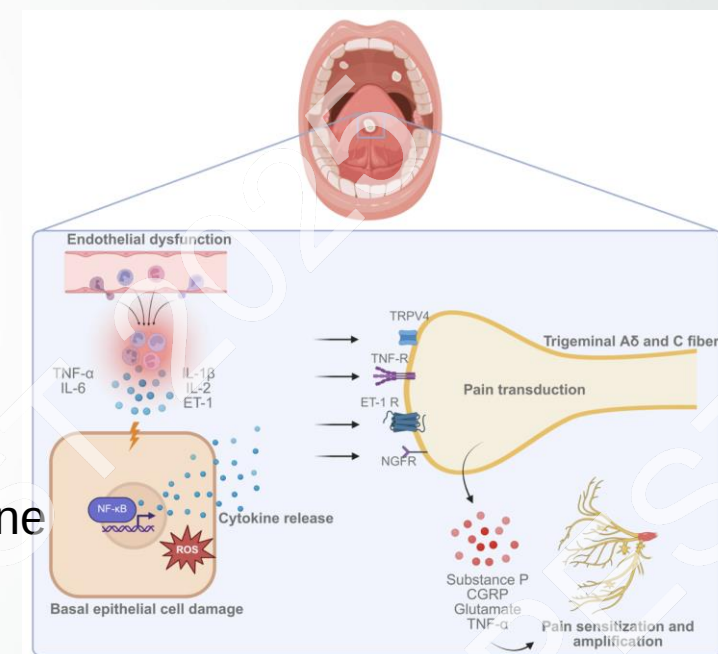
Dovepress  
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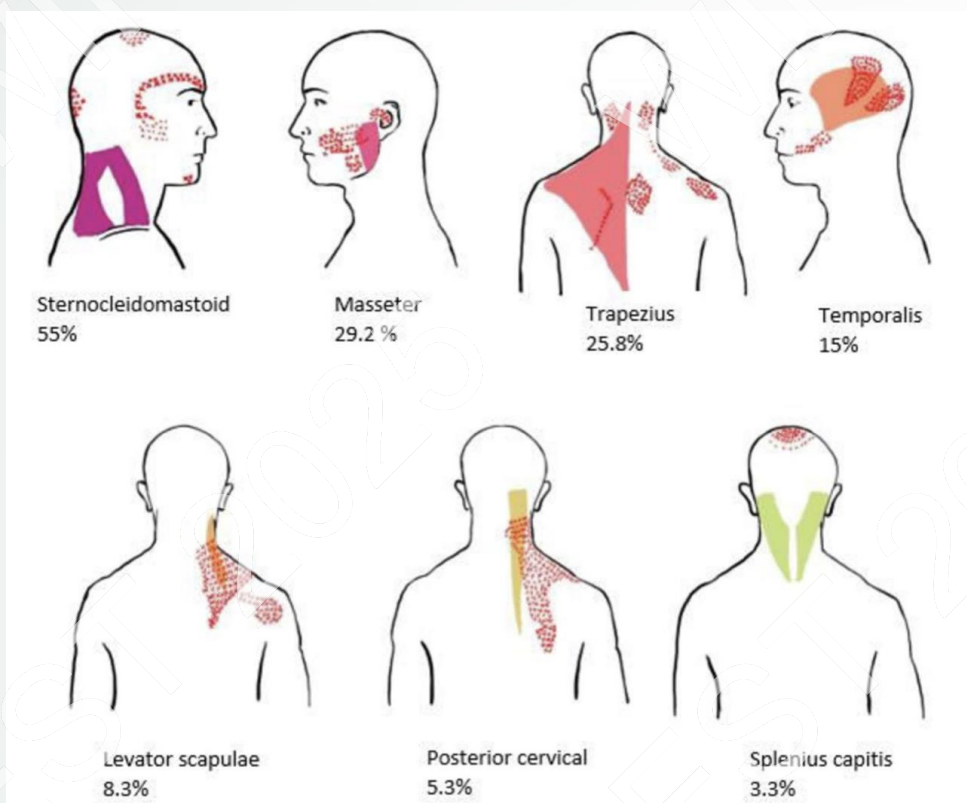
REVIEW

## Addressing Pain in Oral Mucositis: Narrative Review of Current Practices and Emerging Treatments

Juan F Villa<sup>1</sup>, Amanda Strang<sup>2</sup>, Adebukola Owolabi<sup>3</sup>, Maria F Ramirez<sup>3</sup>



## Myofascial pain



Praveen et al. Prevalence, patterns, and impact of myofascial pain in patients with head and neck cancer after cancer treatment - a single-center cross-sectional study in India. *BMC Palliative Care*. 2025

[Review](#) > [Pathol Res Pract](#). 2025 Aug;272:156037. doi: 10.1016/j.prp.2025.156037.

Epub 2025 May 26.

2025

### Innovative implications of botulinum toxin in head and neck cancer: Exploring novel opportunities and future prospects

Mina Alimohammadi <sup>1</sup>, Abbas Ali Imani Fooladi <sup>2</sup>, Reza Mirnejad <sup>3</sup>, Seyedeh Mana Alavioun <sup>4</sup>, Amir Vaghari <sup>5</sup>, Najma Farahani <sup>6</sup>, Amirhosein Abbasi <sup>7</sup>, Kiavash Hushmandi <sup>8</sup>, Seyedeh Mahdieh Khoshnazar <sup>9</sup>



2024

Systematic Review

### Botulinum Toxin for Pain Relief in Cancer Patients: A Systematic Review of Randomized Controlled Trials

Lorenzo Lippi <sup>1,2,\*</sup>, Alessandro de Sire <sup>3,4,†</sup>, Alessio Turco <sup>1</sup>, Martina Ferrillo <sup>5</sup>, Serdar Kesikburun <sup>6</sup>, Alessio Baricich <sup>1,7</sup>, Stefano Carda <sup>8,‡</sup> and Marco Invernizzi <sup>1,9,‡</sup>





## Intrathecal targeted drug delivery (ITDD)

- Paucity of literature reporting this technique and associated outcomes for HNC pain
- Catheter tips are placed high in the cervical spinal canal in clinical practice
- Preferable use of hydrosoluble drugs



*Moman et al. High Cervical Intrathecal Targeted Drug Delivery: A Case Report of Refractory Oropharyngeal Cancer Pain. Case Reports in Oncological Medicine Volume 2019*



## Interventional treatment algorithm??

Myofascial Orofacial or  
Cervical Pain Disorder  
phenotype (81%)

Masticatory and/or  
cervical muscles  
> nociceptive

Myofascial blocks  
BT

Jaw Bone Pain  
phenotype (53%)

Jaw bone and/or ATM  
> nociceptive

Myofascial blocks  
ATM injections

Burning Mouth or Face Disorder  
phenotype (40%)

Intraoral/facial/cervical  
Trigeminal, Glossoph, Cervical n.  
Burning, superficial

Nerve blocks???

SG block?

⋮

ITDD?

Neuralgia  
phenotype (20%)

Paroxysmal attacks  
Trigeminal, Glossoph, Vagus,  
Cervical n.  
Neuropathic

Nerve blocks  
RF

Persistent Facial or  
Dentoalveolar Pain Disorder  
phenotype (14%)

Intraoral/facial/cervical  
NO Trigeminal, Glossoph,  
Cervical n.  
Poor localized

SPG block?  
SG block?  
RF?



## Conclusions

- Need to establish treatment algorithms based on phenotypes/Dx criteria
- Early treatment of these patients (multidisciplinary management)
- Choose the best target according to pros/cons
- Need for more quality studies in HNC pain interventional treatment



**28<sup>th</sup>** Annual Gabor Racz  
Advanced Interventional  
Pain Conference and Workshop

Budapest, Hungary **August 25-27, 2025**

**THANKS!**

