THE SPECTRUM OF CHRONIC POST-TREATMENT PAIN IN HEAD AND NECK CANCER: A DESCRIPTIVE PHENOTYPIC STUDY

*Khawaja Shehryar Nasir[1], Summaiya Abdul Rehman[1], **Madha Mansoor**[1], Haroon Hafeez[1]*
[1]Department of Internal Medicine, Shaukat Khanum Cancer Hospital and Research Centre, Lahore, Pakistan

INTRODUCTION

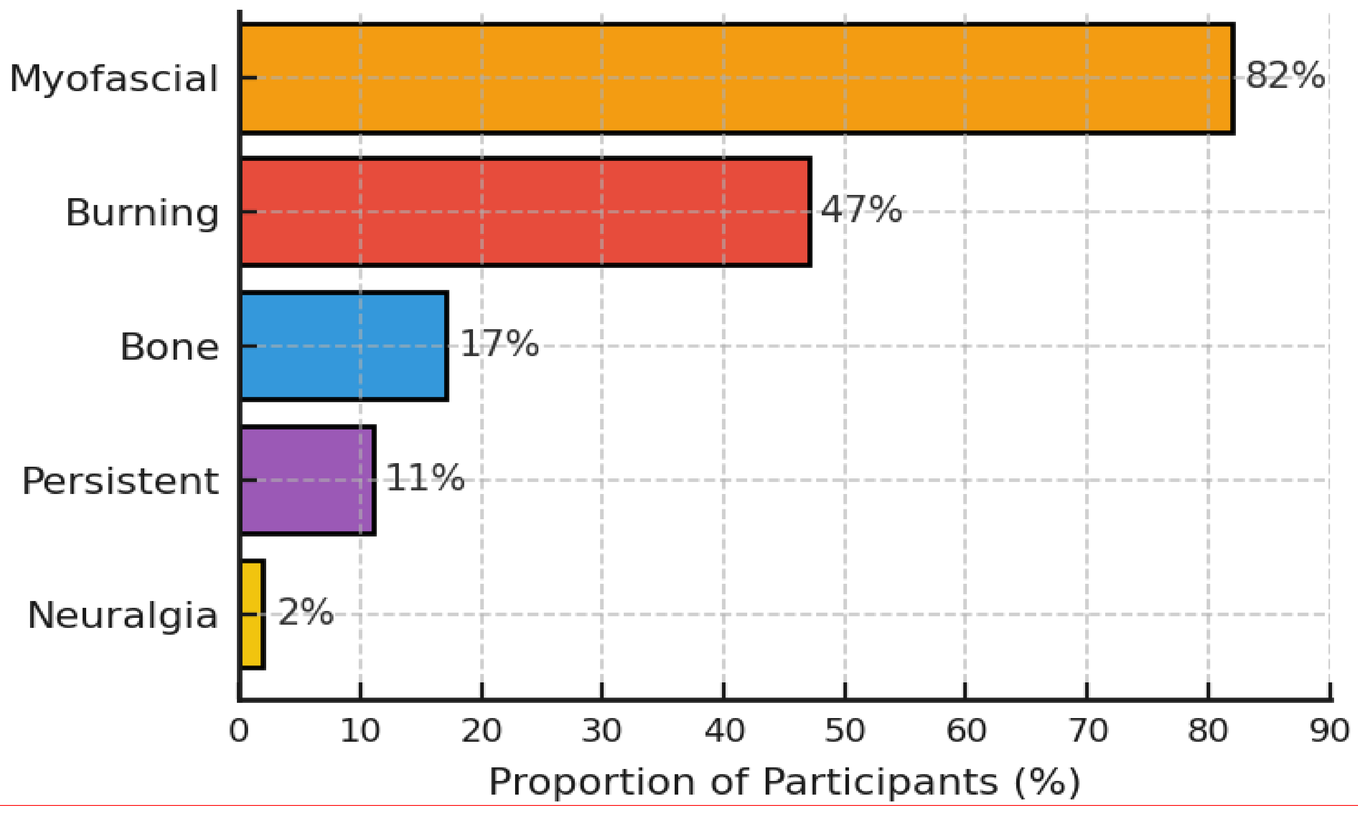
- Chronic post-treatment pain (CPTP) is a major survivorship issue in head and neck cancer (HNC), with prevalence estimates as high as 72% in some studies [1,2].
- Despite this, current frameworks treat it as a single entity, obscuring clinical variance and heterogeneity.
- This study prospectively characterized CPTP by adapting the International Classification of Orofacial Pain (ICOP) and International Classification of Headache Disorders, third edition (ICHD-3) criteria to the HNC context, defining five distinct phenotypes analogous to primary pain disorders of the head and neck to estimate **prevalence**, **overlap**, and **clinical associations**.

METHODS

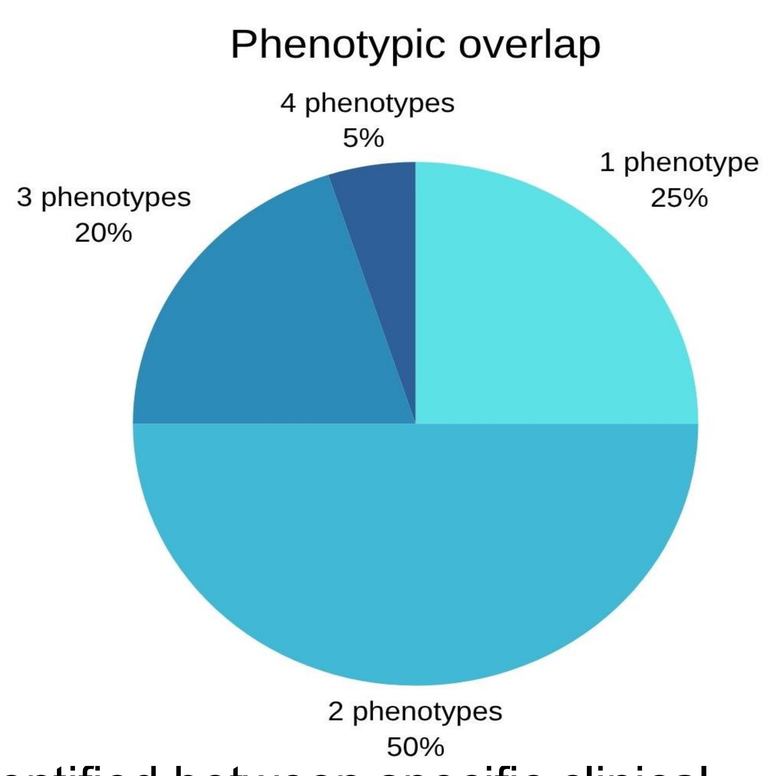
- This prospective observational study included 100 HNC survivors ≥3 months post-treatment with chronic pain.
- ICOP and ICHD-3 criteria were adapted to create 5 pain phenotypes: **orofacial bone pain, myofascial pain, neuralgia, persistent pain**, and **burning disorder**.
- A single examiner applied these criteria to characterize participants' CPTP into phenotypes using their clinical history, examination, and radiographic findings.
- Pain intensity, distribution, and associated clinical features were recorded.

RESULTS

- Among 100 HNC survivors (mean age 49, 54% male), 81% had squamous cell carcinoma and 52% had stage IV disease.
- Most underwent multimodal therapy: surgery 82%, radiation 93%, chemotherapy 20%.
- Pain was constant in **85%**, mean intensity **5.3** ± 1.8 (out of 10 on the numeric verbal pain rating scale) with highest intensity **7.7** ± 1.3, affecting **5.8** ± 3.3 sites, mostly lateral cervical (61%) and masseteric (60%). The most common descriptors were dull ache and burning, predominant phenotypes were **myofascial** (82%), and **burning** disorder (47%).



- Patients exhibited one or more concurrent phenotypes, with a mean **2.1** ±0.9 concurrent phenotypes per patient.



- Significant associations were identified between specific clinical features and certain pain phenotypes:

Sign/symptom	Significantly Associated Phenotype
Xerostomia	Burning pain (p<0.01)
Sensory alteration	Burning pain (p<0.05)
Tightness	Myofascial pain (p<0.001)
Trismus	Persistent and myofascial pain (p<0.01)

CONCLUSION

- CPTP in HNC survivors is not a single entity but an amalgamation of overlapping phenotypes **resembling primary pain disorders**.
- Recognizing these patterns highlights shared mechanisms and supports the need for **phenotype-based, personalized management strategies** to improve patients' quality of life.

REFERENCES

1. Cramer JD et al. Otolaryngol Head Neck Surg. 2018;159(5):853–858.
2. Chua KSG et al. J Pain Symptom Manage. 1999;18(3):193–202.
3. International Classification of Orofacial Pain, 1st Ed. Cephalalgia. 2020;40(2):129–221.
4. Olesen J. Lancet Neurol. 2018;17(5):396–397.
5. Schiffman E et al. J Oral Facial Pain Headache. 2014;28(1):6–27.

SHAUKAT KHANUM MEMORIAL
CANCER HOSPITAL & RESEARCH CENTRE
7-A Block R III, Johar Town, Lahore, Pakistan
www.shaukatkhanum.org.pk