

CASE REPORT

Scapular Metastasis of Oral Squamous Cell Carcinoma: A Case Report of an Unusual Site

Vijitha Thinakaran

HOW TO CITE THIS ARTICLE:

Vijitha Thinakaran. Scapular Metastasis of Oral Squamous Cell Carcinoma: A Case Report of an Unusual Site. Ind Jr of Path: Res and Practice 2026; 15(2) 155-157.

ABSTRACT

Introduction: Metastatic oral squamous cell carcinoma (OSCC) is an invasive, high-risk cancer commonly spreading to cervical lymph nodes (regional) and the lungs, liver, or bone (distant). Metastasis significantly reduces survival by nearly 50%, requiring aggressive, multidisciplinary treatment. Distant skeletal metastasis from OSCC is uncommon (roughly 2% of cases), with the spine, pelvis, and ribs being more frequent sites and scapula is extremely rare.

Case Report: A 36-year-old male presented to the surgical outpatient of our hospital with a history of pain and swelling over right scapula with restricted mobility. PET-CT report revealed lytic erosions in right scapula. Patient is a treated case of carcinoma tongue. CT guided Fine needle aspiration of cyst fluid and biopsy from cyst wall taken and same discussed in this report.

Conclusion: Active surveillance combined with early intervention and histopathological confirmation help to facilitate disease containment and increase survival rate.

KEYWORDS

• Metastatic oral squamous cell • Carcinoma • Lytic erosions

INTRODUCTION

More than 90% of cancer cases in head and neck region are OSCCs.¹

Globally, the highest rates are seen in Melanesia and South Central Asia; it is the

leading cause of cancer related death for men in India.

Although the average age is 60 years, can also occur in younger patients, especially in the setting of dyskeratosis congenita or Fanconi anemia.²

AUTHOR'S AFFILIATION:

Consultant Pathologist, Department of Laboratory Medicine, Manipal Hospital, Bangalore, Karnataka, India.

CORRESPONDING AUTHOR:

Vijitha Thinakaran, Consultant Pathologist, Department of Laboratory Medicine, Manipal Hospital, Bangalore, Karnataka, India.

E-mail: vijju89@gmail.com

➤ Received: 14-03-2026 ➤ Accepted: 16-04-2026



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution NonCommercial 4.0 License (<http://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified on the Red Flower Publication and Open Access pages (<https://www.rfppl.co.in>)

OSCC occur at any oral mucosal site (mucosal lip, buccal mucosa, alveolar ridge, floor of the mouth, hard palate, mobile tongue).

Metastases are commonly to cervical lymph nodes (regional) and the lungs, liver, or bone (distant). Distant skeletal metastasis from OSCC is uncommon (roughly two percent of cases), with the spine, pelvis, and ribs being more frequent sites and scapula is extremely rare. Bone involvement occurs via two main ways. Direct invasion (often mediated by osteoclasts) and distant hematogenous metastasis (spread through the bloodstream to distant skeletal sites).

Factors associated with distant metastasis are stage grouping and regional node positivity, extranodal extension, locoregional residual disease, and human papillomavirus (HPV) negative status in oropharyngeal squamous cell carcinoma³.

CASE REPORT

14 months earlier, a 36-year-old patient presented with ulcerative lesion on tongue, for which hemi-glossectomy with modified radical neck dissection done.

Histopathological pTNM staging was pT4N0, with perineural and lymphovascular invasion. (Figure 1)

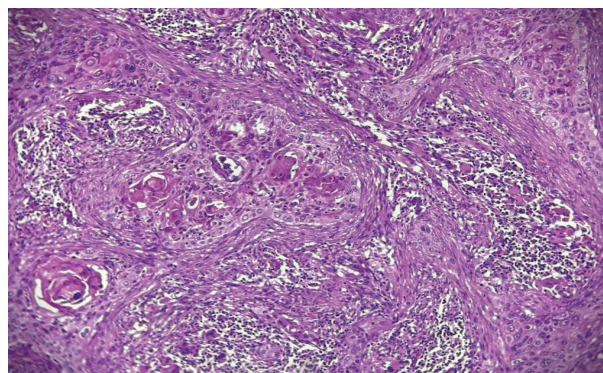


Figure 1: 40X, H&E, Squamous cell carcinoma, site: tongue

Patient received five sessions of chemotherapy and 33 days radiotherapy.

Now, patient presented with a history of pain and swelling over right scapula with restricted mobility. PET-CT report revealed FDG avid heterogeneously enhancing hypodense lesion in right aspect of trapezius muscle and the right subscapular muscles with lytic erosions in adjacent right scapula. Also noted FDG avid cavitating lesion in right lung upper lobe.

Aspirated 1ml of cyst fluid from scapula lesion, cytology smears showed pleomorphic cells in loose clusters with high Nuclear Cytoplasmic ratio and prominent nucleoli.

CT guided core needle biopsy from cyst wall taken and microscopic features studied from multiple linear cores showed nests of pleomorphic squamous cells and malignant keratin pearls, surrounded by desmoplastic stroma with lymphocytic infiltration. Scattered multinucleated giant cells noted. Final impression was given as metastatic squamous cell carcinoma. (Figure 2 A,B)

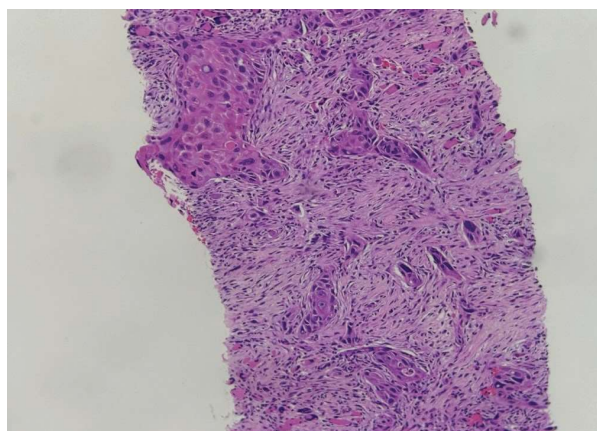


Figure 2A: 20X, H&E, Metastatic squamous cell carcinoma, site: scapula

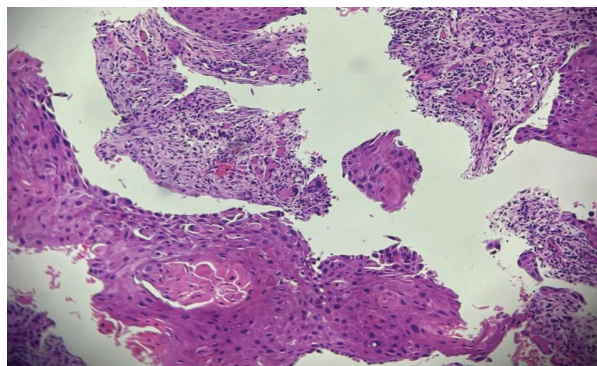


Figure 2B: 40X, H&E, Metastatic squamous cell carcinoma, site: scapula

Fine needle aspiration of cavitating lesion in right lung upper lobe done and cytology smears show scanty cellularity showing alveolar macrophages and degenerated cells. No atypical cells in the smears studied.

DISCUSSION

Distant metastasis is a major factor contributing to cancer-related death for approximately 25.6% of patients with oral squamous cell carcinoma (OSCC).⁴

For distant metastasis, carcinomas require certain biological events in order to spread from the primary tumor site to an anatomically distant site. The cascade starts at the primary tumor site where the cancer cells locally breach the basement membrane to invade the surrounding extracellular matrix and connective tissue. Then, the tumor cells move to lymphatic or blood vessels and travel to distant metastatic sites. At this point, tumor cells start to extravasate from the vessels into the stroma of the metastatic site. Initially, tumor cells use the metastatic tissue microenvironment to grow and form micro metastasis. Then, tumor cells expand and colonize to start their own proliferative program and form macroscopic metastasis¹.

According to reports from previous investigations, the incidence of distant metastases is rising among OSCC patients, with 5.3% to 19.4% of OSCC cases diagnosed with distant metastases. Following the lungs, bone is the second-most common organ of distant metastases, representing 15–39% of distant metastases cases of head and neck squamous cell carcinoma (HNSCC). Despite all this, OSCC rarely exhibits bone metastasis, unlike carcinomas of the breast, lung, and prostate.⁴

In a study done by Murakami et al, seventy-two patients were identified who were treated with postoperative radiation therapy for head and neck squamous cell carcinoma, thirty-two patients had disease relapse after treatment including 22 loco-regional recurrence and 14 distant metastases.⁵

In a case series of 97 patients with bone metastases (BM) from head and neck SCC published by Sakisuka et al, 61 patients presented with metachronous BM, 31 (32.0%) developed BM 1 year after the initial diagnosis. BM was single in 40 patients (41.2%) and multiple in 57 patients (58.8%). BM were located above the clavicle (cervical spine and craniomaxillofacial bones) in 28 patients (28.9%), the shoulder and thorax in 39 (40.2%), the thoracolumbar spine in 62 (63.9%), the pelvis in 39 (40.2%), and the extremities in 17 patients (17.5%)⁶.

Skeletal related events caused by bone metastases not only indicate a poor outcome but also lead to considerable changes in both performance status and quality of life.

CONCLUSION

Depth of invasion, perineural invasion, lymphovascular tumor emboli and extra nodal extension predict metastatic disease.

Active surveillance combined with early intervention and histopathological confirmation help to facilitate disease containment and increase survival rate.

Acknowledgement

I thank the radiology department for assisting in FNAC and biopsy procedures.

No Artificial Intelligence used in preparing this article.

Conflict of Interest: There are no conflicts of interest.

REFERENCES

1. Bugshan A., Farooq I. Oral squamous cell carcinoma: Metastasis, potentially associated malignant disorders, etiology and recent advancements in diagnosis. *F1000Res*. 2020 Apr 2; 9: 229.
2. Huuhka M., Turunen A. Oral Squamous Cell Carcinoma in a Patient with Fanconi Anemia. *Case Rep Dent*. 2021 Jun 23; 2021: 5571649.
3. Duprez F., Berwouts D., De Neve W., et al. Distant metastases in head and neck cancer. *Head Neck*. 2017; 39(9): 1733–1743.
4. Jia-Qi Wang, Xiao-Qi Zhong, Rong-Xin Deng, Ya-Qiong Zhang, Meng-Meng Lu. Bone metastases in oral squamous cell carcinoma: A real-world retrospective study based on the SEER database, *Journal of Stomatology, Oral and Maxillofacial Surgery*, volume 125, Issue 3, Supplement, 2024, 101851, ISSN 2468-7855.
5. Murakami N., Matsumoto F., Yoshimoto S., Ito Y., Mori T., Ueno T., Tsuchida K., Kashiwara T., Kobayashi K., Harada K., Kitaguchi M., Sekii S., Umezawa R., Takahashi K., Inaba K., Igaki H., Itami J. Patterns of recurrence after selective postoperative radiation therapy for patients with head and neck squamous cell carcinoma. *BMC Cancer*. 2016 Mar 7; 16: 192.
6. Sakisuka T., Kashiwagi N., Doi H., Takahashi H., Arisawa A., Matsuo C., Masuda Y., Inohara H., Sato K., Outani H., Ishii K., Tomiyama N. Prognostic factors for bone metastases from head and neck squamous cell carcinoma: A case series of 97 patients. *Mol Clin Oncol*. 2021 Nov; 15(5): 246.