

**SQUAMOUS CELL CARCINOMA OF LEFT LOWER ALVEOLUS: AN EXPERIENCE OF A  
TERTIARY CARE CENTRE OF NORTHERN INDIA**Digvijay Singh Tanwar<sup>1</sup> and Ravi Verma<sup>2\*</sup><sup>1</sup>M.S Gen. Surgery, CH Kandaghat, Solan (H.P).<sup>2</sup>M.D Paediatrics, CH Kandaghat, Solan (H.P).**\*Corresponding Author: Dr. Ravi Verma**

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**ABSTRACT**

Squamous cell carcinoma (SCC) is the most common malignant tumour of the oral cavity and is responsible for 3% of all cancer deaths. Clinical presentation is variable. Often their behaviour is aggressive and the diagnosis is often made at a late stage. The treatment of intraoral squamous cell carcinoma is guided by the clinical stage of the disease and consists of wide surgical excision, radiation therapy, or a combination of surgery and radiation therapy. Here we treated a 69-year-old male patient with a well-differentiated SCC of the left lower alveolus with a Salvage Left Composite Resection.

**KEYWORDS:** Squamous Cell Carcinoma, oral cavity, Salvage Left Composite Resection.**INTRODUCTION**

Head-and-neck cancers (HNCs) are the sixth most common malignancy worldwide. Approximately, half of the reported head and neck malignancies are oral cavity squamous cell carcinomas, with an estimated 300,000 new cases every year globally.<sup>[1]</sup> Oral cancer (OC) is a common cancer in the Southeast Asia region. According to the National Cancer Registry Programme of India, among males, Ahmedabad Urban Cancer Registry and East Khasi Hills Cancer Registry in females have recorded the highest age-adjusted incidence rates of OC.<sup>[2]</sup> his higher prevalence of OC may be attributed to the high consumption of areca nut and tobacco in any form in these regions. Because of the close proximity of the upper alveolar (ridge) mucosa with the upper gingivo-buccal sulcus or the upper part of the buccal mucosa, cancer of the upper alveolus may spread to these adjacent sites and thus making it difficult to localize the exact origin of the disease.<sup>[3]</sup> SCC of the oral cavity has a predilection for regional lymph node metastasis. However, only few studies have been conducted regarding the regional metastasis of SCC upper alveolus.<sup>[4]</sup> Upper gingival-buccal cancers (UGBCs) are biologically more aggressive than lower gingival-buccal cancers, which have a comparatively better disease-free survival even in advanced stages.<sup>[5]</sup> Here we present our experience of treating a lower alveolus SCC at a tertiary care centre.

**CASE REPORT**

69-year-old male patient presented with a non-healing ulcer left lower alveolus after tooth extraction in 2017. CECT neck and face revealed growth in the left lower

alveolus from left canine to premolar with underlying bone involvement. The growth was diagnosed as Squamous Cell Carcinoma on biopsy. Patient was planned for definitive chemoradiotherapy (CRT) following which there was a complete response.

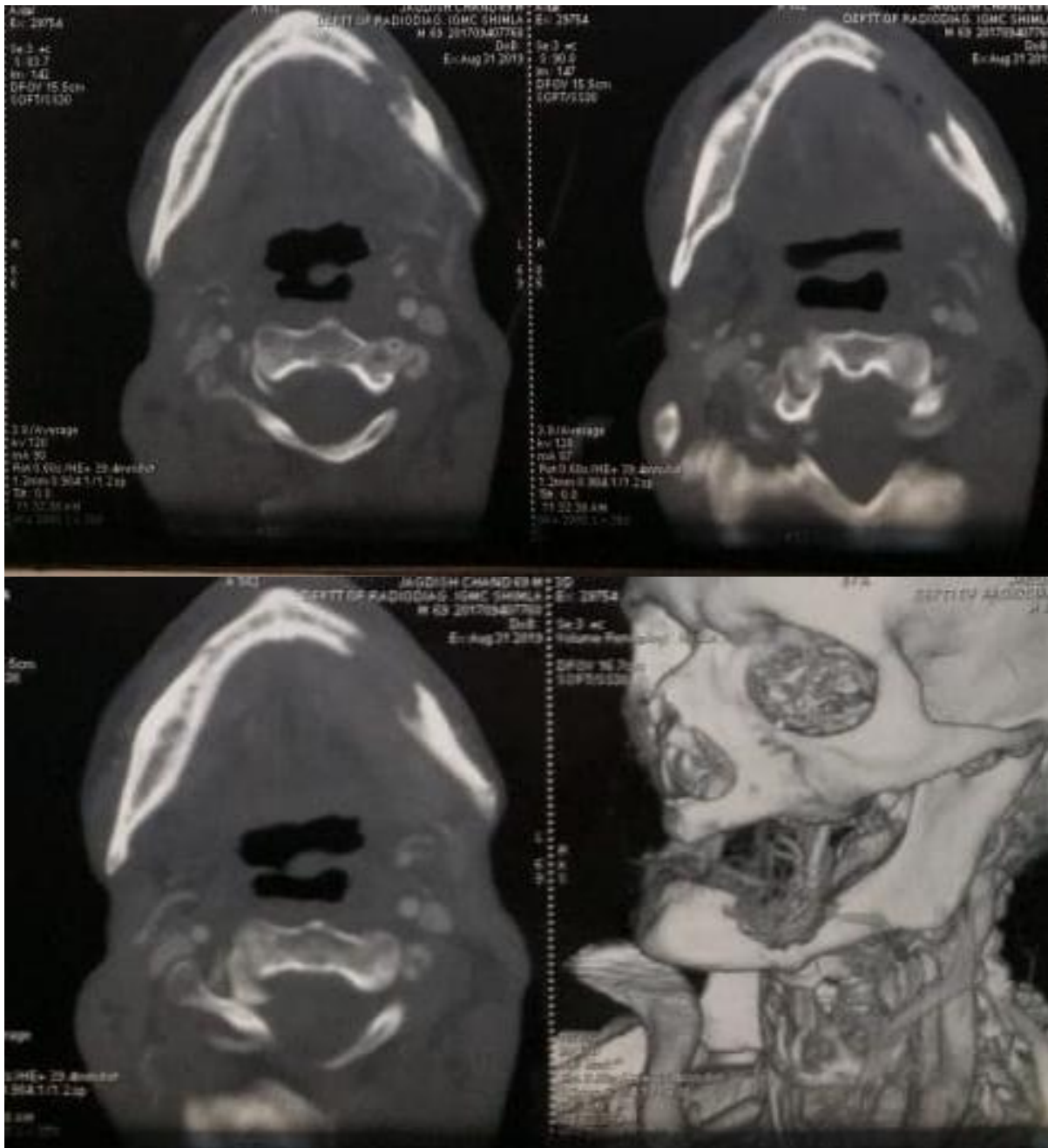
After a disease-free interval of 6 months, patient again developed an ulceroproliferative growth at the same site which on biopsy turned out to be a well differentiated SCC. CECT chest showed an incidental growth in the right main bronchus which on biopsy turned out to be Non-Small Cell Lung Cancer (NSCLC). Patient was planned for Neoadjuvant Chemotherapy (NACT). Follow-up Bronchoscopy and CECT face, neck and thorax revealed complete response of the lung malignancy but the oral malignancy showed no response.

Patient was referred to ENT/Maxillo-facial oral surgery for feasibility of a salvage surgery, but in view of previously received definitive CRT as well as his age, patient was refused surgery. Patient was then referred to Oncosurgery in 2019.

On General Physical Examination, the patient's vitals were stable. Pallor was present and his performance status was 1/4. On Local Examination, there was no trismus. Radiotherapy changes in the form of non-pliable, hyperpigmented, thick, inelastic skin was present on the left side of face and neck. There was an excavating growth of size ~ 3cm X 4cm present in the left lower alveolus starting from the last left molar to the left canine. No significant lymph nodes (LN) were present in the neck.

His blood investigations were as follows: Hb – 9.2 g/dL, TLC – 3640/ $\mu$ L, PLT – 3,60,000/ $\mu$ L, Urea – 21.9 mg/dL, Creat – 1.0 mg/dL, INR – 1.09

CECT head and neck showed a heterogeneously enhancing growth in the left alveolar ridge causing erosion/destruction of overlying ramus of mandible extending till subcutaneous plane laterally and abutting left border of tongue medially.

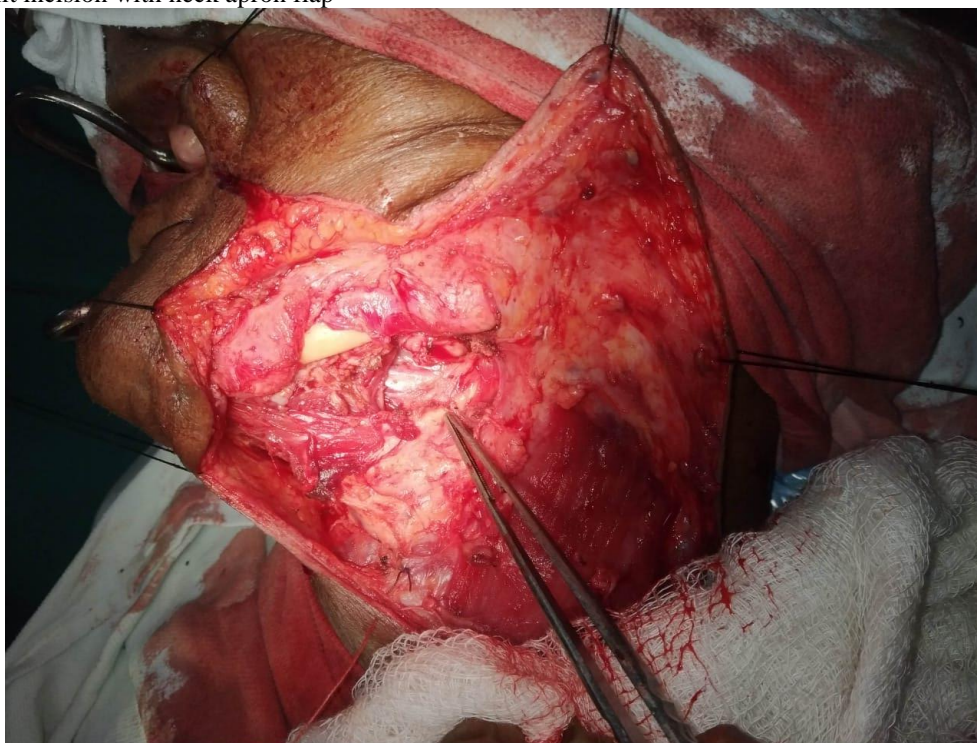


Patient was planned for a Salvage Left Composite Resection (COMMANDO Operation) which included a Wide Local Excision with Left Classical Hemimandibulectomy with Modified Neck Dissection Type 2 with Pectoralis Major Myocutaneous (PMMC) flap reconstruction with an additional procedure of tracheostomy.

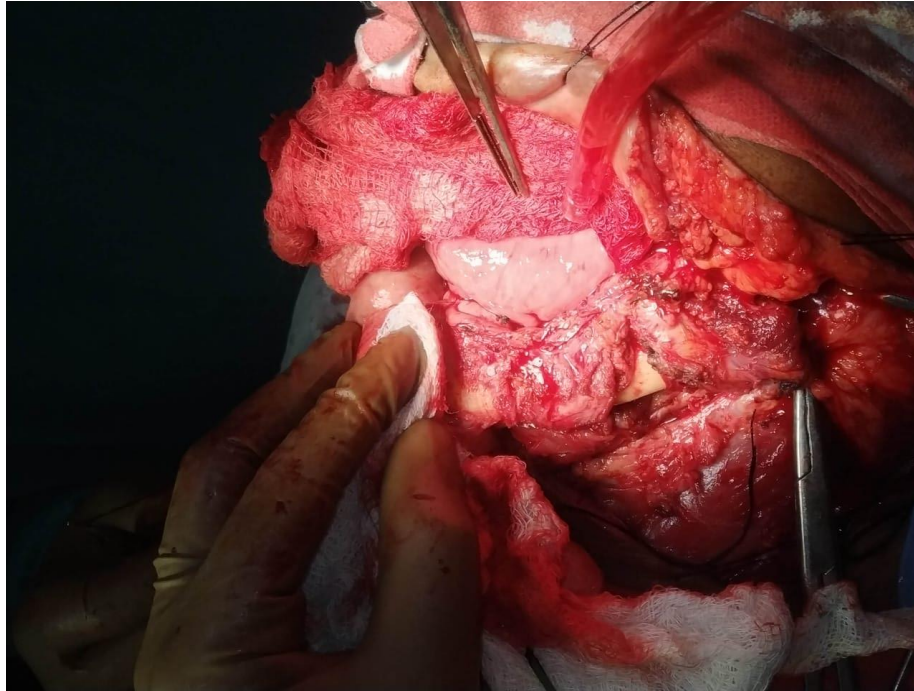
Intraoperatively.



Left angle split incision with neck apron flap



Dissection of neck



Classical Hemi-mandibulectomy with partial glossectomy



PMMC flap harvested  
Postoperatively

Vitals remained stable with tracheostomy-in-situ. Early ambulation was done and full nasogastric feed was given.

## DISCUSSION

Squamous cell carcinoma is considered as the most common malignant neoplasm of the oral cavity. The tongue, oropharynx, and floor of the mouth are the most common sites, and SCC of the gingiva and lips is rarely seen. SCC of the mandibular gingiva is more common than the maxillary gingiva.<sup>[6]</sup> Most of the cases of oral carcinoma are associated with tobacco chewing habit and usually appear as a premalignant lesion like leucoplakia before progressing to the malignant stage, but rare cases have also been reported with nontobacco-associated squamous cell carcinoma. Mandibular alveolus is the second most common site for oral carcinoma. Oral squamous cell carcinoma is more frequently seen among men compared to women as men are often exposed to high-risk habits such as smoking and tobacco chewing (Livi Feller *et al.* 2012). Age is another critical factor for oral SCC; as age advances, pronounced genetic and epigenetic changes take place.

Regional lymph node metastasis is another feature of squamous cell carcinoma. Cervical lymph nodes of the submandibular triangle and upper jugular regions have stronger predilection of regional lymph node metastasis in the case of SCC of the lower alveolus.<sup>[7]</sup> Prognosis is better in early oral SCC, especially those that are well-differentiated and without metastasis, but the worst part is that most cases of Oral SCCs are not diagnosed at the earlier stage of the disease. The prognosis can vary based on a number of factors that are related to the tumour or treatment or to the patient.

Treatment of squamous cell carcinoma is primarily a surgical excision followed by radiation therapy and chemotherapy as postoperative adjunct treatment modalities. Radical neck dissection is often required in case of lymph node metastasis. Marginal resection is considered as a treatment option when the bone defects did not extend beyond the mandibular canal and segmental resection if it extends beyond the mandibular canal. The 5-year cumulative survival rate for the mandibular marginal resection group is about 78.1% and 72.8% in the segmental resection group.<sup>[8]</sup>

Complication rates in patients undergoing open salvage surgery are higher than in previously untreated patients secondary to the effects of prior chemoradiotherapy. As per the meta-analysis, this procedure has an operative mortality of 5% and a complication rate of 39% with major complications being partial or total flap necrosis and pneumonia.

Intraoperative challenges encountered in this case included, post CRT skin changes with a non-pliable skin, distortion of the normal anatomy intra-orally as well as in the neck and chest, increased blood loss, single surgical oncology team and an unavailability of ICU postoperatively.

## CONCLUSION

Squamous cell carcinoma is the most common malignant epithelial neoplasm with varied oral presentations. The most fatal complication is the distant metastasis as the disease progresses. Hence, correct and timely diagnosis is of utmost importance and there are more chances for misdiagnosis as the clinical presentation of oral squamous cell carcinoma can mimic inflammatory gingival lesions. Despite potential complications many patients report an improved quality of life following salvage surgery.

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