



## CLINICALLY NEGATIVE NECK IN SQUAMOUS CELL CARCINOMA OF MAXILLARY ALVEOLUS & HARD PALATE – ITS MANAGEMENT

### Oncology

|                                |                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Dr. Nadimul Hoda</b>        | Department of Oral Oncology Kidwai Memorial Institute of Oncology Bengaluru<br>Karnataka, India                                               |
| <b>Dr. Vijaya Banu. B*</b>     | Fellow of Oral oncology Department of Oral Oncology Kidwai Memorial Institute of<br>Oncology Bengaluru Karnataka, India *Corresponding Author |
| <b>Dr. K. S. Sabitha</b>       | Head of Department Department of Oral Oncology Kidwai Memorial Institute of<br>Oncology Bengaluru Karnataka, India                            |
| <b>Dr. Rajani B C</b>          | Department of Oral Oncology Kidwai Memorial Institute of Oncology Bengaluru<br>Karnataka, India                                               |
| <b>Dr. Veerabhadra Kalyani</b> | Fellow of Oral oncology Department of Oral Oncology Kidwai Memorial Institute of<br>Oncology Bengaluru Karnataka, India                       |

### ABSTRACT

**AIM:** The aim of this paper is to justify the treatment strategy of maxillary alveolus and hard palate to either active surveillance or END based on incidence of cervical metastasis at this site.

**MATERIALS & METHODS :** A retrospective study consisting of 54 cases of squamous cell carcinoma of maxillary alveolus and hard palate conducted in Oral Oncology department of Kidwai Memorial Institute of Oncology, Bengaluru, Karnataka.

**RESULTS :** The incidence of cervical metastasis in our study was 37% and occult metastasis was 24% , comparable to those of other oral sites. The incidence of cervical metastasis in advanced stage tumours T3 & T4 was 31% compared to early stage tumours T1 & T2 was 6%.

**CONCLUSION:** Elective neck dissection been indicated in advanced stage tumours of squamous cell carcinoma of maxillary alveolus and hard palate owing to its high incidence of cervical and occult metastasis and which was comparable to those of other oral site

### KEYWORDS

Squamous cell carcinoma of Maxillary alveolus and hard palate END – Elective neck dissection cN0 - clinically negative neck

### INTRODUCTION :

Squamous cell carcinoma of maxillary alveolus and hard palate occurs at a relatively low rate when compared to other oral sites. They account for 3.5 % to 6.5% of oral cancers<sup>1,2</sup> and presents with the low rate of cervical metastasis<sup>3</sup>. Owing to its relative rarity in its incidence and paucity of published data on its metastatic rate and treatment outcome, these group of patients poses challenge in its management, especially those presenting with clinically negative neck to either active surveillance or END. Elective neck dissection or radiotherapy been indicated to cN0 neck of oral SCC patients when the risk of occult metastasis exceeds greater than 20%<sup>4,5,6</sup>. In this paper, we aim to justify the treatment strategy of maxillary alveolus and hard palate to either active surveillance or END for the management of neck based on incidence of cervical metastasis at this site.

### MATERIALS & METHODS :

A total of 54 patients were included in this retrospective study conducted in the oral oncology department of Kidwai Memorial Institute of Oncology from 2015 to 2018. The study includes squamous cell carcinoma patients confined to maxillary alveolus and hard palate, excluding those with prior surgery, chemotherapy or radiotherapy and staged according to AJCC 8<sup>th</sup> edition.

All patients undergone surgical resection of primary lesion with 1cm of margin and modified neck dissection was performed for patients presenting with N+ disease. For patients with cN0 neck, neck management were either observed or undergone END depending on operating surgeons preference. Post operative radiotherapy were given to patients with pN+ and concurrent chemotherapy & radiotherapy for those with close margin, pathologically adverse features of perineural or lymphovascular invasion and extracapsular spread. The patients were followed up at the rate of one month for first one year, at the rate of 2 month interval for 2<sup>nd</sup> year, 3 month interval for 3<sup>rd</sup> year, 6 month interval for 4<sup>th</sup> & 5<sup>th</sup> year and then annually thereafter.

### RESULTS :

Of 54 cases, 31 patients were female and 23 were male, with median age of distribution was 48 years ( 40 to 63 years) and median of follow up was 24 months ( 6 to 36 months). The demographic data of patients was given in Table-1.

**Table 1 : Demographic Data Of Patients**

| S. No | Parameter | NO. | Percentage |
|-------|-----------|-----|------------|
| 1     | Gender    |     |            |
|       | Male      | 23  | 42.6 %     |
|       | Female    | 31  | 57.4 %     |
| 2     | T stage   |     |            |
|       | T1        | 5   | 9 %        |
|       | T2        | 6   | 11 %       |
|       | T3        | 13  | 24 %       |
|       | T4        | 20  | 36%        |
| 3     | N stage   |     |            |
|       | N0        | 47  | 87 %       |
|       | N+        | 7   | 13%        |

Seven patients presented with clinically positive neck at initial presentation. Out of 47 cN0 patients, 12 patients underwent END as per operating surgeons preference and 4 patients were turned out to be pN+. Among the rest 35 cN0 patients who were under active surveillance, 9 patients presented with nodal metastasis and 2 patients with local recurrence during follow up and were treated successfully with surgical salvage. The occult metastatic rate was 24% and overall cervical metastatic rate was 37%.

**Table 2 : Distribution Of Nodal Metastasis According To T Stage**

|       | cN0 | cN+ | RR | LR |
|-------|-----|-----|----|----|
| T1    | 18  | 0   | 0  | 0  |
| T2    | 14  | 1   | 2  | 0  |
| T3    | 9   | 2   | 3  | 0  |
| T4    | 6   | 4   | 4  | 2  |
| TOTAL | 47  | 7   | 9  | 2  |

### DISCUSSION :

Squamous cell carcinoma is the most common malignancy of oral cavity with high propensity for cervical metastasis. Cervical metastasis in squamous cell carcinoma of maxillary alveolus and hard palate has traditionally been reported with low rate of cervical metastasis. Patients presenting with clinically negative neck usually kept on wait & watch without addressing the neck due to low rate of metastasis to cervical lymph nodes. However they present with high rate of cervical metastasis in recent studies<sup>7,15</sup> and management of

clinically negative neck at this site still remains controversial. The cervical metastatic rate in our study was 37%.

Elective neck dissection been indicated in cN0 neck of squamous cell carcinoma of oral patients when the risk of cervical metastasis exceeds >20%<sup>4,5,6</sup>. Occult metastasis being responsible for early regional failure in clinically negative neck of maxillary squamous cell carcinoma<sup>7</sup>. The occult metastasis for other oral sites accounts for 20-30%<sup>16,17</sup>. In our series, the occult metastatic rate was 24%. Simental et al, Ogura et al & Zhang et al reported occult metastatic rate of 29%, 38.8% and 27.5 % respectively similar to our study, and was comparable & even higher to those of other oral sites.

The association between tumour stage and cervical metastasis was well established for squamous cell carcinoma of oral patients<sup>18</sup> and maxillary squamous cell carcinoma patients are not different from it. In our study, the incidence of cervical metastasis in advanced stage tumours T3 & T4 was 31% when compared to early stage tumours T1 & T2 was 6%, suggesting the need for elective neck dissection in cN0 cases of advanced stage tumours at this site. Survival outcome was not addressed here due to shorter follow up time period. However our study had limitations of being a retrospective study with small volume of cases, suggesting the need for prospective studies with large case series and long follow up in multiple centres to investigate this more effectively.

## CONCLUSION :

Elective neck dissection for clinically negative neck of squamous cell carcinoma of maxillary alveolus and hard palate is therefore indicated in advanced stage tumours as the risk of occult cervical metastasis being comparable to those of other oral sites.

## REFERENCES :

1. Woolgar JA, Triantafyllou A. A histopathological appraisal of surgical margins in oral and oropharyngeal cancer resection specimens. *Oral Oncology* 2005; 41: 1034-43
2. Garzino-Demo P, Dell'Acqua A, Dalmaso P et al. Clinicopathological parameters and outcome of 245 patients operated for oral squamous cell carcinoma. *Journal of Cranio-Maxillo-Facial Surgery* 2006; 34: 344-50.
3. Simental AA, Johnson JT, Myers EN. Cervical metastasis from squamous cell carcinoma of the maxillary alveolus and hard palate. *Laryngoscope* 2006; 116:1682-4.
4. Lin HW, Bhattacharyya N. Survival impact of nodal disease in hard palate and maxillary alveolus cancer. *Laryngoscope* 2009; 119:312-5.
5. Weiss MH, Harrison LB, Isaacs RS. Use of decision analysis in planning a management strategy for stage N0 neck tumor. *Arch Oto-laryngol Head Neck Surg* 1994; 120: 699-702.
6. Poeschl PW, Seemann R, Czembirek C, Russmueller G, Sulzbacher I, Selzer E, et al. Impact of elective neck dissection on regional recurrence and survival in cN0 staged oral maxillary squamous cell carcinoma. *Oral Oncol* 2012; 48:173-8.
7. Montes DM, Schmidt BL. Oral maxillary squamous cell carcinoma: management of the clinically negative neck. *J Oral Maxillofac Surg* 2008; 66:762-6.
8. Brown JS, Bekiroglu F, Shaw RJ, Woolgar JA, Rogers SN. Management of the neck and regional recurrence in squamous cell carcinoma of the maxillary alveolus and hard palate compared with other sites in the oral cavity. *Head Neck* 2013; 35:265-9.
9. Kruse AL, Grätz KW. Cervical metastases of squamous cell carcinoma of the maxilla: a retrospective study of 9 years. *Head Neck Oncol* 2009; 20:1-28.
10. Mourouzis C, Pratt C, Brennan PA. Squamous cell carcinoma of the maxillary gingiva, alveolus, and hard palate: is there a need for elective neck dissection? *Br J Oral Maxillofac Surg* 2010; 48:345-8.
11. Ogura I, Kurabayashi T, Sasaki T, Amagasa T, Okada N, Kaneda T. Maxillary bone invasion by gingival carcinoma as an indicator of cervical metastasis. *Dentomaxillofac Radiol* 2003; 32:291-4.
12. Morris LG, Patel SG, Shah JP, Ganly I. High rates of regional failure in squamous cell carcinoma of the hard palate and maxillary alveolus. *Head Neck* 2011; 33:824-30.
13. Montes DM, Carlson ER, Fernandes R, Ghali GE, Lubek J, Ord R, Bell B, Dierks E, Schmidt BL. Oral maxillary squamous carcinoma: an indication for neck dissection in the clinically negative neck. *Head Neck* 2011; 33:1581-5.
14. Berger M, Grau E, Saure D, Ristow O, Thiele O, Hofele C, Hoffmann J, Seeberger R, Freier K. Occurrence of cervical lymph node metastasis of maxillary squamous cell carcinoma-A monocentric study of 171 patients. *J Cranio Maxillofac Surg* 2015; 43:2195-9.
15. Moreno-Sánchez M, González-García R, González-Ballester D, Ruiz-Laza L, Moreno-García C, Monje F. What is the role of elective neck dissection in patients with squamous cell carcinoma of the upper jaw? *Rev Esp Cir Oral Maxillofac* 2016; doi:10.1016/j.maxilo.2016.02.003.
16. Pimenta Amaral TM, Da Silva Freire AR, Carvalho AL, Pinto CA, Kowalski LP. Predictive factors of occult metastasis and prognosis of clinical stages I and II squamous cell carcinoma of the tongue and floor of mouth. *Oral Oncol* 2004; 40:780-6.
17. Sparano A, Weinstein G, Chalian A, Yodanis M, Weber R. Multivariate predictors of occult neck metastasis in early oral tongue cancer. *Otolaryngol Head Neck Surg* 2004; 131:472-6.
18. Webber C, Gospodarowicz M, Sobin LH, Wittekind C, Greene FL, Mason MD, Compton C, Brierley J, Groome PA. Improving the TNM classification: findings from a 10-year continuous literature review. *Int J Cancer* 2014; 135:371-8.