



## A prospective analysis of prevalence of metastasis in levels IIB and V neck nodes in patients with operable oral squamous cell carcinoma

Sriharsha Haranadh<sup>a</sup>, Rukmangadha Nandyala<sup>b</sup>, Vijayalakshmi Devi Bodagala<sup>c</sup>,  
Narendra Hulikal<sup>a,\*</sup>

<sup>a</sup> Department of Surgical Oncology, Sri Venkateswara Institute of Medical Sciences, Tirupati, Chittoor District, Andhra Pradesh 517507, India

<sup>b</sup> Department of Pathology, Sri Venkateswara Institute of Medical Sciences, Tirupati, Chittoor District, Andhra Pradesh 517507, India

<sup>c</sup> Department of Radiodiagnosis and Imaging, Sri Venkateswara Institute of Medical Sciences, Tirupati, Chittoor District, Andhra Pradesh 517507, India

### ARTICLE INFO

#### Keywords:

Oral cancer  
Buccal cancer  
Squamous cell carcinoma  
Neck nodes  
Nodal metastasis  
Skip metastasis  
Neck dissection  
Accessory nerve

### ABSTRACT

**Objectives:** The present study was designed to know and analyze the prevalence of pathological involvement of level IIB and V neck nodes in operable oral cavity squamous cell carcinomas.

**Materials and methods:** All treatment naïve, willing biopsy proven patients of age group 18–70 years with oral cavity squamous cell carcinomas undergoing surgery from May 2015 to December 2016 in a single tertiary care Institute were prospectively analyzed for level IIB and V involvement.

**Results:** A total of 199 patients met the selection criteria of the study. Most common site was buccal mucosa, majority were cT2 lesions and 90% underwent Modified neck dissection. 63% of patients had pN0 disease. The rate of involvement of level II b and V nodes was 3% and was associated with higher T size, disease burden in proximal basin and lymphovascular invasion. There was no skip metastasis to level IV. Only one patient had skip metastasis to levels V and IIB each.

**Conclusion:** To conclude our data strongly supports omission of level IIB and level V nodal dissection routinely in patients with cT1 and T2 buccal cancers. However, a randomized controlled study to evaluate the morbidity as well as recurrence pattern between the selective and super-selective approach is warranted.

### Introduction

Oral cavity cancers are one of the leading causes of cancers in India, where chewing of betel, pan and areca is a common habit. The cancers of the oral cavity have highest risk of spread to levels I to III neck nodes. The skip metastasis to level IV or V in the absence of disease in level I to III is exceedingly rare. While surgically managing the neck, the type of neck dissection depends on the clinical status of the neck nodes and consists of selective neck dissection for clinically node negative patients and modified neck dissection for clinically involved neck.

The risk of spinal accessory nerve (SAN) injury is particularly common while removing the levels IIB and V nodes [1,2]. The mere anatomical preservation of the SAN during surgery may not always be associated with normal shoulder function. During the clearance of levels IIB and V, there is a high chance of mechanical trauma and vascular injury to the nerve. Other complications specific to level V dissection are injury to phrenic nerve, brachial plexus, cervical nerve roots and Chyle leak. Though several studies have focused on morbidity

occurring due to nerve injury during level IIB and V dissection, there are few prospective studies reporting the prevalence of metastasis. Hence the present study was conducted to know the prevalence of nodal metastasis at level IIB and V in patients with oral squamous cell carcinomas (OSCC) and to assess the various clinicopathological factors that influence such a metastasis.

### Patients and methods

This was a prospective study of all willing, treatment naïve biopsy proven OSCC patients of the age group 18–70 years undergoing surgery for the primary tumor and neck at Sri Venkateswara Institute of Medical Sciences, Tirupati, Andhra Pradesh, India from May 2015 – December 2016. The research protocol was approved by the Institutional Ethical Committee. Patients with any previous history of neck or oral surgery, radiation therapy or chemotherapy, recurrent cancer, patients with loco-regionally advanced, inoperable and metastatic disease, patients with synchronous multiple or bilateral primaries as well as patients

Abbreviations: SAN, spinal accessory nerve; OSCC, oral squamous cell carcinomas; MND, modified neck dissection

\* Corresponding author.

E-mail address: [dmarendrah@yahoo.co.in](mailto:dmarendrah@yahoo.co.in) (N. Hulikal).

with primary in the sub-sites with less incidence of lymph nodal metastasis such as hard palate and upper alveolus were excluded from the study.

All eligible patients who were suspected to have oral cavity malignancy were evaluated with the detailed history, clinical examination and routine blood investigations including renal function tests. Imaging studies included a chest x ray, ultrasound of the neck and Contrast enhanced CT scan (CECT) or MRI of the neck and primary area. A tissue diagnosis of the tumor was done by an incisional biopsy. For subsite classification any tumor that extended into buccal mucosa was considered as tumor of the buccal mucosa. If the tumor is in the midline or crossing the midline, a bilateral neck dissection was indicated.

The various details such as the type of neck dissection, total number of nodes removed in each level, maximum size of the nodes, the number of involved nodes, extra capsular spread, level of nodal positivity, tumor depth of invasion was recorded. The final histopathological details of level IIB and V was analyzed in relation to the Tumor (T) size and location, grade, depth of invasion and presence of lymphovascular invasion. Data was recorded in a predesigned proforma and managed using Microsoft Excel 2007. Base line continuous variables were measured as Mean +/- SD. Chi-square test was used for comparing categorical values. Statistical analysis was performed using SPSS software version 20.

**Results**

A total of 199 patients met the selection criteria of the protocol, the clinicopathological details is given in Table no. 1. Majority were women and buccal mucosa was the most common subsite. A total of 114 patients (57%) had clinically negative neck. Majority of the patients underwent modified neck dissection (MND) (178 of 199, 90%), none required bilateral neck dissection. A MND was done in clinically node negative patients based on the tumor resection extent and the reconstruction planned for the defect after resection. The rate of clinically occult metastasis was 17% (29 of 114) and on final histopathology 125 (63%) patients were node negative suggesting inaccuracy of clinical staging of neck to the extent of 23%. In clinically suspected N1 disease, only 50% had disease on final histopathology whereas, in clinically N2b patients, 86% had pathological nodal involvement (Table 1). One patient had clinically N2a disease which had no disease on final histopathology. On Chi-square test, this data had a significant correlation with a p-value of < 0.000 suggesting clinical evaluation is more accurate for higher stage disease in the neck. Among the patients with pathological involvement most common involved nodes were in level IB (30%) followed by IIA. Seventy-three (99% of pN+) patients had nodal metastasis in levels I to III without involvement of levels IV and V. No skip metastasis was seen in level IV and only one patient had skip metastasis to level V. Further, metastasis to level IIB and V was noted only in buccal mucosal lesions in 3% of patients each (7 and 6 patients respectively). Isolated metastasis in these two regions (IIB and V) was noted in only one patient each. There was a significant correlation between level V involvement with cT size (p = 0.015, Table 2). The level IIB nodal involvement among cN0 and cN+ was 3% (3 of 114) and 5% (4 of 85) respectively. None of clinically node negative patients had level V involvement whereas 7% of clinically node positive had level V involvement. There was no statistically significant association between the nodal positivity in any level and any of the factors such as depth of invasion, grade of the tumor and presence of perineural invasion (Table 2). The level IIB involvement was significantly associated with the presence of lymphovascular space invasion at the primary site (p = 0.002) (Fig. 1).

Logistic regression analysis was performed to study the effect of various factors on level IIB status. While comparing involvement of nodes in each level (Positive vs Negative) the dominant factors that predicted the level IIB status were the disease at levels IA and IIA. Additional factors were analyzed including all the clinical and

**Table 1**  
Clinicopathological details of the study population (n = 199).

Mean age					
<i>Sex</i>					
Male	45				
Female	154				
<i>Subsites</i>					
Buccal Mucosa:	171				
Tongue:	15				
RMT:	06				
Lower Alveolus:	04				
Lip:	02				
Floor of Mouth:	01				
<i>cT status</i>					
T1:	28				
T2:	112				
T3:	16				
T4:	43				
<i>Clinical nodal status</i>					
cN0:	114				
cN1:	77				
cN2:	08				
<i>pT status</i>					
pT1:	51				
pT2:	84				
pT3:	14				
pT4:	50				
<i>Clinical vs pathological nodal status</i>					
	cN0	cN1	cN2a	cN2b	Total cases
pN0	85	38	1	1	125
pN+	29	39	0	6	74
Total	114	77	1	7	199
<i>Prevalence of nodal metastasis in different levels (n = 74)</i>					
Level	Percentage	Nodal yield (median)			
IA	04	2			
IB	30	3			
IIA	14	4			
IIB	03	4			
III	05	5			
IV	01 4				
V	03	4			
<i>Type of neck dissection (n = 199)</i>					
MND:	178				
	Type 1 – 08				
	Type 2 – 165				
	Type 3 – 05				
SND (I–III):	11				
SND (I–IV):	10				
<i>cT Size and IIB involvement (n = 199, p = 0.15)</i>					
Disease	cT1	cT2	cT3	cT4	
Absent	28	14	41	109	
Present	0	03	02	02	
<i>pT Size and IIB involvement (n = 199, p = 0.54)</i>					
Disease	pT1	pT2	pT3	pT4	
Absent	50	82	13	47	
Present	01	02	01	03	
<i>cT Size and V involvement (n = 172, p = 0.015)</i>					
Disease	cT1	cT2	cT3	cT4	
Absent	16	100	13	43	
Present	00	0	03	0	
<i>pT Size and V involvement (n = 172, p = 0.70)</i>					
Disease	pT1	pT2	pT3	pT4	
Absent	34	76	13	49	
Present	02	02	01	01	

(continued on next page)

Download English Version:

<https://daneshyari.com/en/article/8707163>

Download Persian Version:

<https://daneshyari.com/article/8707163>

[Daneshyari.com](https://daneshyari.com)