

ORIGINAL RESEARCH**Assessment of clinical spectrum of oral squamous cell carcinoma patients**

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ABSTRACT

Background: Oral squamous cell carcinoma (OSCC), the most common cancer worldwide, disseminates to cervical nodes which strongly influences survival and prognosis. The present study was conducted to assess clinical spectrum of oral squamous cell carcinoma patients.

Materials & Methods: 264 histopathologically proven oral squamous cell carcinoma (OSCC) patients who underwent surgery including neck dissection of both genders were included in the study and parameters such as site of oral cancer, post-operative histopathological detail and type of neck dissection was recorded.

Results: Out of 264 patients, males were 160 and females were 104. We found that common site was buccal mucosa in 132, tongue in 48, alveolo-buccal in 52, alveolus in 14, lip in 10 and floor of mouth in 8 cases. T Stage clinical was T1 in 24, T2 in 70, T3 in 40 and T4 in 130. Neck node clinical was seen in 184 cases. We found that on ipsilateral site, neck dissection done was RND in 24, MND1 in 28, MND2 in 128, MND3 in 20 and supra-omohyoid neck dissection (SOHND) in 64 cases. On contralateral side, neck dissection performed was MND1 in 6, MND2 in 10, MND3 in 12, SOHND in 37 and not done in 199 cases. Histopathological node status was positive in 42% and negative in 58%. Oral subsite wise pathological node positivity in buccal mucosa was 35%, tongue in 40%, alveolo-buccal in 42%, alveolus in 38%, lip in 32% and floor of mouth in 30%. Groups of nodes involved were 0 in 60%, 1 in 14%, 2-4 in 18% and >4 in 8%.

Conclusion: Most common site of oral squamous cell carcinoma was buccal mucosa, followed by alveolo-buccal region. Type of neck dissection done was MND2. Most common level of nodal involvement was level 1 and level 2. Incidence of node positivity was relatively higher among locally advanced tongue cancer than early oral cancer.

Key words: Oral squamous cell carcinoma, cervical nodes, head and neck

INTRODUCTION

Oral squamous cell carcinoma (OSCC), the most common cancer worldwide, disseminates to cervical nodes which strongly influences survival and prognosis. Clinically, N0 necks harbor occult metastasis in up to 34% of cases, whereas only 40% clinically suspected neck nodes are metastatic on final histopathology based on the subsite.¹

Cervical lymph node metastasis is an important prognostic factor in patients with head and neck squamous cell carcinoma (HNSCC). Appropriate management of neck nodes is vital to maximize locoregional control and overall survival.² Oral cavity cancers are treated primarily by surgery, followed by adjuvant therapy, depending upon their stage and histopathological characteristics. Surgery, the standard of care for nodal metastasis in neck, has evolved from radical to selective neck dissection (SND), but it still remains sub-optimal. Tailoring surgery based on pattern of spread might help balance morbidity and oncological outcomes.³ Neck dissection, therefore, has an important role in management of oral cancers, not only as a part of treatment, but also for determining adjuvant therapy. The extent of dissection in selective neck dissections in N0 necks and their role in node positive (N1) necks is controversial.⁴ Lesser dissections have been advocated even in node positive necks as incidence of metastases to certain levels, like II B and V, is very low. Further, dissection of these levels is associated with significant shoulder dysfunction.⁵ The present study was conducted to assess spectrum and nodal involvement in oral squamous cell carcinoma patients.

MATERIALS & METHODS

It was a retrospective analysis of a prospectively maintained database in a hospital-based setting. The study period was 2017- 2020. The present study comprised of 264 histopathologically proven oral squamous cell carcinoma (OSCC) patients who underwent surgery including neck dissection of both genders. All gave their written consent for the participation in the study.

Data such as name, age, gender etc. was recorded. Parameters such as site of oral cancer, post-operative histopathological detail and type of neck dissection was recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I: Distribution of patients

Total- 264		
Gender	Males	Females
Number	160	104

Table I shows that out of 264 patients, males were 160 and females were 104.

Table II: Assessment of parameters

Parameters	Variables	Number
Site	Buccal mucosa	132
	Tongue	48
	Alveolo-buccal	52
	Alveolus	14
	Lip	10
	Floor of mouth	8
T Stage clinical	T1	24
	T2	70
	T3	40
	T4	130
Neck node clinical	Yes	184
	No	80

Table II, graph I shows that common site was buccal mucosa in 132, tongue in 48, alveolo-buccal in 52, alveolus in 14, lip in 10 and floor of mouth in 8 cases. T Stage clinical was T1 in 24, T2 in 70, T3 in 40 and T4 in 130. Neck node clinical was seen in 184 cases.

Graph I: Assessment of parameters

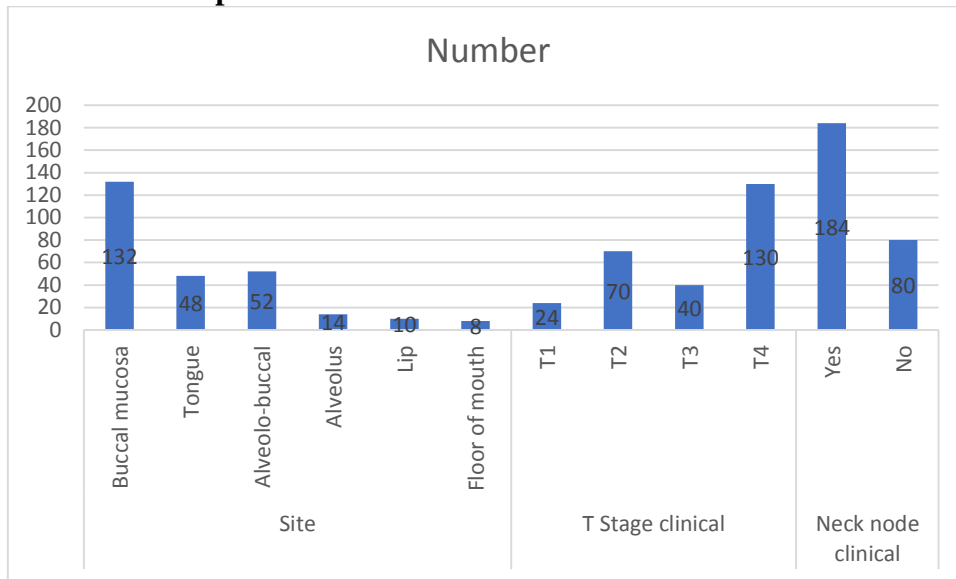
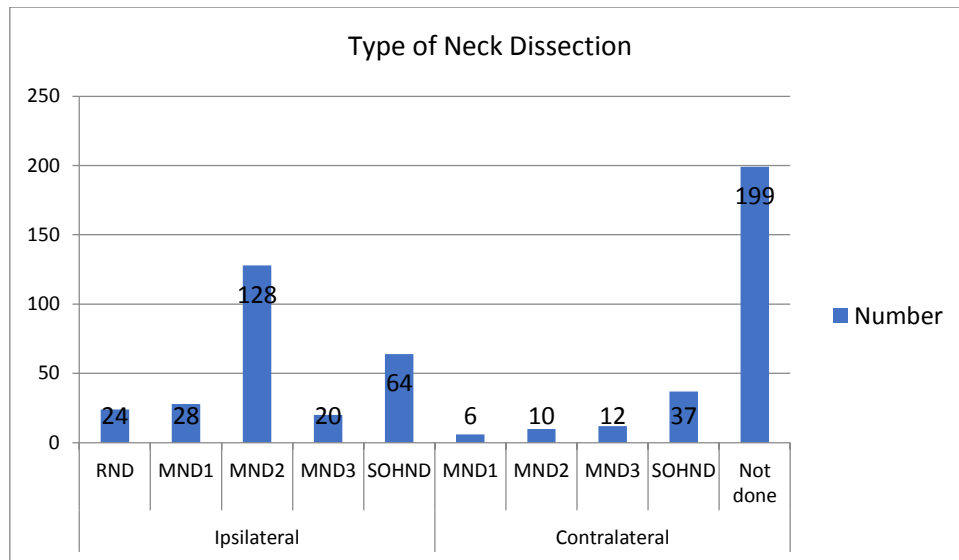


Table III: Type of neck dissection

	Variables	Number
Ipsilateral	RND	24
	MND1	28
	MND2	128
	MND3	20
	SOHND	64
Contralateral	MND1	6
	MND2	10
	MND3	12
	SOHND	37
	Not done	199

Table III, graph II shows that on ipsilateral site, neck dissection done was RND in 24, MND1 in 28, MND2 in 128, MND3 in 20 and supra-omohyoid neck dissection (SOHND) in 64 cases. On contralateral side, neck dissection performed was MND1 in 6, MND2 in 10, MND3 in 12, SOHND in 37 and not done in 199 cases.

Graph II: Type of neck dissection

**Table IV: Post-op histopathological detail**

Parameters	Variables	Number
Histopathological node status	Positive	42%
	Negative	58%
Oral subsite wise pathological node positivity	Buccal mucosa	35%
	Tongue	40%
	Alveolo-buccal	42%
	Alveolus	38%
	Lip	32%
	Floor of mouth	30%
Groups of nodes involved	0	60%
	1	14%
	2-4	18%
	>4	8%

Table IV shows that histopathological node status was positive in 42% and negative in 58%. Oral subsite wise pathological node positivity in buccal mucosa was 35%, tongue in 40%, alveolo-buccal in 42%, alveolus in 38%, lip in 32% and floor of mouth in 30%. Groups of nodes involved were 0 in 60%, 1 in 14%, 2-4 in 18% and >4 in 8%.

DISCUSSION

Oral squamous cell carcinoma is a locoregionally aggressive malignancy.⁶ Further, nodal involvement is a very important prognostic factor, and its management has always been a point of debate.⁷ Over time, the understanding of anatomy, biology, and surgical approach to neck management has evolved significantly.⁸ There is a paradigm shift in surgical management of neck nodes from traditional radical neck dissection, to more conservative, functional, and less morbid procedures like modified neck dissection and supra-omohyoid neck dissection.^{9,10} The present study was conducted to assess clinical spectrum of oral squamous cell carcinoma patients.

We found that out of 264 patients, males were 160 and females were 104. Deo et al¹¹ found that buccal mucosa (28.78%) was the most common, whereas lip (5.08%) was the least common oral subsite. Modified neck dissection (69.75%) was the most common type of neck dissection. Pathological node positivity was documented in 39.8% patients and Level I (62.54%) and level II (57.33%) are the most common neck levels for nodal involvement.

Involvement of Level III to V was seen less often (7.17%). There was no significant association between node positivity among different subsites of oral cancer. Neck level I and II are the most commonly involved levels. Sensitivity and specificity of clinical assessment are 83.51% and 30.05%, respectively

We found that common site was buccal mucosa in 132, tongue in 48, alveolo-buccal in 52, alveolus in 14, lip in 10 and floor of mouth in 8 cases. T Stage clinical was T1 in 24, T2 in 70, T3 in 40 and T4 in 130. Neck node clinical was seen in 184 cases. Shah et al¹² analyzed 501 previously untreated oral cancer patients and found that majority of metastatic nodes were in levels I to III. The prevalence of nodal metastasis in level IV was 3% for elective radical neck dissection, 15% for immediate radical neck dissection, and 16% subsequent radical neck dissection. Further, prevalence in level V was only 0.5% in elective radical neck dissection and 4% and 2%, respectively, in immediate radical neck dissection and subsequent radical neck dissection.

We found that on ipsilateral site, neck dissection done was RND in 24, MND1 in 28, MND2 in 128, MND3 in 20 and supra-omohyoid neck dissection (SOHND) in 64 cases. On contralateral side, neck dissection performed was MND1 in 6, MND2 in 10, MND3 in 12, SOHND in 37 and not done in 199 cases. Pantvaitya et al¹³ in their study neck dissections in patients with oral cancer was conducted. Five hundred eighty-three neck dissections were prospectively evaluated. A total of 95.7% metastases occurred at levels I to IV. Overall incidence of metastases to levels IIB and V was 3.8% and 3.3%, respectively. Multivariate analysis revealed IIA positivity as an independent predictive factor for metastases to both IIB and V. This study of lymph node mapping in patients with oral cancer showed a predictable pattern of lymph node metastasis according to primary site. Selective neck dissection (levels I–IV) in patients with oral cancers may be adequate. Determining status of level IIA is important to guide dissection of levels IIB and V.

We found that histopathological node status was positive in 42% and negative in 58%. Oral subsite wise pathological node positivity in buccal mucosa was 35%, tongue in 40%, alveolo-buccal in 42%, alveolus in 38%, lip in 32% and floor of mouth in 30%. Groups of nodes involved were 0 in 60%, 1 in 14%, 2-4 in 18% and >4 in 8%. Lea et al¹⁴ studied level IIB nodes only in oral cavity cancers. In their review, positive nodes at level IIB were found in 6% of cases; moreover, isolated IIB metastases were rare.

The limitation the study is small sample size.

CONCLUSION

Authors found that most common site of oral squamous cell carcinoma was buccal mucosa, followed by alveolo-buccal region. Type of neck dissection done was MND2. Most common level of nodal involvement was level 1 and level 2. Incidence of node positivity was relatively higher among locally advanced tongue cancer than early oral cancer.

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