ORIGINAL RESEARCH

Assessment of impact of clinical versus pathological staging in oral cavity carcinoma

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ABSTRACT
Background: Clinical staging refers to the assessment of cancer based on the information gathered before any treatment has been initiated.The present study was conducted to assess the impact of clinical versus pathological staging in oral cavity carcinoma. **Materials & Methods:**110 OSCC patients of both genders were enrolled. Parameters such as site, type of treatment done, etc. were recorded. Overall clinical and pathological TNM staging was compared and tabulated to determine upstaging, downstaging or cases where no stage discrepancy occurred. **Results:** Out of 110 patients, males were 68 and females were 42. The most common site was tongue border in 45, buccal mucosa in 32, labial mucosa in 21, retromolar area in 7, floor of mouth in 2, soft palate in 2, and hard palate in 1 patient. The difference was significant (P< 0.05). The highest congruence between clinical and pathological staging was seen for clinical stages 1 and 4 (32/55, and 3/5 respectively). Lower levels of correlation were seen for clinical stages 2 (16/28) and 3 (12/22). The level ofdisparity is largely attributed to upstaging, shown in 17%of clinically stage 2 patients and 422% of stage 3 patients. **Conclusion:** InSCC, there is some variation between clinical and pathological staging; nevertheless, this has no appreciable effect on disease-specific survival.
Keywords: Clinical staging, oral cavity carcinoma,TNM

INTRODUCTION
Clinical staging refers to the assessment of cancer-based on the information gathered before any treatment has been initiated. It relies on physical examination, imaging studies (like CT scans, MRI, PET scans), and sometimes biopsies.[1]Clinical staging helps in determining the extent of the disease and planning appropriate treatment strategies. It provides an initial estimation of the cancer's size, spread to nearby lymph nodes, and possible metastasis to distant organs.Clinical staging may not always accurately reflect the actual extent of the disease since it relies on non-invasive techniques and may not detect the microscopic spread of cancer cells.[2]

Pathological staging, also known as histopathological staging, involves the examination of tissues obtained during surgery or biopsy under a microscope.[3] It provides a detailed analysis of the tumor's characteristics, such as size, grade, invasion depth, involvement of lymph nodes, and presence of metastasis.Since pathological staging involves direct examination of tumor tissues, it is generally more accurate than clinical staging in determining the extent of the disease.[4]In oral cavity carcinoma, both clinical and pathological staging are essential components of the diagnostic and treatment process. Clinical staging helps in the initial evaluation and decision-making regarding treatment options, while pathological staging provides detailed information

about the tumor characteristics necessary for precise treatment planning and prognostic assessment.[5]There have been reports of differences between clinical and pathological staging in head and neck squamous cell carcinoma. It has been demonstrated that upstaging from an early-stage N0 neck to a node-positive neck occurs in 34–44% of patients and negatively affects survival.[6,7]The present study was conducted to assess the impact of clinical versus pathological staging in oral cavity carcinoma.

MATERIALS & METHODS

The present study consisted of 110 OSCC patients of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender, etc. was recorded. Parameters such as site, type of treatment done, etc. were recorded. Overall clinical and pathological TNM staging was compared and tabulated to determine upstaging, downstaging or cases where no stage discrepancy occurred.Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table: I Distribution of patients

Total- 110		
Gender	**Male**	**Female**
Number	68	42

Table I shows that out of 110 patients, males were 68 and females were 42.

Table: II Site of OSCC

Site	Number	P value
Tongue border	45	0.01
Buccal mucosa	32	
Labial mucosa	21	
Retromolar area	7	
Floor of mouth	2	
Soft palate	2	
Hard palate	1	

Table: II shows that the most common site was tongue border in 45, buccal mucosa in 32, labial mucosa in 21, retromolar area in 7, floor of mouth in 2, soft palate in 2, and hard palate in 1 patient. The difference was significant (P< 0.05).

Graph: I Site of OSCC

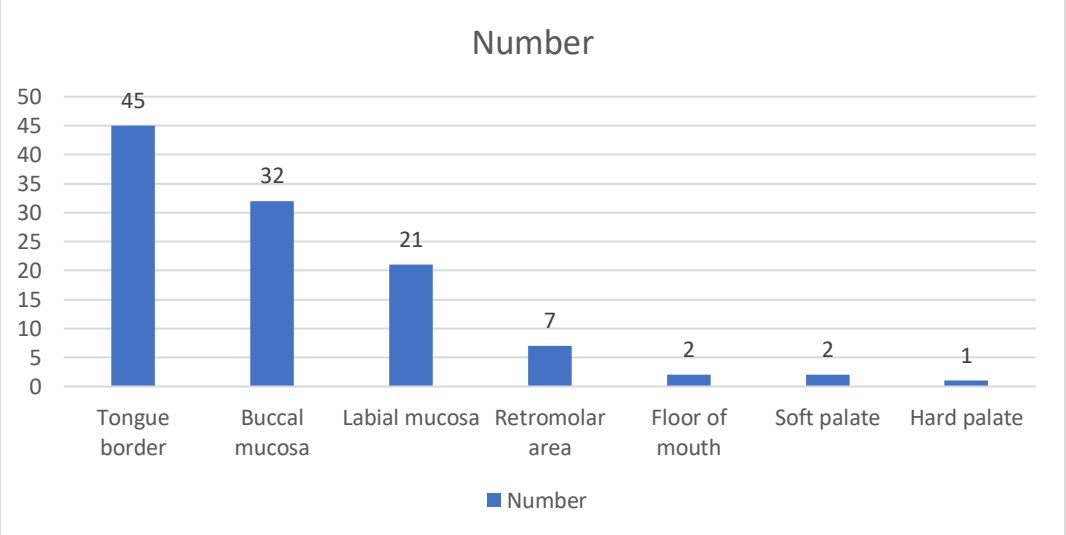

Table: III Correlation between clinical and pathological tumor staging

	P1	P2	P3	P4	Total
C1	32	8	8	7	55
C2	12	16	3	3	28
C3	6	2	12	2	22
C4	1	1	0	3	5

Table III shows that highest congruence between clinical and pathological staging was seen for clinical stages 1 and 4 (32/55, and 3/5 respectively). Lower levels of correlation were seen for clinical stages 2 (16/28) and 3 (12/22).

Table: IV Stage discrepancy within clinical stage strata

	Upstaged	No changed (all)	Downstaged (all)	P value
C1	25	30	-	0.91
C2	5	16	7	0.03
C3	5	12	5	0.05
C4	-	2	3	0.17

Table: IV shows that the level ofdisparity is largely attributed to upstaging, shown in 17%of clinically stage 2 patients and 422% of stage 3 patients.

DISCUSSION

To establish the most effective treatment routes, analyses of the clinical and pathological correlations in oral carcinoma—such as positive margins, nodal status, extracapsular spread, degree of invasion, and overall staging congruenceare crucial.[8,9]The present study was conducted to assess the impact of clinical versus pathological staging in oral cavity carcinoma.We found that out of 110 patients, males were 68 and females were 42.We found that the most common site was tongue border in 45, buccal mucosa in 32, labial mucosa in 21, retromolar area in 7, floor of mouth in 2, soft palate in 2, and hard palate in 1 patient. Biron et al[10]evaluated any disparity in clinical versus pathological TNM staging in oral cavity squamous cell carcinoma (OCSCC) patients and any impact of this on survival. Patients with clinically early-stage tumors were pathologically upstaged in 21.9% of cases and unchanged in 78.1% of cases. Patients with clinically advanced stage tumors were pathologically downstaged in 7.9% of cases and unchanged in 92.1% of cases. Univariate and multivariate estimates of disease-specific survival showed no statistically significant differences in survival when patients were either upstaged or downstaged.We found that the highest congruence between clinical and pathological staging was seen for clinical stages 1 and 4 (32/55, and 3/5 respectively). Lower levels of correlation were seen for clinical stages 2 (16/28) and 3 (12/22). Kang et al[11]identified prognostic factors in patients with well-differentiated OSCC. The 5-year outcomes of 467 patients with well-differentiated OSCC who underwent radical surgery and neck dissection were analyzed. In the entire cohort, the presence of pathological node metastases (pN+ vs. pN0) was an independent predictor of 5-year outcomes. In pN0 patients, tumor depth (≥8 mm) was the only independently prognostic factor for 5-year survival rates on multivariable analysis (disease-free survival [DFS], P=0.001, hazard ratio [HR]=2.634, 95% confidence interval [95% CI]=1.496-4.636; disease-specific survival [DSS], P<0.001, HR=6.794, 95% CI=2.364-19.525). In pN+ patients, level IV/V neck nodal metastases (DFS, P<0.001, HR=47.483, 95% CI=8.942-252.122; DSS, P<0.001, HR=14.301, 95% CI=5.337-38.323), and ≥3 positive nodes (DFS, P=0.037, HR=2.107, 95% CI=1.047-4.242; DSS, P=0.044, HR=2.093, 95% CI=1.020-4.295) were independently associated with 5-year outcomes. Our results suggest that a tailored treatment approach in well-differentiated OSCC patients should take into account the presence of either pN0 or pN+ disease.We found that the level ofdisparity is largely attributed to upstaging, shown in 17%of clinically stage 2 patients and 422% of stage 3 patients.Shariat SF et al[12] found that pathologic upstaging occurred in 42% of patients, and pathologic downstaging occurred in 22%. Forty percent of patients with non-muscle-invasive clinical stage had muscle-invasive pathologic stage. Thirty-six percent of patients with organ-confined clinical stage had non-organ-confined pathologic stage (> or =pT3N0 or pTanyN-positive). Patients with higher clinical stage were more likely to be upstaged to non-organ-confined disease (p<0.001). Patients were stratified into three groups: pathologically upstaged, same clinical and pathologic stage, and pathologically downstaged. When adjusted for the effects of standard postoperative features, upstaged patients were at a significantly higher risk of disease recurrence and bladder cancer-specific death than patients who had the same pathologic and clinical stage, who in turn were at significantly higher risk than downstaged patients. This observation remained true within each clinical stage strata. Within each pathologic stage strata, clinical stage did not substratify into different risk groups.

The limitation of the study is the small sample size.

CONCLUSION

Authors found that in OSCC, there is some variation between clinical and pathological staging; nevertheless, this has no appreciable effect on disease-specific survival.

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