SURGICAL OUTCOMES & PREDICTORS OF SURVIVAL IN LOWER ALVEOLUS SQUAMOUS CELL CARCINOMA: A COMPREHENSIVE REVIEW OF 188 PATIENTS

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OBJECTIVE

Squamous cell carcinoma of the lower alveolus constitutes a significant proportion of oral cavity cancers.

The objective is to analyze clinical and pathological characteristics, evaluate surgical outcomes, and identify predictors of disease-specific survival in patients with lower alveolus squamous cell carcinoma treated at our institution.

METHODS

188 patients were collected from the head and neck database at our institution from February 2004 to May 2020.

There were 136 (72.3%) males and 52 (27.7%) females with a mean age of 60.7 years (range 27 – 92 years). Tumors were staged according to American Joint Committee on Cancer 8th edition. Prognostic factors including T and N stage, perineural invasion (PNI), lymphovascular invasion (LVI), margins, bone invasion, and nodal status were analyzed.

The 5-year DFS rates was calculated using the Kaplan-Meier method, and statistically significant differences between the survival rates were determined using the log-rank test. Categorical data was evaluated by Chi square X2 Test. P values less than 0.05 were considered statistically significant.

TREATMENT

On Univariate analysis perineural invasion (PNI), cervical node metastasis, pT stage were statistically significant for DFS. Pathologically clear margins had better survival outcomes however it was not statistically significant. The overall disease specific survival at 5 years stood at 57%.

TABLE 1. Prognostic factors influencing DFS: Univariate analysis

Univariate analysis (p = 0.05; * denotes statistical significance)	
Grade	0.18
Pathological stage	0.064
Margin status	0.003
Perineural Invasion	0.041
Lymphovascular Invasion	0.498
Bone invasion	0.008
Nodal Invasion	0.001
Extracapsular Invasion	0.376

SURGICAL OUTCOME

Pathological staging correlated with clinical staging, with 62.8% of patients presenting with stage IV disease. pT4 was the most common T stage (52.1%) and pN0 the most common N stage (63.8%).

Clear margins (4–5 mm) were achieved in 34.6% of cases, close margins (2–3 mm) in 34%, and positive margins (≤1 mm) in 31.4%. PNI was present in 16% and LVI in 2.7% of patients. Well-differentiated carcinoma accounted for 51.6% of cases. Bone invasion was noted in 49.5%, and extracapsular spread in 8% of patients.

RESULTS

The overall (OS) and disease specific survival (DSS) were 55% and 60% respectively. Pathological stage, nodal involvement and perineural invasion were found to be the significant factors affecting survival

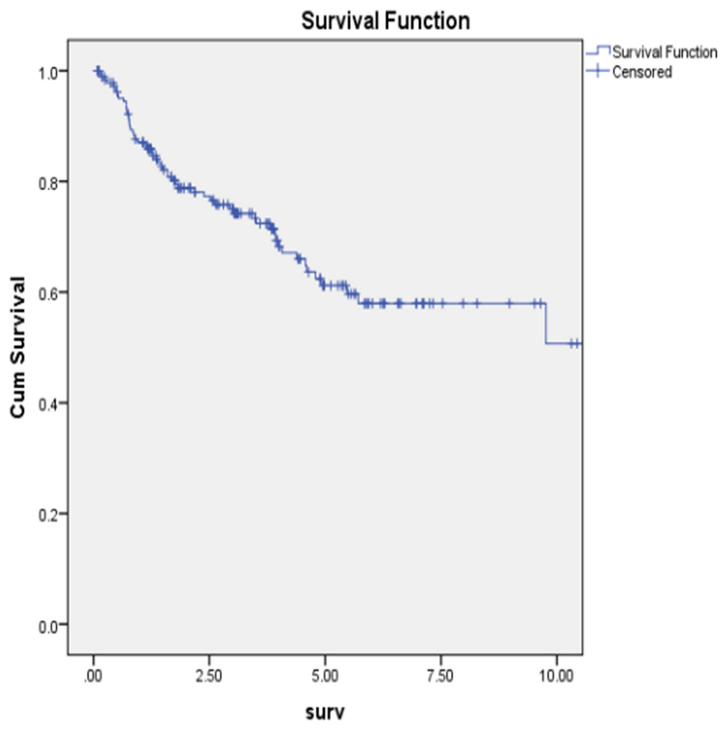

Figure 1 :Overall disease specific survival curve

Surgical Procedures Performed (n = 188)	
Segmental Mandibulectomy	97
Marginal Mandibulectomy	72
Hemimandibulectomy	11
Wide Local Excision	08
Total	**188**

CONCLUSION

Lower alveolus SCC frequently presents at an advanced stage with high rates of bone invasion. Pathological stage, nodal status, and PNI significantly affect outcomes. Clear surgical margins and early detection are key to improving survival. A multidisciplinary treatment approach is essential to optimize local control and long-term outcomes.