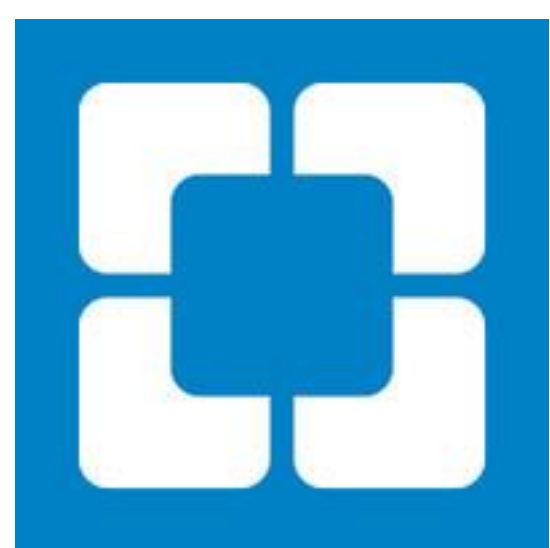




Squamous Cell Carcinoma of the Buccal Mucosa: A Multi-Institutional Analysis of Oncologic Outcomes

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INTRODUCTION

Buccal mucosal squamous cell carcinoma (SCC) represents a more infrequent presentation of oral cavity cancer where locoregional control and surgical margins may represent a greater problem. Small case series of patients with buccal cancer suggest that buccal cancer is aggressive and has a high rate of locoregional recurrence despite adequate treatment.^{1,2} Additionally, there is sparse evidence comparing oncologic outcomes of buccal cancer treated with or without adjuvant treatment.³ Therefore, under-representation of buccal cancer in the current oral cavity data limits understanding of this subsite.

METHODS

From a multi-institutional, IRB-approved database of primary oral cavity squamous cell carcinoma treated with primary surgery with or without adjuvant therapy at 6 academic institutions between 1/1/2005-1/1/2015, we identified the subset of cancers occurring in the buccal mucosa. Descriptive statistics are used to display demographic, disease, and treatment characteristics. Survival analysis was performed with Kaplan Meier analysis and survival curves are presented without confidence intervals for clarity. Multivariable Cox proportional hazards models were used to model survival and are presented as hazard ratios (HR) with 95% confidence intervals. Analyses were performed using R statistical software.

RESULTS

	n	%
Age (median, IQR)	67.7	57.7-78
Male	62	58.5
Smoking Tobacco	60	56.6
Chewing Tobacco	9	8.5
Betel Nut Use	11	10.4
Alcohol Use	66	62.3

Table 1: Demographics

	n	%
Pathological T stage		
T1	27	25.5%
T2	37	34.9%
T3	8	7.5%
T4	32	30.2%
Unknown	2	1.9%
Pathological N stage		
N0	48	45.2%
N1	15	14.1%
N2	37	34.9%
Unknown	6	5.7%

Table 2: Disease characteristics

Median time to recurrence was 11.3 months (IQR 5.1-23.6). In pT1/pT2 patients, local recurrence (LR) occurred in 21 (31.8%), regional recurrence (RR) in 11 (16.7%), and distant recurrence (DR) in 8 (12.1%). In patients who experienced LR, 5 (23.8%) had positive margins, 11 (52.3%) close (<5mm); in patients who did not experience LR 4 (8.9%) had positive margins, 19 close (42.2%) (p=0.09). In pT3/pT4, LR in 18 (45%), RR 9 (22.5%), DR 8 (20%). In LR, 4 (22.2%) positive margins, 5 (27.8%) close, 2 (11.1%) unknown; in non-LR 1 (4.5%) positive, 6 (27.3%) close, 0 unknown (p=0.14)

	n	%
Marginal Mandibulectomy	29	27.3%
Segmental Mandibulectomy	17	16.0%
Neck dissection	91	85.8%
Adjuvant Treatment		
Radiation only	40	37.7%
Chemoradiation	29	27.4%
None	24	22.6%
Unknown	13	12.3%

Table 3: Treatment characteristics

	n	%
Recurrence		
Local	39	36.8%
Regional	20	18.9%
Distant	16	14.7%

Table 4: Recurrence rates

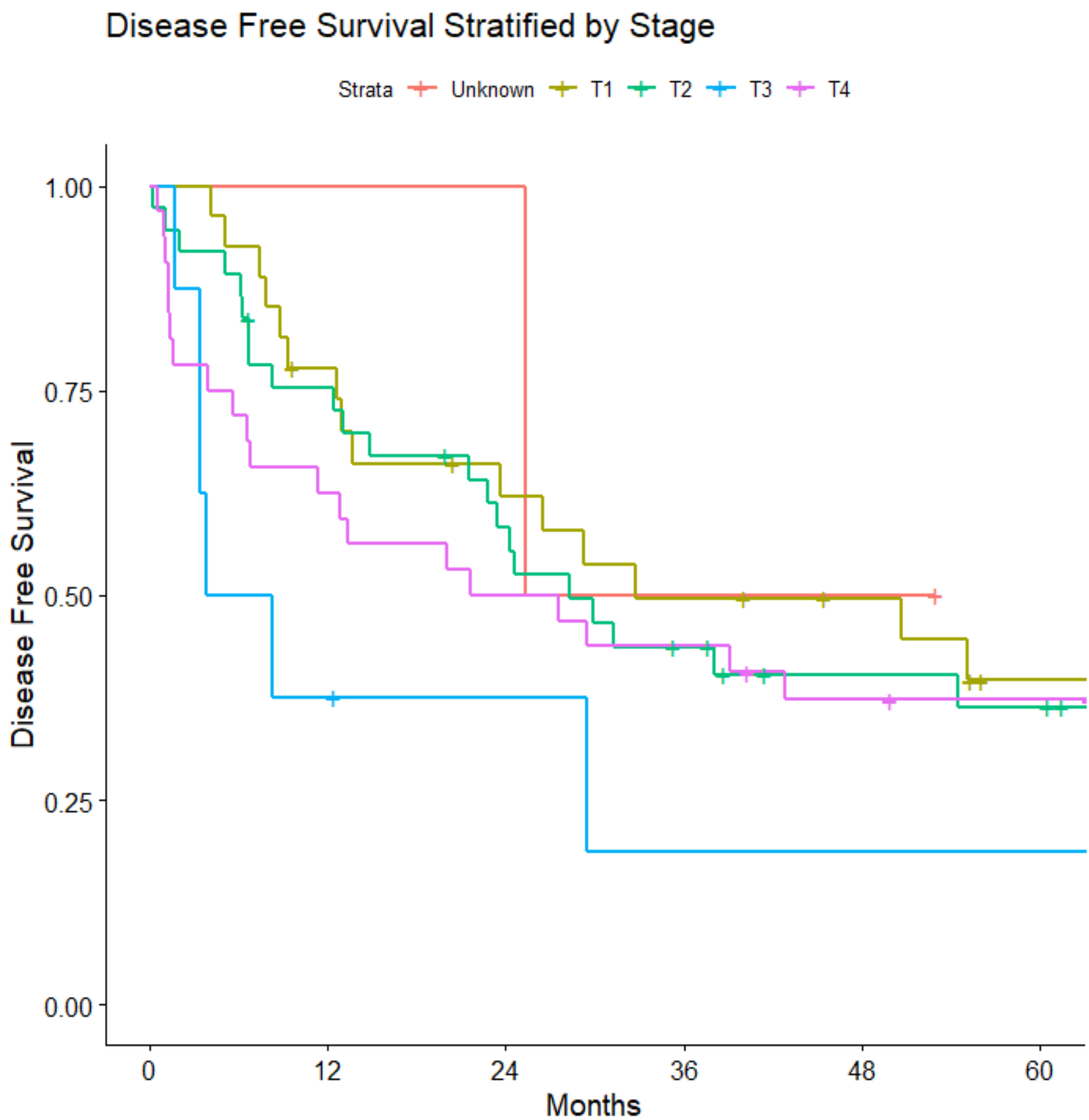
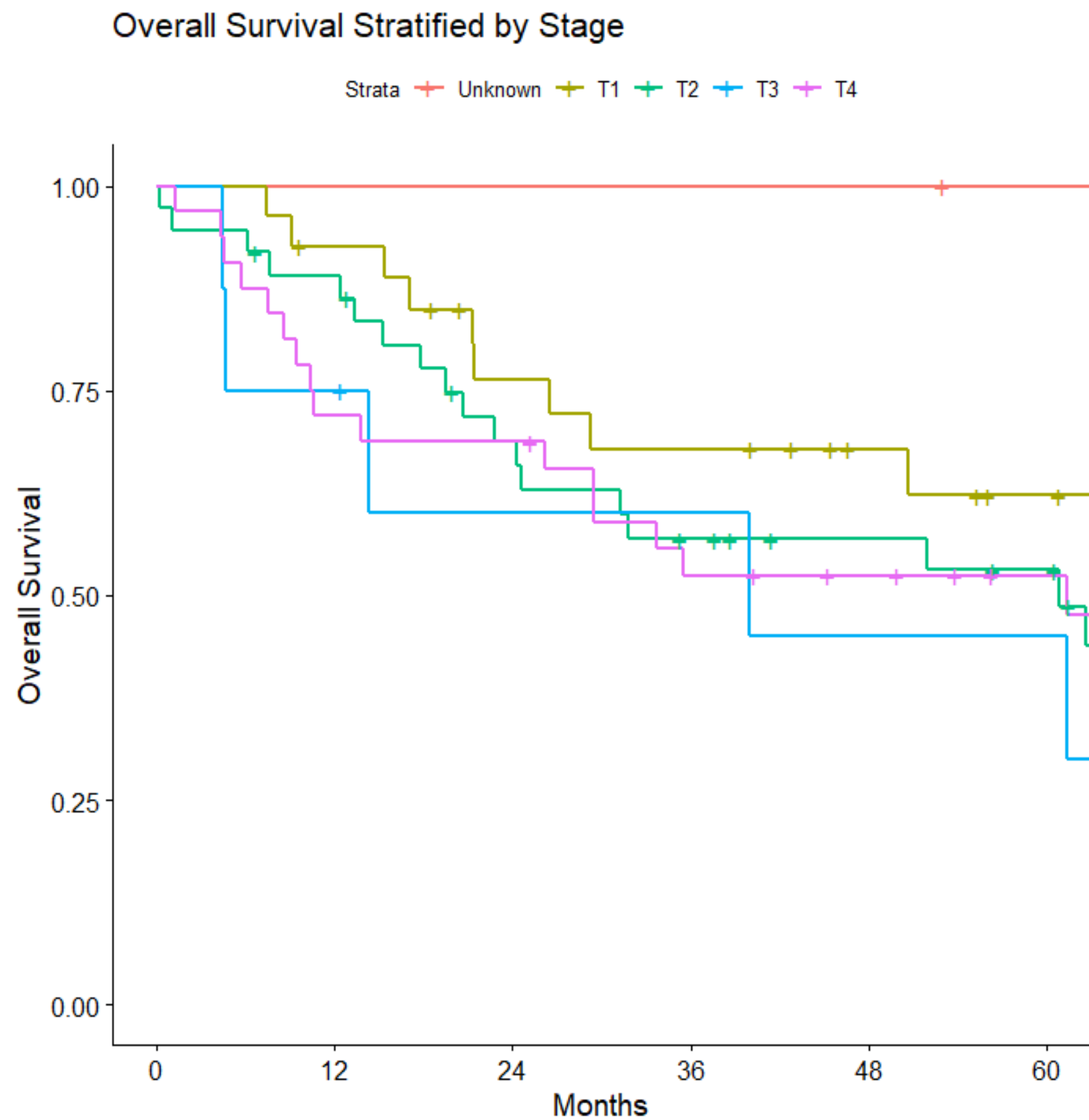


Figure 1: Disease Free Survival curves



Patients with higher pN stage were more likely to receive CRT/XRT versus no treatment (p<0.01). In patients receiving adjuvant CRT, LR occurred in 11 (37.9%), RR 8 (27.6%), DR 7 (24.1%). In XRT, LR 16 (40%), RR 4 (10%), DR 7 (17.5%). In no treatment, LR 8 (33.3%), RR 4 (16.7%), DR 2 (8.3%) (all p=NS).

RESULTS

Two-year overall survival (OS) was 70.9%, five-year 55.7%. Two-year disease free survival (DFS) was 55.8%, five-year 36.4%. In pT1 and pT2, two-year OS/DFS was 72.9%/61%, five-year OS/DFS 58.4%/37.9%. In pT3 and pT4, two-year OS/DFS was 67.3%/47%, five-year OS/DFS 51.2%/33.8%.

After adjusting for age, sex, pN, pT, adjuvant treatment, and margin status, only age was associated with inferior DFS (HR 1.03, 1.00-1.05). Age (HR 1.05, 1.01-1.08) and pN2 (HR 2.87, 1.20-6.85) were associated with inferior OS.

CONCLUSIONS

LR occurred in approximately one-third of patients. Two-year overall survival was 70.9% and two-year disease-free survival was 55.8%. Margin status was not significantly associated with LR. Age was associated with inferior DFS and OS while pN2 was associated with inferior OS.

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