

Neck Watchful Waiting vs Elective Neck dissection in cT1N0 Oral Cavity Carcinoma

P. Santos; H. Messias, I. Salgado., R. Nogueira, S. Bitoque, P. Gomes, J. Rosa Santos

Department of Head and Neck Surgery, Portuguese Institute of Oncology Francisco Gentil in Lisbon



Introduction

For patients with clinical T1/T2 N0 oral squamous cell carcinoma (OSCC) the preferred treatment is surgical excision of the primary tumor.^{1,2,3} The management of the clinically negative neck (cN0) has been a matter of controversy for the past decades.^{1,2} About 20-40% of early stage OSCC (T1/T2N0) patients have occult nodal disease in the neck.³ A substantial proportion of regional metastases remain undetected, despite imaging modalities. There's a dilemma between observing or treat the neck prophylactically.^{1,2,3} The watchful waiting (WW) policy was based on the assumption that the neck can be therapeutically treated when patients develop regional metastasis.^{4,5} In our institution, according to National Comprehensive Cancer Network guidelines, we refer patients with cT2N0 OSCC to elective neck dissection (END). The aim of this retrospective study was to evaluate the current treatment strategy for cT1N0 patients.

Methods

We performed a retrospective cohort study in patients with cT1N0 OSCC who underwent primary treatment in a single institution from January 2016 to December 2018.

Key eligibility criteria:

- invasive squamous-cell carcinoma of the oral cavity with a histological diagnosis
- tumor stage T1 (measuring ≤ 2 cm) according to American Joint Committee on Cancer staging classification

Exclusion criteria:

- previous surgery in the head and neck region
- regional or distant metastasis

Primary end point was disease-free survival and **secondary end point** was overall survival between the patients submitted to a watchful waiting policy vs elective neck dissection.

We analyzed demographic, clinical and histopathological characteristics between the two groups. Differences between categorical and continuous variables were assessed using 2-sided Fisher exact and Wilcoxon rank-sum tests, respectively. The survival rates were calculated using Kaplan–Meier method and log-rank tests. The occurrence of regional metastases and their distribution over END and WW groups were analyzed.

Results

Table 1. Demographic and Clinicopathologic Characteristics				
Characteristic	All (N=69)	Elective Neck Dissection (n=34)	Watchful Waiting (n=35)	P value
Age median (95% CI range), y	69 (61-77)	65 (61–76)	72 (61–78)	0.192
Man No. (%)	51 (73.9)	24 (70.6)	27 (77.1)	0.592
Ever smoked No. (%)	45 (65.2)	20 (58.8)	25 (71.4)	0.318
Ever drink No. (%)	36 (52.1)	15 (44.1)	21 (60)	0.232
Site of primary tumor No. (%)				0.458
Tongue	38 (55)	15 (44,1)	23 (65.7)	
Floor of mouth	17 (24.6)	9 (26,5)	8 (22.9)	
Buccal mucosa	4 (6)	2 (6.9)	2 (5.7)	
Alveolar mucosa	4 (6)	3 (8.8)	1 (2.9)	
Glossotonsillar sulcus	2 (3)	2 (6.9)	0	
Tongue and floor of mouth	2 (3)	1 (2.9)	1 (2.9)	
Alveolar mucosa and floor of the mouth	1 (1)	1 (2.9)	0	
Retromolar trigone	1 (1)	1 (2.9)	0	
Size of the tumor (95% CI range), mm	14 (10-18)	15 (14–20)	10 (8.1–14.2)	0.078
Differentiation grade No. (%)				0.379
1	23 (33.3)	9 (26.5)	14 (40)	
2	33 (47.8)	19 (55.9)	14 (40)	
3	9 (13)	5 (14.7)	4 (11.4)	
Minimum resection margin (95% CI range), mm	5 (1.5-8.5)	5 (4–8.5)	3 (1–5)	0.069
Linfovascular invasion No. (%)	6 (8.7)	2 (5.9)	4 (11.4)	0.493

Table 2. Pattern of recurrence and survival				
Characteristic	All (N=69)	Elective Neck Dissection (n=34)	Watchful Waiting (n=35)	P value
Occult Nodal Metastasis No. (%)	19 (27.5)	12 (35)	7 (20)	0.155
Recurrence No. (%)				
Local	10 (14.5)	3 (8.8)	7 (20)	0.187
Regional	11 (15.9)	4 (11.8)	7 (20)	0.562
Distant metastasis	2 (2.9)	1 (2.9)	1 (2.9)	0.983
Second tumor No. (%)	11 (15.9)	4 (11.8)	7 (20)	0.512
Radiotherapy No. (%) ^a	17(24.6)	14 (41.2)	3(8.6)	0.002
Death No. (%)	13 (18.8)	5 (14.7)	8 (22.9)	0.387
Disease-Free Survival at 2 years (%)	86.3±4.2	93.8±4.2	85.4±6.0	0.44
Overall Survival at 2 years (%)	86.3±4.2	87.1±6.0	85.4±6.0	0.49

^a All patients who had pathological cervical nodes or a positive resection margin received adjuvant radiation.

Discussion

The incidence of cT1N0 OSCC in our study was 16% because our institute it's a tertiary center that frequently receives tumors at an advanced stage. The large majority of patients (55.1%) in our cohort had tongue cancers, so the results are most applicable to this primary site. In 69 cT1N0 OSCC patients, 27.5% had occult nodal disease, which is in line with other reports^{2,3}. Despite routine preoperative risk assessment with neck imaging, 20% of WW patients still had occult metastasis. American Society of Clinical Oncology and European Society for Medical Oncology indicate neck lymph node dissection in cT1N0M0 according to the well-known randomized prospective trial by *D'Cruz et al*⁶ and the SEND study⁷. However, these studies have grouped patients with early stage OSCC, introducing bias and errors in analysis for patients with cT1N0. Of the perspective of disease control, the END could be considered in every patient with cT1N0 OSCC to keep the risk of treatment delay as low as possible. Although our institution has low END morbidity, performing a neck dissection for a pN0 neck is undesirable. Various studies have found a strong correlation between infiltration depth (DOI) and neck metastasis^{3,8,9}. Future studies with selection of patients for END based on tumor's DOI and location will determine whose with survival benefit of neck dissection. The application of intraoral ultrasonography scanning may prove of additional value in better predicting depth of invasion preoperatively.

The limitations of this study include small sample size, short follow-up time and unmeasured biases associated with the observational retrospective nature of the analysis. Patients with cT1N0 OSCC submitted to elective neck dissection had a superior tumor size. For tumor size close to 20 mm, they are more likely to undergo END. The tumor depth was not available for analyses in all cases, but it's relevant for a future study.

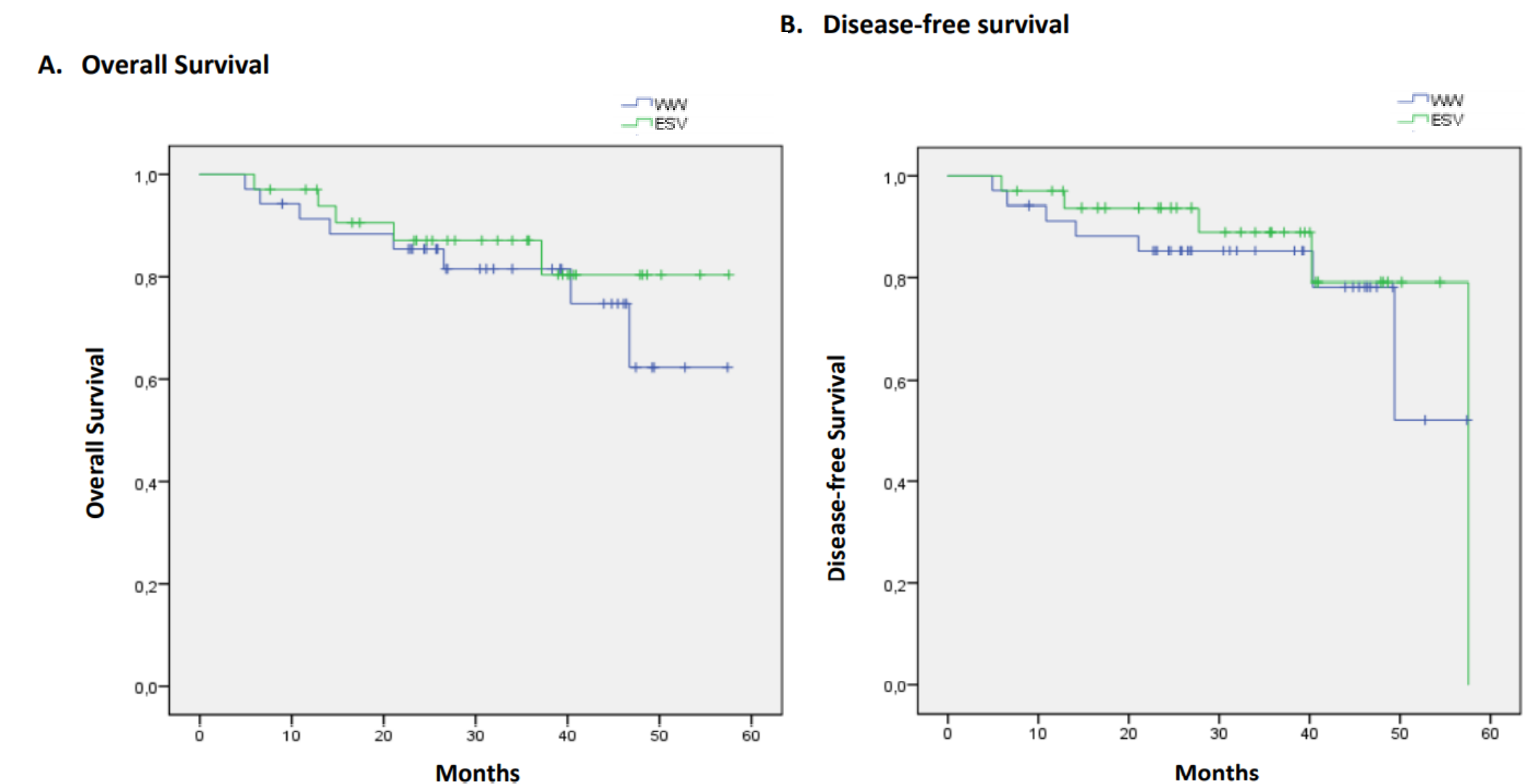
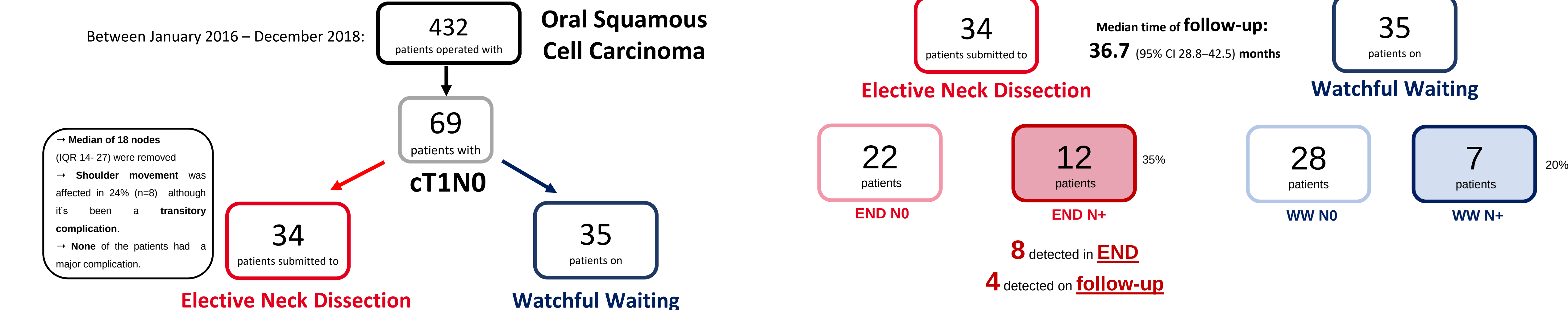
Conclusion

In our study, elective neck dissection did not increase disease free-survival and overall-survival at 2 years for clinical T1N0 oral squamous cell carcinoma. A watchful waiting strategy might be a reasonable approach in patients with cT1N0 OSCC. Further studies are necessary with longer follow up time and selection of tumors according to the depth of invasion.

References

- 1 - Weiss MH, Harrison LB, Isaacs RS: Use of decision analysis in planning a management strategy for the stage N0 neck. Arch Otolaryngol Head Neck Surg. 1994; 120(7): 699-702
- 2 - Van den Brekel MW, Leemans CR, Snow GB: Assessment and management of lymph node metastases in the neck in head and neck cancer patients. Crit Rev Oncol Hematol. 1996; 22(3): 175-182
- 3-Ferlito A, Shah AA, Rinaldo A: The incidence of lymph node micrometastases in patients pathologically staged N0 in cancer of oral cavity and oropharynx. Oral Oncol. 349 2002; 38(1): 3-5
- 4 - Huang SF, et al: Neck treatment of patients with early stage oral tongue cancer: comparison between observation, supraomohyoid dissection, and extended dissection. Cancer. 2008; 112(5): 1066-1075
- 5- Feng Z, et al: Elective neck dissection versus observation in the management of early tongue carcinoma with clinically node-negative neck: a retrospective study of 229 cases. J Craniomaxillofac Surg. 2014; 42(6): 806-810
- 6 - D'Cruz AK, et al: Elective versus therapeutic neck dissection in node-negative oral cancer. N Engl J Med 2015; 373(6): 521-529
- 7 - Hutchison LJ, et al: Nationwide randomised trial evaluating elective neck dissection for early stage oral cancer (SEND study) with meta-analysis and concurrent real-world cohort. Br J Cancer 2019; 121(10): 8274-828
- 8 - Kligerman J, Lima RA, Soares JR, Prado L, Dias FL, Freitas EQ, et al: Supraomohyoid neck dissection in the treatment of T1/T2 squamous cell carcinoma of oral cavity. Am J Surg 1994; 168:391-4
- 9 - Balasubramanian D, Ebrahimi A, Gupta R, Gao K, Elliott M, Palma CE, et al: Tumour thickness as a predictor of nodal metastases in oral cancer: comparison between tongue and floor of mouth subsites. Oral Oncol 2014; 50:1165-8

Results



AHNS 10th International Conference
on Head and Neck Cancer
July 22-25 2021 | Virtual Conference

