

ONCOLOGIC OUTCOMES OF MICROSCOPIC TUMOR CUT-THROUGH IN LOCALLY ADVANCED ORAL SQUAMOUS CELL CARCINOMA

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1. INTRODUCTION

- In Brazil, 59% of oral cavity squamous cell carcinoma in Brazil are diagnosed at stages III and IV and among these 5-year survival rate of 41%
- The gold standard treatment of squamous cell carcinoma of the oral cavity is surgical resection with negative margins. Patients with advanced tumors and worse prognosis criteria are treated with adjuvant radiotherapy or chemoradiotherapy
- Intraoperative frozen section is used to analyze the operative margins. Microscopic tumor cut-through (MTCT) occurs when the frozen section margin is positive and then resection is revised to achieve negative margins..
- Objective: To determine the impact of MTCT on local recurrence and disease-specific survival of T3 and T4 oral squamous cell carcinoma.

2. MATERIALS AND METHODS

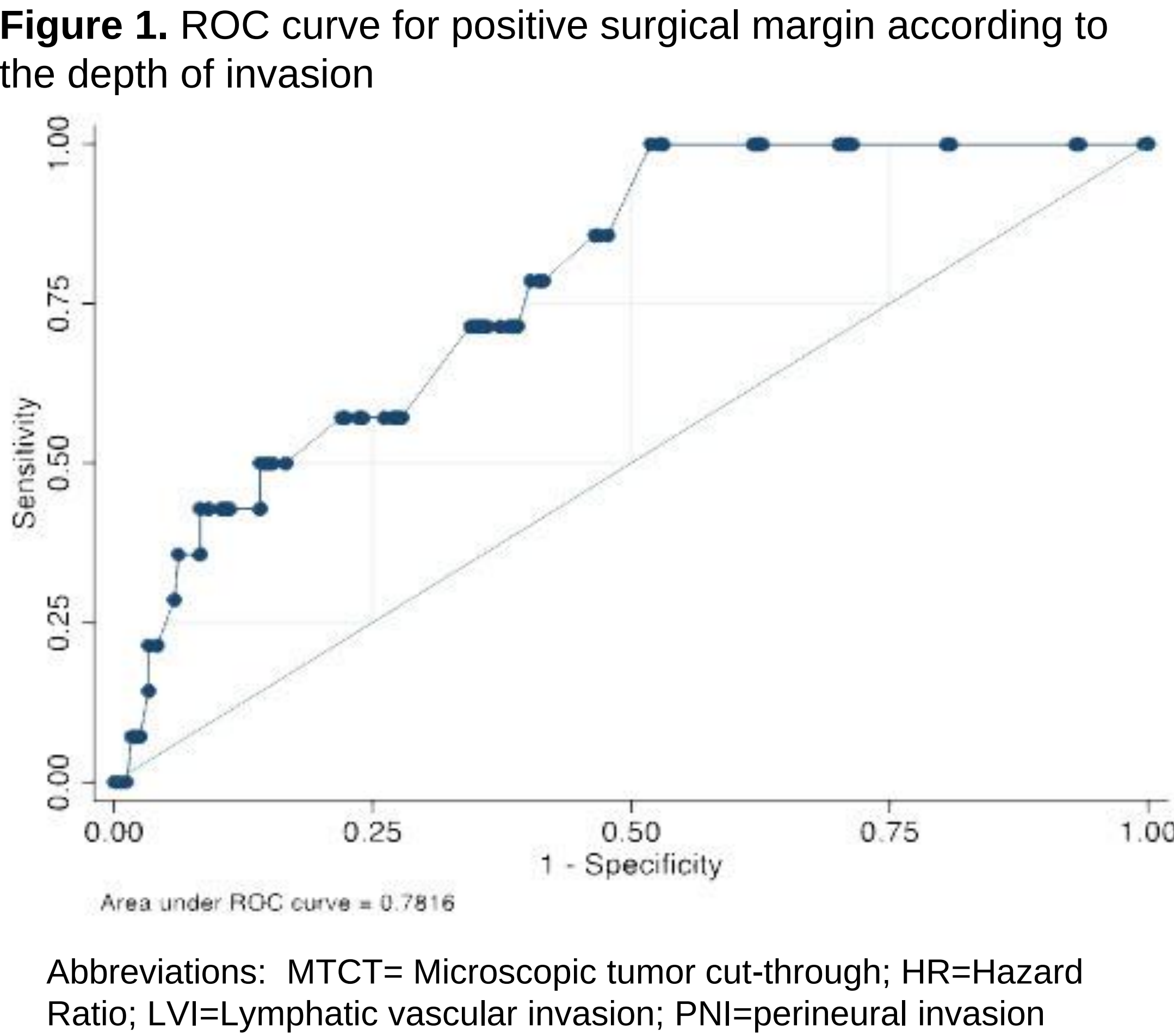
- A retrospective analysis of consecutive patients with locally advanced squamous cell carcinoma of the oral cavity (T3-T4) treated with surgery with intraoperative frozen section to guide margin status in the institution between 1985 and 2015.
- Only patients who underwent intraoperative frozen sections to assess surgical margins were included, and were excluded patients with positive final margins in the last frozen section or final pathologic examination
- Statistical analysis was performed using Stata 15.1 software for MacOS (Stata Corp, College Station, Tx – USA). Survival analysis was performed by calculating the Kaplan-Meier estimator, followed by the Cox model. A p-value less than or equal to 0.05 was considered significant.

3. RESULTS AND DISCUSSION

- Were eligible 475 patients . Follow-up time ranged from 0.3 to 239.6 months (mean 46.4 months). The characteristics of the patients and their treatment are shown in **Table 1**
- The oncological impact of MTCT on local recurrence was evidenced in the univariate and multivariate analysis, determining this event as an independent variable of worse prognosis (**Table 2**). In disease-specific survival, the MTCT showed statistical significance only in the univariate analysis
- As the tumor grows in depth, it reaches musculature, neurovascular bundles, areolar and glandular tissue. Those fit as “avenues” that facilitate locoregional infiltration of the tumor.
- The relationship between the MTCT and the depth of invasion (**Figure 1**) may occur due to the presence of a tumor with a more complex infiltrative pattern and not due to an error in surgical tactics.

Table 1. Clinicopathologic characteristics of patients (n=475)	
Variable	N(%)
T3	258(54,8%)
T4	213(45,2%)
Node dissection	468(98,5%)
Adjuvant radiotherapy	312(65,7%)
MTCT	29(6,1%)
Local recurrence	131(27,6%)
Living, without disease	121(25,4%)
Treatment related death	31(6,5%)
Other causes death	80(16,8%)
Follow up less than 1 year	12(2,5%)
Death by cancer	231(48,6%)

Table 2. Statistical analysis of variables			
Categoria	Variable	HR	p-value
Univariate analysis of local recurrence	pT4a	1.425	0.045
	LVI	1.927	<0.001
	MTCT	2.205	0.007
Multivariate analysis of local recurrence	pT4a	1.327	0.119
	LVI	2.054	0.015
	MTCT	1.851	0.001
Univariate analysis of disease-specific survive	pT4a	1.600	<0.001
	pN1	2.077	0.001
	pN2	4.036	<0.001
	pN3	9.455	0.002
	PNI	1.633	<0.001
	LVI	1.570	<0.001
	MTCT	1.669	0.028
	MTCT	1.449	0.005
Multivariate analysis of disease-specific survive	pN1	1.844	0.010
	pN2	2.659	<0.001
	pN3	9.525	<0.001
	PNI	1.386	0.013
	LVI	1.351	0.025
	MTCT	1.307	0.265



4. CONCLUSION

- The relationship between the depth of invasion and the MTCT indicates a tumor with more complex infiltration pattern and broader surgery should be considered.
- Even after negative final margins, microscopic tumor cut through is an important factor of poorer outcome and intensification of treatment for this patient may be considered.

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