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內文：

## INTRODUCTION

- Oral Squamous Cell Carcinoma (OSCC) is the most frequent (90%) malignant neoplasm of oral cavity
- OSCC mainly affects men within their sixth and seventh decades of life.
- An increasing incidence of OSCC among individuals younger than 45 years old has been observed in recent decades, representing approximately 4% to 13% of all cases of OSCC
- some studies have suggested that younger patients with OSCC are likely nonsmokers and non-drinkers
- Tongue => alcohol and tobacco use
- Lower lip => intensive exposure to sunlight
  - genetic predisposition
  - immunological nutritional alterations
  - infection by HPV

- In terms of biological behavior and clinical prognosis, evidences suggest that OSCC in younger patients have increased aggressiveness compared to those affecting elderly patients
- Regional lymph node metastasis, tumor location and TNM classification of malignant tumors (TNM) has been cited as prognostic indicators
- ***Examine all cases of OSCC in young patients, diagnosed in two oncology hospitals within a 12-year period.***

## MATERIAL AND METHODS

- A 12-year retrospective and retrolective analysis was conducted with the clinical records of all individuals diagnosed with OSCC, within two oncology referral hospitals, at the northeast region of Brazil
- The study population consisted of all cases of OSCC diagnosed in patients under 45 years old, at the oncology referral hospitals.
- Recurrent OSCC cases under management and those undergoing radiotherapy or chemotherapy were excluded from the study.
- Statistical analysis
- characteristics of individuals (gender, education level, pain symptomatology and tobacco and/or alcohol habits)
- lesions (size, tumor location, regional lymph node metastasis, distant metastasis and clinical stage)

# RESULTS

- Out of 2311 registered cases of OSCC
- 76 (3.3%) under 45 years old.

**Table 1.** Prevalence of OSCC cases in young patients per year and proportion relative to the total number of cases within 12 years.

Year	Number (n) of cases per year	Proportion (%) of cases per year, relative to total
2000	7	9.21
2001	6	7.89
2002	4	5.26
2003	4	5.26
2004	2	2.63
2005	9	11.84
2006	6	7.89
2007	4	5.26
2008	4	5.26
2009	5	6.58
2010	13	17.11
2011	7	9.21
2012	5	6.58
<b>Total</b>	<b>76</b>	<b>100</b>

To the total number of cases within 12 years.

- OSCC affected predominantly male (n = 62, 81.6%), in a ratio of 4.42:1 between men and women.
- "non-white" (n = 10, 52.7%).
- Level of education was considered low (n= 43, 56.6%).
- Simultaneous use of alcohol and tobacco was the most frequent habit reported (n= 28, 36.8%).
- tongue (n = 31, 40.8%)
- lower lip (n = 24, 31.6%)

**Table 2.** Absolute and relative distributions of OSCC cases in young patients, according to clinical parameters.

Clinical parameters	n (%)
<b>Gender</b>	
Male	62 (81.6%)
Female	14 (18.4%)
<b>Race</b>	
White	36 (47.3%)
No white	40 (52.7%)
<b>Education level</b>	
Illiterate	14 (18.4%)
Low	43 (56.6%)
Medium to high	19 (25.0%)
<b>Primary tumor location</b>	
Tongue	31 (40.8%)
Lower lip	24 (31.6%)
Floor of the mouth	7 (9.2%)
Retromolar region	4 (5.3%)
Gingiva	3 (3.9%)
Alveolar ridge	3 (3.9%)
Palate	3 (3.9%)
Upper lip	1 (1.4%)
<b>Symptomatology</b>	
Present	53 (69.7%)
Absent	23 (30.3%)
<b>Harmful Habits</b>	
Smoking + Alcohol consumption	28 (36.8%)
Smoking	10 (13.2%)
Alcohol consumption	2 (2.6%)
No habits	13 (17.1%)
Unreported	23 (30.3%)
<b>Treatment</b>	
Surgery	19 (25.0%)
Radiotherapy and/or Chemotherapy	21 (27.6%)
Surgery + Radiotherapy and/or Chemotherapy	36 (47.4%)

- TNM classification, tumor size "T1" (n = 27, 35.5%)
- Absence of regional lymph node metastasis "N0" (n = 40, 52.6%)
- Distant metastasis was absent within the population studied (n = 76, 100%)
- Lesions at advanced clinical stage (III and IV, n = 46, 60.5%)
- intraoral sites (n=38, 82.6%),
- male individuals (n = 41, 89.1%),
- smokers and drinkers (n= 31, 77.5%),
- illiterate (n=11, 78.6%)
- pain symptomatology (n=35, 66.0%).
- Therefore, clinical stage was statistically associated with gender ( $P=0.035$ ), education level ( $P=0.007$ ) and tumor location ( $P<0.001$ ).
- Similarly, advanced clinical stages were associated with the presence of tobacco and alcohol habits ( $P=0.001$ ) and pain symptomatology ( $P=0.006$ )

**Table 3.** Absolute and relative distributions of OSCC cases in young patients, according to tumor size, nodal metastasis, distant metastasis and clinical stage.

Clinical parameters	n (%)
<b>T</b>	
T1	27 (35.5%)
T2	19 (25.0%)
T3	12 (15.8%)
T4	18 (23.7%)
<b>N</b>	
N0	40 (52.6%)
N1	17 (22.4%)
N2	11 (14.5%)
N3	8 (10.5%)
<b>M</b>	
M0	76 (100%)
M1	0 (0%)
<b>Clinical stage</b>	
I	22 (28.9%)
II	8 (10.5%)
III	20 (26.3%)
IV	26 (34.3%)

**Table 4.** Absolute and relative distributions of OSCC cases in young patients, regarding the association between clinical data and clinical stage.

Clinical data	Clinical stage			p
	I - II n (%)	III - IV n (%)	Total n (%)	
<b>Gender</b>				
Male	21 (33.9)	41 (66.1)	62 (100.0)	0.035*
Female	9 (64.3)	5 (35.7)	14 (100.0)	
<b>Education level</b>				
Illiterate	3 (21.4)	11 (78.6)	14 (100.0)	0.007 **
Low	17 (39.5)	26 (60.5)	43 (100.0)	
Medium to High	14 (73.7)	5 (26.3)	19 (100.0)	
<b>Primary tumor location</b>				
Intraoral sites	13 (25.5)	38 (74.5)	51 (100.0)	<0.001*
Extraoral sites	17 (68.0)	8 (32.0)	25 (100.0)	
<b>Symptomatology</b>				
Present	18 (34.0)	35 (66.0)	53 (100.0)	0.006 *
Absent	16 (69.5)	7 (30.4)	23 (100.0)	
<b>Harmful habits</b>				
Present	9 (22.5)	31 (77.5)	38 (100.0)	0.001**
Absent	10 (76.9)	3 (23.1)	13 (100.0)	

\*Chi-square test \*\*Fisher's exact test.

## DISCUSSION

- Studies have suggested that OSCC develops a **more aggressive behavior, with poor prognosis, among young patients**
- Out of the 2311 cases of OSCC, **3.3%** were diagnosed in young patients, as similarly shown by the literature
- In the present study, the prevalence of OSCC varied between 2.63% and 17.11%, not showing any pattern of manifestation along the years
- Regional, socioeconomic and cultural characteristics of different populations may explain the discrepancy found in the reported prevalence of OSCC by various studies with diverse methodological design.
- Cultural habit to consume alcohol and tobacco since first years of adulthood. **increased prevalence of OSCC in tongue (40.8%).**
- Exposed to high incidence of sunlight radiation, due to the proximity of the region to the equatorial line. **high prevalence of OSCC at the lower lip (31.6%).**
- predominantly **men with low educational level**. those characteristics were significantly associated with advanced clinical stage of OSCC.
- Our study corroborates the literature, since 81.6% (n=62) of OSCC occurred in men. In contrast, other studies have found higher prevalence of OSCC in young female patients. Different population characteristics such as ***genetic predisposition, altered immune and hormonal modulations and infections by HPV*** may explain the differences within the prevalence between genders

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- **Tobacco** and **alcohol** consumption have been firmly stated as important risk factors for OSCC among **elderly** people. However, the ability of those habits develop OSCC in youth population is **questionable**
  - In the present study, tobacco and/or alcohol consumption was frequently **presented (75.4%)**, which reflects a cultural and social habit frequently present during early adulthood in developing countries such as Brazil
  - The current report confirmed not only the association between OSCC and tobacco and/or alcohol consumption, but also suggested the relation with **advanced clinical stage**. Additional data relative to tobacco and/or alcohol habits, as age of starting and quantity of consumption per day was not available, therefore we declare the **lack of this relevant information as a limitation of our study**.
  - **Others risk factors** might be associated with occurrence of OSCC among young patients (e.g. hereditary predisposition, syndromes, bad nutrition, immune- suppression and HPV infection) However, those aspects were not object of the present investigation.
  - The prevalence of OSCC at advanced stages (III and IV) was **high (60.6%)** and corroborated other investigations. **Besides that, advanced stages (III and IV) of OSCC in young patients were statistically associated with male gender, lower education level, intraoral tumors, pain symptomatology and consumption of tobacco and/or alcohol.**
  - Poor prognosis and lower survival rates are expected among patients under those risk factors.
  - **Extra-oral tumors (detected predominantly at lower lip) were diagnosed at initial stages**. Besides the lower aggressiveness, those lesions are anatomically located at easily detectable sites, which allows earlier diagnoses. Due to early diagnostic, a **better prognosis** and **extended survival rate** would be expected for those patients.

- **Early diagnostic of carcinogenic lesions** has been reported among young and female populations. =>greater ability to detect alterations within their anatomical structures, being also more concerned about their own healthcare.
- The present investigation has shown that **young women** had lower prevalence of OSCC and also detected those alterations within early stages of development ( $P=0.035$ ).
- In general, **the prevalence of OSCC among young patients was low in comparison to literature**

## CONCLUSION

The clinical and epidemiological profile of young patients affected by OSCC is **similar** to that reported to elderly population.

Higher prevalence and poor prognosis of OSCC among young patients are associated with **male gender, lower educational level, and pain symptomatology**.

**Consumption of alcohol and tobacco**, as well as **tumors located intraorally** are significantly associated with high prevalence and poor prognosis of OSCC among young individuals.

Further investigations should consider other multi-centric approaches to elucidate the etiology and biological behavior of OSCC in young patients.

題號	題目
1	下列關於口腔鱗狀細胞癌的 TNM 分類的敘述，何者錯誤？ (A) T1N1M0 屬於第一級 (B) T2N0M0 屬於第二級 (C) T3N0M0 屬於第三級 (D) T4N2M1 屬於第四級
答案(A)	出處：Union for International Cancer Control (UICC) classification of malignant tumors described in 2002
題號	題目
2	一舌側鱗狀細胞癌 (squamous cell carcinoma) 患者發現有肺轉移，根據此發現，其臨床分期為何？ (A) 第 I 期 (B) 第 I I 期 (C) 第 I I I 期 (D) 第 IV 期
答案(D)	出處：Union for International Cancer Control (UICC) classification of malignant tumors described in 2002