

Alcohol Consumption History as a Predictive Factor of Survival in Patients with Mouth and Oropharyngeal Squamous Cell Carcinoma: Follow-up of 15 Years

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Histórico de Consumo de Álcool como Fator Preditivo de Sobrevida em Pacientes com Carcinoma de Células Escamosas de Boca e Orofaringe: Follow-up de 15 Anos

Historia del Consumo de Alcohol como Factor Predictivo para la Supervivencia en Pacientes con Carcinoma de Células Escamosas Bucales y Orofaringeas: Seguimiento de 15 Años

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Abstract

Introduction: Squamous cell carcinoma is the most important tumor in the head and neck region, due to its incidence and mortality. It is known that factors as alcohol consumption are related to the decrease of the survival of tumors, either stimulating tumor progression or causing considerable comorbidities, being an important study factor. **Objective:** Evaluate the influence of alcohol history on clinical and prognostic characteristics of patients with mouth oropharynx squamous cell carcinoma (MOSCC). **Method:** A retrospective cohort study in which 156 charts of alcoholic patients and 78 medical charts of non-alcoholic patients with MOSCC diagnosed at Haroldo Juaçaba Hospital in Fortaleza, state of Ceará were evaluated between 2000 and 2014 for data analysis such as age, gender and race, tumor location, TNM staging, treatments performed and 15-year survival through X², Long-Rank and Cox and multinomial regression models (SPSS 20.0; p < 0.05). **Results:** Men were more prevalent among alcoholic patients (p < 0.001), with T3/4 tumors (p = 0.003), positive lymph nodes (p = 0.006) who submitted to palliative treatments (p < 0.001) and lower prevalence under 65 years (p < 0.001), when there was a family history of cancer (p = 0.043). The survival of alcoholic patients was lower (p = 0.040) and the factors that independently reduced survival were male sex (p = 0.042), T3-T4 staging (p = 0.004), lymph node metastasis (p = 0.012), age > 65 years (p = 0.035) and tumor in the tongue (p = 0.042). Male sex was independently associated with alcohol consumption (p < 0.001). **Conclusion:** Alcohol is a prognostic factor in patients with MOSCC, showing a higher prevalence in T3-T4 patients and, thus, negatively influencing the prognosis.

Key words: Carcinoma, Squamous Cell; Survival; Alcohol-Related Disorders.

Resumo

Introdução: O carcinoma de células escamosas é o tumor de maior importância na região de cabeça e pescoço, em razão da sua incidência e mortalidade. Sabe-se que fatores como consumo de álcool estão relacionados à diminuição da sobrevida de tumores tanto estimulando a progressão tumoral como causando comorbidades importantes, sendo um fator relevante para estudo. **Objetivo:** Avaliar a influência do histórico de álcool em características clinicoprognósticas de pacientes com carcinoma de células escamosas de boca e orofaringe (CCEBO). **Método:** Estudo de coorte, retrospectivo, no qual 156 prontuários de pacientes etilistas e 78 prontuários de pacientes não etilistas com CCEBO diagnosticados no Hospital Haroldo Juaçaba, em Fortaleza, Ceará, foram avaliados, entre 2000 e 2014, para análise de dados como idade, sexo, raça, localização do tumor, estadiamento TNM, tratamentos realizados e sobrevida em 15 anos por meio dos testes X², Long-Rank e modelos de regressão multinomial e de Cox (SPSS 20.0; p < 0,05). **Resultados:** Houve maior prevalência de homens entre os pacientes etilistas (p < 0,001), com tumores T3-T4 (p = 0,003), linfonodos positivos (p = 0,006) que realizaram tratamentos paliativos (p < 0,001) e menor prevalência abaixo de 65 anos (p < 0,001), quando havia histórico familiar de câncer (p = 0,043). A sobrevida dos pacientes etilistas foi menor (p = 0,040) e os fatores que diminuíram a sobrevida de maneira independente foram sexo masculino (p = 0,042), estadiamento T3-T4 (p = 0,004), metástase linfonodal (p = 0,012), idade > 65 anos (p = 0,035) e localização na língua (p = 0,042). O sexo masculino foi independentemente associado ao etilismo (p < 0,001). **Conclusão:** O álcool é um fator de prognóstico em pacientes com CCEBO, mostrando maior prevalência em pacientes T3-T4 e, assim, influenciando negativamente no prognóstico.

Palavras-chave: Carcinoma de Células Escamosas; Sobrevida; Transtornos Relacionados ao Uso de Álcool.

Resumen

Introducción: El carcinoma de células escamosas es el tumor de mayor importancia en la región de cabeza y cuello, debido a su incidencia y mortalidad. Se sabe que factores como el consumo de alcohol están relacionado con la disminución de la supervivencia de tumores tanto estimulando la progresión tumoral, como provocando comorbilidades considerables, siendo un factor de estudio importante. **Objetivo:** Evaluar la influencia del historial del consumo de alcohol en las características clínicas-pronósticas de pacientes con carcinoma de células escamosas oral y orofaringe (CCEOO). **Método:** Estudio retrospectivo en el que se evaluaron 156 registros médicos de pacientes consumidores de alcohol y 78 de pacientes no alcohólicos con CCEOO diagnosticados en el Hospital Haroldo Juaçaba, en Fortaleza, Ceará, entre 2000 y 2014, para el análisis de datos como edad, sexo raza, escolaridad, los antecedentes familiares, vínculo matrimonial, registro en el servicio, ubicación del tumor, clasificación de TNM, los tratamientos realizados y la supervivencia durante 15 años a través de las pruebas X² Long-Rank y modelos de regresión multinomial y de Cox (SPSS 20.0; p < 0,05). **Resultados:** Hubo una mayor prevalencia de hombres entre pacientes alcohólicos (p < 0,001), con tumores T3-T4 (p = 0,003), ganglios linfáticos positivos (p = 0,006), y realizó tratamientos paliativos (p < 0,001) y menor prevalencia en paciente menores de 65 años (p < 0,001); cuando se presentaron antecedentes familiares de cáncer (p = 0,043). La supervivencia de los pacientes alcohólicos fue menor (p = 0,040); y los factores que disminuyeron la supervivencia de forma independiente fueron hombres (p = 0,042); estadificación t3-t4 (p = 0,004); metástasis a ganglios linfáticos (p = 0,012); edad > 65 años (p = 0,035); localización de la lengua (p = 0,042). El sexo masculino se asoció independientemente con el consumo de alcohol (p < 0,001). **Conclusión:** El alcohol define el pronóstico en pacientes con CCEOO, muestra una mayor prevalencia en pacientes con T3-T4, por lo tanto, influye negativamente en el pronóstico.

Palabras clave: Carcinoma de Células Escamosas; Sobrevida; Transtornos Relacionados con Alcohol.

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INTRODUCTION

Among the malignant tumors, squamous cell carcinoma (SCC) stands out as main histological type in the oral cavity and oropharynx. The incidence and mortality rates vary in each country according to the socioeconomic differences, life expectations, culture, environmental factors, quality of medical assistance, habits, among others¹.

Alcohol use was first determined as a risk factor for oral cavity cancer, oropharynx, hypopharynx and larynx by the International Agency for Research on Cancer (Iarc)². And currently is acknowledged acting through mechanisms that involve genetic polymorphisms modulation, of the folate and in DNA reparation². The evidences still suggest that the genetic susceptibility also plays an important role, increasing the relation of alcohol with the development of cancer^{3,4}.

It is estimated that, in Brazil, 11.2% of males and 5.2% of females are alcohol users and addicted⁵. In the oral cavity, ethanol is oxidized in acetaldehyde by bacteria of microbiota. Once the additional metabolism of acetaldehyde-acetoacetate is limited by oral bacteria, the concentration of acetaldehyde in the saliva is 10 to 100 times-fold than in the blood⁶. This high level of acetaldehyde has direct contact with the mucosa, acting as a solvent for various other carcinogens introduced by tobacco addiction, diet and chemical products in the cells, especially in the mucosa of the upper aerodigestive tract⁷.

The chronic use of alcohol represents a serious challenge for public health. In the United Kingdom, in a prospective study realized in 2018, there is inverse association between alcohol use and survival of individuals with neck and head cancer⁸. Therefore, since alcohol can influence the survival, the objective of this study is to evaluate the influence of the history of alcohol in the survival of patients with cancer in the mouth and oropharynx.

METHOD

Retrospective cohort study where 234 charts of patients with SCC in the oral cavity and oropharynx assisted at Hospital Haroldo Juaçaba of the Cancer Institute of Ceará from 2000 to 2014. All the charts should contain information about the previous use of alcohol, being selected 156 charts of patients with history of alcohol and 78 without history (relation exposed: non-exposed of approximately 2:1).

The following data were analyzed: sociodemographic data as age, gender, education family history, marital status, tobacco addiction history, type of enrollment at the hospital National Health System – SUS) or private

and health insurance and clinical data, histological type of tumor, anatomic site, TNM, tumor staging and treatment conducted (surgery associated to radiotherapy; radiotherapy, radiotherapy associated to chemotherapy; surgery associated to radiotherapy and chemotherapy; surgery associated to chemotherapy or no treatment).

Survival was obtained through the difference between the date the treatment began (day, month, year) and date of death (day, month, year) utilizing the quantity of weeks among these dates⁹ for purposes of statistical analysis.

The data were analyzed in the software Statistical Package for the Social Sciences (SPSS) version 2.0 for Windows, adopting a confidence of 95% and using the exact test of Fisher, chi-square of Pearson, Long-Rank Mantel Cox for bivariate analyzes and multinomial models of logistic regression and Cox multivariate analysis.

Ethical aspects were complied with for acceptance by the Institutional Review Board of the University Center Christus and of Hospital Haroldo Juaçaba, number 2,191,839, issued on July 28, 2017.

RESULTS

For this study, 156 non-alcoholic patients and 78 alcoholics were selected for a retrospective cohort study, status non-exposed: exposed 2:1 (Table 1).

Of the 156 patients studied in the sample with SCC in the mouth and oropharynx, 108 (46.2%) were females and the majority were males (53.8%), patients with history of alcohol significantly more associated to males ($p < 0.001$). The age of great occurrence was until 65 years $n = 123$, 52.6% cases), without significant difference among the groups of alcoholic and non-alcoholic patients ($p < 0.001$). The majority of the patients were brown ($n = 163$, 69.2%) and complete junior high school ($n = 149$, 63.7%) (Table 1).

The site of greatest occurrence of SCC of mouth and oropharynx was tongue with $n = 118$ (50.4%) cases, either for alcoholic patients ($n = 34$, 43.6%) or non-alcoholic patients ($n = 53$, 8%) ($p = 84$). In relation to TNM, alcoholic patients presented high number of cases T3-T4 ($n = 54$, 69.2%) than non-alcoholic patients ($n = 24$, 30.8%) ($p = 0;003$). The presence of lymph nodes metastases was also more prevalent in alcoholic patients ($n = 56$, 71.8%) than non-alcoholic patients ($n = 55$, 47.8%) ($p = 0.006$). But there was no significant difference in the presence of remote metastases between the two study groups (Table 1).

There was high rate of treatments considered palliative. Most part of the cases was treated with radiotherapy and chemotherapy ($n = 75$, 32.1%) followed by radiotherapy ($n = 52$, 22.2%). The type of treatment applied to alcoholic patients was significantly surgery, radiotherapy

Table 1. Distribution of the alcoholic and non-alcoholic patients in different variables addressed. Mean time of survival of alcoholic and non-alcoholic patients

Variables	Total		Alcoholism				p-Value
			Non-alcoholic		Alcoholic		
Gender							
Female	108	46.2%	100*	64.1%	8	10.3%	<0.001
Male	126	53.8%	56	35.9%	70*	89.7%	
Idade							
Until 65 years	123	52.6%	69	44.2%	54*	69.2%	<0.001
More than 65 years	111	47.4%	87*	55.8%	24	30.8%	
Race							
Beown	163	69.7%	109	69.9%	54	69.2%	0.920
Non-brown	71	30.3%	47	30.1%	24	30.8%	
Education							
Illiterate	58	24.8%	44	28.2%	14	17.9%	0.230
Junior High School	149	63.7%	95	60.9%	54	69.2%	
High School	27	11.5%	17	10.9%	10	12.8%	
Location							
Tongue	118	50.4%	84	53.8%	34	43.6%	0.246
Mouth floor	35	15.0%	22	14.1%	13	16.7%	
Oropharynx walls	38	16.2%	20	12.8%	18	23.1%	
Palate	33	14.1%	24	15.4%	9	11.5%	
Other	10	4.3%	6	3.8%	4	5.1%	
T							
T1-T2	86	43.9%	62*	52.5%	24	30.8%	0.003
T3-T4	110	56.1%	56	47.5%	54*	69.2%	
N							
N0	77	39.9%	55*	47.8%	22	28.2%	0.006
N+	116	60.1%	60	52.2%	56*	71.8%	
Treatment							
None	34	14.5%	31*	19.9%	3	3.8%	<0.001
Surgery	16	6.8%	16*	10.3%	0	0.0%	
Surgery + radiotherapy	34	14.5%	28*	17.9%	6	7.7%	
Radiotherapy	52	22.2%	35	22.4%	17	21.8%	
Surgery + radiotherapy + chemotherapy	23	9.8%	11	7.1%	12*	15.4%	
Radiotherapy + chemotherapy	75	32.1%	35	22.4%	40*	51.3%	
Marital status							
No	195	83.3%	134	85.9%	61	78.2%	0.137
Yes	39	16.7%	22	14.1%	17	21.8%	
Family History							
No	164	70.1%	116	74.4%	48*	61.5%	0.043
Yes	70	29.9%	40*	25.6%	30	38.5%	
Tobacco addiction							
No	166	70.9%	133*	85.3%	33	42.3%	<0.001
Yes	68	29.1%	23	14.7%	45*	57.7%	
Enrollment							
SUS	112	77.8%	71	74.0%	41	85.4%	0.119
Non SUS	32	22.2%	25	26.0%	7	14.6%	

Captions: *p<0.05, Fisher exact test or chi-square.

Note: No patient presented remote metastasis.

and chemotherapy (n=12, 15.4%) and radiotherapy and chemotherapy (n=40, 51.3%), while the patients without alcohol use history presented higher frequency of surgical treatments (n=16, 10.3%), surgery + radiotherapy (n=28, 17.9%) or absence of treatment (n=31, 19.9%) (p=<0.001%) (Table 1).

No marital status occurred more times in alcoholic patients (n=61, 78.2%) and non-alcoholic patients (n=134, 85.9%) (p=0.137), as well as in the enrollment by SUS (n=41, 85.4% and n=71, 740%, respectively) (p=0.119%); but the patients with family history of cancer presented inverse association with the history of alcohol use (p=0.043) showing more prevalence in non-alcoholic patients (n=40, 25.6%) than in alcoholic (n=30, 38.4%). History of tobacco addiction was directly associated to alcohol use (p=0.001) (Table 1).

The mean survival time of the patients with alcohol history (58,89±7.73) was significantly lower in patients without history of alcohol use (88.23±6.14) (p=0.40) (Figure 1), presenting, in the end of the period evaluated, a survival rate of 44.9% (Table 2).

Survival rate of male patients (n=58) was lower than in females (n=65). Age, race, education and location of the lesion did not influence the survival of the patients in 15 years.

When the clinical pathological data were analyzed, it was observed that patients who presented tumors sizes T1-T2 presented approximately 89.78 months of survival (n=56), different from patients in T3-T4, with 71.39 months of life (n=50). The patients that did not present metastasis for lymph node presented 48 months of survival and for those who presented lymph node metastasis, survival dropped to 49.1%. The treatment, marital status, family history, tobacco addiction and enrollment or not by SUS did not present significance (Table 2).

The factors associated to history of alcohol use were, respectively, tobacco addiction and gender (Table 3).

Tobacco addiction was associated to alcohol history (15.66%) and males presented association of 11.38% to alcoholism. The other factors, age (>65 years), race, education, location, T3-T4, lymph node compromise, marital status, family history, tobacco addiction, enrollment (SUS) did not present statistical significance.

However, the factors that influence the survival of the patients was age above 65 years (odds ratio=2.14), location in the tongue (odds ratio=1.26), stages T3-T4 (odds ratio=2.78), being staging T the factor that most strongly increases the risk of death. Coincidentally, patients T3-T4 had alcohol history. The other variables as gender, race (non-brown), education (illiteracy), lymph node compromise, marital status, family history, tobacco addiction, enrollment (non-SUS) did not present statistically significant factor (Table 4).

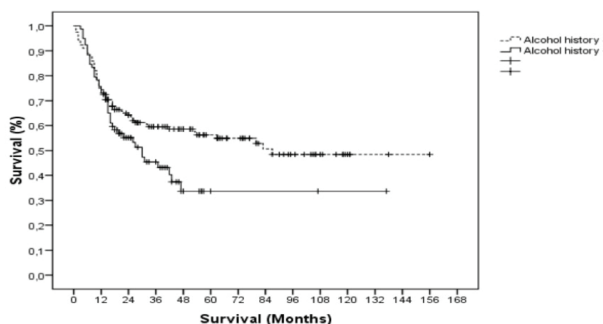


Figure 1. Curve of global survival in 15 years of follow up of the group of patients with mouth and oropharynx cancer attended and treated at Hospital Haroldo Juaçaba, categorized through previous history of alcoholism

Captions: *p=0,002, test of Long-Rank Mantel-Cox. Dashed line = non-alcoholic patients; Undashed line = alcoholic patients.

Table 2. Survival in 15 years of alcoholic and non-alcoholic patients attended at Hospital Haroldo Juaçaba with CCE of mouth and oropharynx between 2000 and 2004

Variables	Survival in 15 years			p-value
	Time (months)	N	%	
Global Survival	80.86±5.15	123	52.6%	-
Alcohol Use				
Non-alcoholic	88.23±6.14	88	56.4%	0.040
Alcoholic	58.89±7.73	35*	44.9%	
Gender				
Female	93.37±7.44	65	60.2%	0.042
Male	63.42±5.89	58*	46.0%	
Age				
Until 65 years	74.20±6.06	67	54.5%	0.348
More than 65 years	79.42±7.28	56	50.5%	

to be continued

Table 2. continuation

Variables	Survival in 15 years			p-value
	Time (months)	N	%	
Race				
Brown	65.24±4.50	85	52.1%	0.921
Non-brown	82.29±9.23	38	53.5%	
Education				
Illiterate	49.70±6.25	23	39.7%	0.061
Junior High School	83.35±6.51	81	54.4%	
High School	94.54±12.53	19	70.4%	
Location				
Tongue	84.77±6.25	73	61.9%	0.065
Mouth floor	77.73±12.41	17	48.6%	
Oropharynx walls	53.86±9.54	17	44.7%	
Palate	43.19±7.06	12	36.4%	
Others	49.80±15.10	4	40.0%	
T				
T1-T2	89.78±7.09	56	65.1%	0.004
T3-T4	71.39±7.21	50*	45.5%	
N				
N0	98.00±8.37	48	62.3%	0.012
N+	60.59±5.48	57*	49.1%	
Treatment				
None	50.03±9.26	14	41.2%	0.053
Surgery	89.78±11.82	12	75.0%	
Surgery + radiotherapy	100.07±12.54	22	64.7%	
Radiotherapy	56.46±7.95	24	46.2%	
Surgery + Radiotherapy + chemotherapy	61.63±10.36	13	56.5%	
Radiotherapy + chemotherapy	71.98±7.55	38	50.7%	
Marital status				
No	82.58±5.65	104	53.3%	0.565
Yes	65.60±10.75	19	48.7%	
Family History				
No	81.71±6.05	86	52.4%	0.932
Yes	69.59±8.51	37	52.9%	
Tobacco addiction				
No	84.46±5.94	89	53.6%	0.278
Yes	63.81±8.55	34	50.0%	
Enrollment				
SUS	67.97±5.40	61	54.5%	0.922
Non SUS	69.83±11.29	17	53.1%	

Captions: *p<0.05, test of Long-Rank Mantel Cox (mean ± SEM – standard error of the mean).

Table 3. Multivariate analysis of factors associated to history of alcohol use in patients with mouth and oropharynx cancer diagnosed and treated at Hospital Haraldo Juaçaba

Variables	p-Value	HR adjusted	CI 95%	
Alcoholism				
Gender (Male)	<0.001	11.38	2.98	43.44
Age (>65 years)	0.802	-	-	-
Race (Brown)	0.583	-	-	-
Education (Illiterate)	0.105	-	-	-
Location (floor)	0.489	-	-	-
T (T3-T4)	0.137	-	-	-
N (N+)	0.480	-	-	-
Treatment (Surgery)	0.084	-	-	-
Marital Status (Yes)	0.690	-	-	-
Family History (Yes)	0.851	-	-	-
Tobacco addiction (Yes)	<0.001	15.66	3.61	67.97
Enrollment (SUS)	0.132	-	-	-

Captions: *p<0.05, multinomial logistic regression. HR = Hazard risk; CI = confidence interval.

Table 4. Survival in 15 years of alcoholic and non-alcoholic patients attended at Hospital Haraldo Juaçaba with SCC of mouth and oropharynx between 2000 and 2004

Variables	p-Value	HR	CI 95%	
Alcoholism (Yes)	0.298	-	-	-
Gender (M)	0.159	-	-	-
Age (>65)	0.035	2.14	1.06	4.35
Race (Non brown)	0.136	-	-	-
Education (Illiterate)	0.981	-	-	-
Location (Tongue)	0.042	1.26	1.01	1.58
T (3/4)	0.011	2.78	1.27	6.09
N (N+)	0.682	-	-	-
Treatment (Surgery)	0.699	-	-	-
Marital Status (Yes)	0.731	-	-	-
Family History (Yes)	0.855	-	-	-
Tobacco addiction (Sim)	0.454	-	-	-
Enrollment (Non SUS)	0.154	-	-	-

Captions: *p<0.05, Cox regression model. HR = Hazard risk; CI = Confidence Interval.

DISCUSSION

Approximately half of the world adult population use alcoholic beverages and alcohol use is one of the risk factors most important for public health and the third main cause of death in some countries¹⁰. In addition, several other factors as genetic antecedents, gender, age, ethnicity, diet, hormones as well as tobacco addiction and obesity can have impact in the modulation of the response of the organism to alcohol¹¹. It is estimated that,

worldwide, nearly half of the population with 15 years of more (44.5%) never used alcohol and around 43% of the population are current users (used in the last 12 months).

It is important to consider this for the region of the neck and head, since there is association to the increase of risk of cancer of the oral cavity and pharynx, potentializing the effect of initiators for carcinogenesis as tobacco¹². It was observed that the history of alcohol use was associated to the worse prognosis in patients with cancer of mouth and oropharynx. Alcoholic patients presented more prevalence

of males¹³, similar estimates to the demonstrated by the World Health Organization in 2018¹⁴.

The majority of the studies, from 2014 on, reported that individuals between 60 and 64 years and 65 years or more, currently, used more alcoholic beverages, related to males also¹⁵.

The relation between alcoholic beverages use and education variables is rarely investigated, mainly because the identification of the relation cause-effect required prospective studies¹⁶, corroborating the absence of association between alcohol use and education, which does not happen in a series of studies.

Alcoholic patients also presented bigger tumors and lymph node metastasis, with majority of radiotherapy combined with chemotherapy as modality of treatment. In addition of acting as a risk factor for carcinogenic, epidemiologic studies also demonstrated that alcohol use is associated to the invasion and metastasis of cancer, leading to a ill prognosis¹⁷; it is known that tumor stage is one of the most well-known prognostic factors.

In this study, alcohol history was inversely associated with family history of cancer, reinforcing the extrinsic etiopathogenesis of SCC of mouth and oropharynx¹³, but was independently associated to the use of cigarettes, which is one of the main synergic factors for the development of this type of tumor for males, main user of the association¹⁷.

Alcohol use is a known established risk factor and also a possible prognosis factor for spinocellular carcinoma of head and neck, but these results are still controversial^{18,19}. In this study, the global survival of the patients with history of alcohol use was significantly lower, controversially described by Schimansky et al.¹⁷ and similar to demonstrated by Beynon et al.⁸.

Other studies observed also that two thirds of alcohol-related deaths by cancer (mouth, pharynx, larynx, esophageal) happen in males and one third in females^{8,20}.

The survival of male patients was significantly lower like those that had lymph node metastasis, however, the factors independently associated to lower global survival were stages T3-T4, age above 65 years and location in the tongue. These findings ratify the study of Jiang et al.²¹, that brought as results, stronger associations between alcohol use and mortality by cancer encountered mainly among those between 50 and 69 years old.

In addition, it has been described that the compromise of the tongue is considered a prognostic site of oral SCC because of the propensity for regional lymph node metastasis through the lymphatic network²², being this strongly associated to post-treatment relapse and low survival.

Despite alcohol use not being demonstrated as an independent variable associated to worse prognosis, the

excessive and continuous use after the diagnosis of cancer can lead to the reduction of the rate of remission of the disease and increase of incidence of secondary cancers in the liver and upper aerodigestive tract with indirect impact in the survival rates²³.

Alcohol can be used as a mechanism of coping to alleviate the anxiety and fear of cancer diagnosis and, given its addictive nature, can result in prolonged use, increasing or resuming after a short period of withdrawal²⁴. Ever since the limited studies until today, gender, education, time since the treatment, severity of the disease and alcohol heavy use were identified as predictors of change of alcohol use in patients with cancer.

CONCLUSION

This work contributed for better understanding about the influence of deleterious habits like history of alcohol with the progression of cancer of mouth and oropharynx. However, the present study has limitations as the nature of being retrospective based in charts, influenced by biases of memory and filling the charts and not being able to distinguish/analyze whether there was or not cessation of alcohol use after the diagnosis/beginning of the treatment.

The history of alcohol use in patients with SCC of mouth and oropharynx is directly associated to the history of tobacco, male and tumors diagnosed in higher stages, reducing survival contingent upon age and location of the primary tumor. Studies that evaluate the influence of cessation of alcohol use in patients with SCC of mouth and oropharynx are necessary in order to evaluate the impact of the habit during and after treatment.

CONTRIBUTIONS

Paulo Goberlânio de Barros Silva, Maria do Perpétuo Socorro Saldanha de Cunha and Thinali Sousa Dantas contributed for the conception and design of the article; gathering, analysis, interpretation of the study data. Isabel Leite Soares, Felipe Herbert de Oliveira Mendes, Clarissa Sales de Paula Campêlo, Mário Rogério Lima Mota and Fabrício Bitu Sousa participated of the wording and critical review with intellectual contribution. All the authors approved the final version for publication.

DECLARATION OF CONFLICT OF INTERESTS

There is no conflict of interests to declare.

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