UNIVERSIDADE ESTADUAL DE CAMPINAS
FACULDADE DE ODONTOLOGIA DE PIRACICABA

ANDERSON MAURICIO PAIVA E COSTA

FREQUÊNCIA DAS LESÕES EM ASSOALHO DE BOCA: UM ESTUDO MULTICÊNTRICO DE 4.287 CASOS.

FREQUENCY OF FLOOR OF THE MOUTH LESIONS: A MULTICENTER STUDY OF 4,287 CASES.

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Dissertação apresentada à Faculdade de Odontologia de Piracicaba da Universidade Estadual de Campinas como parte dos requisitos exigidos para a obtenção do título de Mestre em Estomatopatologia, na Área de Estomatologia.

Dissertation presented to the Piracicaba Dental School of the University of Campinas in partial fulfillment of the requirements for the degree of Master in Oral Medicine and Oral Pathology, in Stomatology area.

ORIENTADOR: PROF. DR. HELDER ANTONIO REBÊLO PONTES
COORIENTADOR: PROF. DR. FELIPE PAIVA FONSECA

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RESUMO

O objetivo deste estudo foi investigar a frequência em importantes centros de patologia oral na América latina de lesões em assoalho bucal. Um estudo transversal foi conduzido com biópsias obtidas de janeiro de 1978 a dezembro de 2018 em nove centros latino-americanos de patologia oral e maxilofacial. Gênero, idade e diagnóstico histopatológico foram avaliados. Os arquivos foram analisados utilizando-se métodos descritivos. De 114.893 amostras, 4.287 lesões (3,73%) ocorreram no soalho bucal. Brasil demonstrou a maior quantidade de casos (4.030 casos; 94%), seguido pelo México (198 casos; 4,6%) e Argentina (59 casos; 1,4%). Lesões benignas representaram 67,2% (2.883 casos), seguido por 32,8% (1.404 casos) de desordens malignas. Lesões de origem epitelial foram mais frequentes (1.964 cases; 45,8%). Seguido por glândulas salivares (1.245 casos; 29%) e lesões de tecido mole (473 casos; 11%). Os subtipos histológicos mais comuns foram carcinoma de células escamosas oral (1.347 casos; 31,4%), rânula (724 casos; 16,8%), leucoplasia oral (476 casos; 11,1%) e hiperplasia fibrosa inflamatória (239 casos; 5,6%). Homens (2.118 cases) foram mais afetados que mulheres (1.900 casos). No presente estudo, lesões em assoalho bucal representaram 3,73% das biópsias submetidas aos serviços de patologia oral e carcinoma de células escamosas, rânula e leucoplasia foram as lesões mais comuns.

Palavras-chave: Epidemiologia, Assoalho bucal.

ABSTRACT

The aim of this study was to investigate the frequency of oral lesions in the floor of the mouth from representative oral pathology centers in Latin America. A cross-sectional study was conducted on biopsies obtained from January of 1978 to December of 2018 at nine Latin America oral and maxillofacial pathology centers. Gender, age and histopathological diagnosis were evaluated. Data were analyzed using descriptive methods. From 114,893 samples, 4,287 lesions (3.73%) occurred in the floor of the mouth. Brazil showed the highest amount of cases (4,030 cases; 94%), followed by Mexico (198 cases; 4.6%) and Argentina (59 cases; 1.4%). Benign lesions represented 67.2% (2,883 cases), followed by 32.8% (1,404 cases) of malignant disorders. Lesions of epithelial origin were more frequent (1,964 cases; 45.8%), followed by salivary glands (1,245 cases; 29%) and soft tissue lesions (473 cases; 11%). The most common histological subtypes were oral squamous cell carcinoma (1,347 cases; 31.4%), ranula (724 cases; 16.8%), oral leukoplakia (476 cases; 11.1%) and inflammatory fibrous hyperplasia (239 cases; 5.6%). Males (2,118 cases) were more affected than females (1,900 cases). In the current study, lesions in the floor of the mouth represented 3.73% of biopsies submitted to oral pathology services and oral squamous cell carcinoma, ranula and leukoplakia were the most common lesions.

Keywords: Epidemiology, Floor of mouth.

SUMÁRIO

1 INTRODUÇÃO

O assoalho bucal é uma localização anatômica de interesse dos profissionais da saúde, em especial os cirurgiões dentistas. Neste local, inúmeras lesões benignas e malignas podem se fazerem presentes. Esta estrutura anatômica é constituída totalmente por tecido mole, em forma de "U", situado abaixo da língua, tendo sua porção principal localizado logo à frente desta, enquanto outras duas porções estendem-se na região lateral. Patologias ou alterações de desenvolvimento localizadas nessa região podem afetar diretamente, a fonação e a deglutição. (La´porte, 2011).

A região de assoalho de boca é constituída por estruturas de tecidos de várias origens (adiposo, glandular, muscular, epitelial), o que pode explicar os diversos tipos de patologias que podem se originar nesta região anatômica (Boko E, 2014; Carlon ER, 2016). Para o melhor de nosso entendimento inexistem estudos que avaliem a frequência de lesões em assoalho de boca. Assim como estudos que associem tais lesões com parâmetros clínicos. Portanto, o objetivo deste trabalho foi realizar um estudo multicêntrico sobre a frequência das patologias situadas no assoalho bucal, assim como correlacionar as lesões com um perfil clínico.

2 ARTIGO

WHAT IS THE FREQUENCY OF FLOOR OF THE MOUTH LESIONS? A DESCRITIVE STUDY OF 4,287 CASES.

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ABSTRACT

The aim of this study was to investigate the frequency of oral lesions in the floor of the mouth from representative oral pathology centres in Latin America. This study was conducted on biopsies obtained from January of 1978 to December of 2018 at nine Latin America oral and maxillofacial pathology centres. Gender, age and histopathological diagnosis were evaluated. Data were analysed using descriptive methods. From 114,893 samples, 4,287 lesions (3.73%) occurred in the floor of the mouth. Brazil showed 4,030 cases (94%), Mexico 198 cases (4.6%) and Argentina 59 cases (1.4%). Benign lesions represented 67.2% (2,883 cases), followed by 32.8% (1,404 cases) of malignant disorders. Lesions of epithelial origin were more frequent (1,964 cases; 45.8%), followed by salivary glands (1,245 cases; 29%) and soft tissue lesions (473 cases; 11%). The most common histological subtypes were oral squamous cell carcinoma (1,347 cases; 31.4%), ranula (724 cases; 16.8%), oral leukoplakia (476 cases; 11.1%) and inflammatory fibrous hyperplasia (239 cases; 5.6%). The lesion affected males in 2,118 cases and females in 1,900 cases. In the current study, lesions in the floor of the mouth represented 3.73% of biopsies submitted to oral pathology services and oral squamous cell carcinoma, ranula and leukoplakia were the most common lesions.

Keywords: Epidemiology; floor of the mouth; benign; malignant.

INTRODUCTION

The floor of the mouth (FOM) is a horizontally aligned U-shaped space situated in the part of the oral cavity that lies beneath the tongue[1]. It is commonly associated with a wide variety of local and systemic pathologies[2]. In recent years, epidemiological studies have been performed worldwide and have shown that FOM lesions represented a notable number, varying in different countries[3-6]. Thus, the aim of this study is to present a multicenter study of the lesions affecting the FOTM from nine representative Latin America oral and maxillofacial pathology centres.

MATERIALS AND METHODS

Study design and ethical approval

This study was performed in the files from nine independent oral and maxillofacial diagnostic centres from Latin America. The samples of the centres were retrieved up to a period of 40-years, from January of 1978 to December of 2018. A total of 114,893 samples were analysed. The diagnosis centres were from Brazil (Service of Oral Pathology, João de Barros Barreto University Hospital, Federal University of Pará, Belém/Brazil; Oral Diagnosis Department (Pathology and Semiology), Piracicaba Dental School, University of Campinas, Piracicaba/Brazil; Oral Pathology, Dental School, Federal University of Rio de Janeiro, Rio de Janeiro/Brazil; Department of Oral Surgery and Pathology, School of Dentistry, Federal University of Minas Gerais, Belo Horizonte/Brazil; Oral Pathology Department, Dental School, University of São Paulo, São Paulo/Brazil; Oral Pathology Department, Dental School, Federal University of Pernambuco, Recife/Brazil; Department of Pathology and Legal Medicine, Federal University of Amazonas, Manaus/Brazil), Mexico (Oral Pathology Private Clinics, Coyoacán/Mexico) and Argentina (Department of Stomatology, Dental School, National University of Córdoba, Córdoba/Argentina). The expert oral pathologists of

each centre evaluated the samples. The ethical committee of the João de Barros Barreto University Hospital approved this work under approval number 3.381.233. The patient's identity remained anonymous according to the Declaration of Helsinki.

Samples

Lesions in the FOM were retrieved, and each of the analysed centres recovered data regarding age, sex and final histopathological diagnosis. All lesions were reclassified according to the World Health Organisation Classification of Head and Neck Tumours Update published in 2017[7] and other categories were classified according to Textbook of Oral and Maxillofacial Pathology, 4th Edition[8]. The exclusion criteria were samples that did not present lesion in the FOM, as well as those whose final diagnosis did not follow the criteria established in the current study. The lesions in which diagnosis was not possible to be performed were excluded of the current study.

Data analysis

The collected data were tabulated in Microsoft Excel® for epidemiologic analysis. Descriptive and quantitative data analysis was performed using the Statistical Package for Social Sciences (SPSS) software, version 22.0 (SPSS Inc., Chicago, IL, USA).

RESULTS

From 114,893 samples, 4,287 (3.73%) were in the FOM. Figure 1 shows the distribution of the lesions in in the centres analysed, evidencing that Brazil showed 4,030 cases (94%), Mexico 198 cases (4.6%) and Argentina 59 cases (1.4%). Table 1 and 2 show benign and malignant lesions found in the current study, respectively. Benign disorders represented 67.2% (2,883 cases), followed by 32.8% (1,404 cases) of malignancies. Lesions of epithelial

origin were more frequent (1,964 cases; 45.8%), followed by salivary glands (1,245 cases; 29%) and soft tissue (473 cases; 11%). The most common histological subtypes were oral squamous cell carcinoma (1,347 cases; 31.4%), ranula (724 cases; 16.8%), oral leukoplakia (476 cases; 11.1%) and inflammatory fibrous hyperplasia (239 cases; 5.6%). Males (2,118 cases) were more affected than females (1,900 cases). The patients demonstrated a mean age of 39.5 years old (range of 8-89-year-old).

Table 3 shows the frequency of the lesions according to the age and gender. Salivary gland lesions (SGL) represented salivary glands (1,245 cases; 29%) of the samples. Ranula (724 cases; 16.8%), non-specific chronic inflammatory process (204 cases; 17.5%) and sialolitiasis (183 cases; 15.7%) were the most common lesions. Patients affected by this group of lesions were mostly in age lower than 20 years old (397 cases) and female (710 cases) were more affected than male (452 cases) with a M:F ratio of 1:1.57. Epithelial lesions (EL) were presented in (1,964 cases; 45.8%). Oral squamous cell carcinoma (1,347 cases; 31.4%), oral leukoplakia (476 cases; 11.1%) and papilloma (71 cases; 3.8%) were the most frequently diagnosed lesions. Individuals older than 60 years old (826 cases) and males (1,322 cases) were more affected than females (546 cases) in a M:F ratio of 2.4:1. Soft tissue tumors (STT) represented 447 cases (10.4%). Inflammatory fibrous hyperplasia (226 cases; 50.6%), fibrous hyperplasia (153 cases; 34.2%) and lipoma (37 cases; 8.2%) were the most frequent lesions of this group. Individuals older than 60 years were the most frequently affected by this group of lesions (212 cases) and females (338 cases) were more commonly detected than males (109 cases) in a M: F ratio of 1:3.1.

Infectious diseases (ID) were seen in 30 cases (0.7%). The two lesions observed in the current group were paracoccidioidomycosis (28 cases; 93.3%) and candidiasis (2 cases; 6.7%), and mostly affected patients with ages from 50 to 60 years old. Males (27 cases) were affected more frequently than females (3 cases) with a M: F ratio of 1:9. Dermatological

diseases (DEDI) were observed in 27 cases (0.6%). Lichen planus (16 cases; 53.3%), pemphigus vulgaris (9 cases; 30%) and pemphigoid (2 cases; 6.6%) were the DEDI observed in the FOM. Patients affected by this group of lesions mainly were older than 60 years old (9 cases) and females (21 cases) were more affected than males (6 cases). Physical and chemical injuries (PCI) represented 158 cases of the sample (3.6%). The lesions detected on this group were amalgam tattoo (108 cases; 68.3%), ulcers (42 cases; 26.6%) and exogenous pigmentation (8 cases; 5%). Individuals with age ranging from 50 to 60 years old were mostly identified and females (108 cases) were more affected than male, with a M: F ratio of 1:2.1.

Developmental disorders (DD) were seen in 93 cases (2.1%). Lymphoepithelial cyst (33 cases; 35.5%), dermoid and teratoid cyst (20 cases; 21.5%) and epidermoid cyst (20 cases; 21.5%). People with age lower than 20 years old and ranging from 50 to 60 years old were mostly seen, representing 26 cases each group. DD demonstrated a slight frequency in females (48 cases) than males (45 cases), with a M: F ratio of 1:1.06. Hematological diseases (HD) were six cases (0.13%) and small cell B-cell lymphomas (2 cases; 33.3%) and large B-cell lymphoma (2 cases; 33.3%) were the most common histological types. Patients with age higher than 60 years old represented three cases. This group of lesions did not demonstrate any gender predominance. Oral manifestation of systemic diseases represented two cases and all were patients affected by amyloidosis on the FOM with age older than 60 years old. This group were seen in one man and one woman, with M: F ratio of 1:1.

DISCUSSION

The findings of the current study showed that 3.73% of the analysed cases were presented in the FOM and can be compared with the existing literature of other countries. In a systematic review of oral cancer in Arab countries, Al-Jaber and collaborators observed that FOM was affected in 50% of all sample[3]. In addition, a study developed in Zimbabwe observed that 18.5% of cases were lesions located in the FOM[9]. Nemes *et al*. investigated the

prevalence of oral lesions in Northeastern Hungary and showed that 27.7% affected the FOM [10]. These differences seem to be related to the number of FOM lesions included in each study, and the number of individuals examined. Besides differences in age, sex and habitual differences between populations, methodology and criteria of diagnosis could influence the results.

In the current study, SGL represented 27.1% of all lesions in the FOM. In a Chinese epidemiological study, it was observed that SGL in the FOM represented 1.5% of all samples[11]. In the current study, ranula (685 cases) and non-specific chronic inflammatory process (204 cases) and sialolitiasis (183 cases) were most common benign lesions. Previous studies demonstrated that pleomorphic adenoma was the most common lesion in the FOM[12,13]. According De Oliveira et al. SGL lesions in the FOM tend to be presented as malignancies[13], which is not similar with the current study. Clinically, SGL tended to affect female patients in age lower than 20 years old. Li *et al*. observed that 1.5% of lesions affected the FOM and male patients were more frequently seen[11].

EL were observed in 43.5% and oral squamous cell carcinoma (1,281 cases), oral leukoplakia (454 cases) and papilloma (71 cases) were most commonly seen. A Brazilian study observed that EL in the FOTH comprised just 9.5% of all sample[14]. Under clinical evaluation, males older than 60 years old were more affected by this group of lesions[15,16]. In addition, a previous study of our group showed that oral squamous cell carcinoma of the FOM affected males older than 60 years old[17]. It is important emphasize that leukoplakia had higher mean ages than the average age of the patients affected by oral squamous cell carcinoma, suggesting that the majority of oral squamous cell carcinoma was not originated from pre-existing leukoplakias.

STT were observed in 10.4% of cases and inflammatory fibrous hyperplasia (226 cases), fibrous hyperplasia (153 cases) and lipoma (37 cases) were the most common lesions

seen on this study. In Venezuela, a study exploring oral lesions in elderly people showed that STT represented 18% of all analysed sample[18]. Clinical aspects evidenced that females older than 60 years old were more affected, consistent with previous epidemiological studies in Chile and Mexico[19,20]. In a multicentre study above oral sarcomas in Brazil, it was observed that osteosarcoma, Kaposi's sarcoma and chondrosarcoma were the most common malignant STT. This information is not consistent with the current study, since leiomyosarcoma, Kaposi's sarcoma and carcinosarcoma were the most commonly lesion seen[21].

ID were seen in 0.7% of the analysed samples and paracoccidioidomycosis (28 cases) was the most common entity found this group of lesions. Two of the centres included this group are located in an endemic region for paracoccidioidomycosis. Dutra and collaborators observed that FOM was not a common location for ID, representing just 2% of all cases of paracoccidioidomycosis of their sample[22]. Under clinical evaluation, ID affected males with age ranging from 50 to 60 years old, consistent with previous literature[23,24].

DEDI were shown in 0.6% of the present samples and presented lichen planus (16 cases), pemphigus (9 cases) and pemphigoid (2 cases) as the most common lesion in the FOM. Sultan et al. demonstrated that pemphigus is the most common dermatological lesions with oral manifestation in USA[25]. Clinically, lesions tended to be presented in females older than 60 years old, as well as previous studies[26-28]. In addition, this group of lesions is not commonly observed in the FOM[27,28]. PCI corresponded to 3.6% of our cases and the mostly observed lesions were amalgam tattoo (108 cases), ulcers (42 cases) and exogenous pigmentation (8 cases). A Brazilian study observed that amalgam tattoo was also the most common lesion and that FOM was not a frequent location to observe PCI[29]. In the current study, females were more affected at an age ranging from 50 to 60 years old [29-31].

DD were observed in 2.1% of all cases seen in the current study and lymphoepithelial cyst (33 cases), dermoid and teratoid cyst (20 cases) and epidermoid cyst (20 cases) were the

most common lesions. Dovigi and colleagues recognized that in USA, DD corresponded to 6.5% of 51,781 cases analysed on their study[32]. In the present research, the patients of this group of lesions showed a slight female frequency, and people with age younger than 20 years old and ranging from 50 to 60 years old were mostly seen. Nonaka et al. observed that females in the fourth decade of life were more affected by this group of lesions[33].

Regarding HD, they were uncommon lesions in the FOM, representing just 0.13% of all lesions. Deng et al. showed that lymphomas are rare on the FOM[34]. Clinically, our study demonstrated that these lesions affects patients on age lower than 20 years old and higher than 60 years old, consistent with previous literature[35,36]. Oral manifestation of systemic diseases were also reported in our study and we had two cases of amyloidosis affecting the floor of the mouth. A Latin America study showed that FOM is affected in 14.3% of all cases[37]. Under clinical evaluation, this group of lesions commonly affects patients older than 60 years old and demonstrated no gender predominance. Previous literature showed that males with a peak age of 50 years old are more described[37,38].

CONCLUSION

This manuscript shows the trends of the oral pathologies of the FOM, and oral squamous cell carcinoma, ranula and leukoplakia were the most common histological types

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CONFLICT OF INTEREST STATEMENT

None.

TABLES

Table 1. Benign lesions in the floor of the mouth.

Table 2. Malignant lesions in the floor of the mouth.

Table 3. Frequency of floor of the mouth lesions in Latin America according to age and gender.

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FIGURE LEGENDS

Figure 1. Distribution of sample in the oral pathology diagnosis centres.

Table 1. Benign lesions in the floor of the mouth.

	Benign Lesions			
Benign floor of the mouth pathologies	M (%)	F (%)	Mean age (years) at diagnosis ± Standard deviation	Total (%)
Salivary gland				
Ranula	274 (37.29%)	450 (62.70%)	24.16 ± 16.46	**724 (27.7%)**
Non-specific chronic inflammatory process	85 (37.84%)	137 (63.06%)	52.28 ± 18.78	**222 (8.49%)**
Sialolitiasis	88 (44.62%)	108 (55.38%)	46.14 ± 19.89	**196 (7.46%)**
Retention cyst	22 (37.04%)	33 (62.96%)	32.39 ± 19.39	**55 (2.07)**
Adenomatous hyperplasia	5 (71.43%)	2 (28.57%)	43 ± 13.38	**7 (0.27%)**
Pleomorphic adenoma	2 (50%)	2 (50%)	43 ± 6.36	**4 (0.15%)**
Epithelial				
Oral leukoplakia	227 (47.90%)	249 (51.68%)	60.27 ± 14.84	**476 (18.21%)**
Hyperkeratosis	19 (43.59%)	20 (56.41%)	55.75 ± 16.27	**39 (1.49%)**
Papilloma	45 (58.67%)	30 (41.33%)	50.9 ± 18.42	**75 (2.87%)**
Verruca Vulgar	3 (42.86%)	4 (57.14%)	57.43 ± 20.90	**7 (0.27%)**
Condyloma	4 (57.14%)	3 (42.86%)	50.14 ± 16.81	**7 (0.27%)**
Verruciform xanthoma	1 (100%)	0 (0%)	40 ± 12	**2 (0.08%)**
Soft tissue tumors				
Inflammatory fibrous hyperplasia	45 (17.57%)	194 (82.42%)	60.7 ± 12.77	**239 (9.14%)**
Fibrous hyperplasia	36 (22.50%)	124 (77.50%)	58.2 ± 14.61	**160 (6.12%)**
Lipoma	16 (40%)	24 (60%)	57.85 ± 14.67	**40 (1.53%)**
Hemangioma	2 (33.33%)	7 (66.67%)	63.5 ± 20.48	**9 (0.34%)**
Neurofibroma	6 (75%)	2 (25%)	29.75 ± 21.87	**8 (0.31%)**
Pyogenic granuloma	2 (25%)	6 (75%)	50 ± 19.49	**8 (0.31%)**
Rhabdomyoma	2 (100%)	0 (0%)	49.5 ± 3.5	**2 (0.08%)**
Lymphangioma	1 (50%)	1 (50%)	53.5 ± 16.5	**2 (0.08%)**
Myofibroma	1 (100%)	0 (0%)	54 ± 0	**1 (0.04%)**

Hamartoma	0 (0%)	1 (100%)	3 ± 0	**1 (0.04%)**
Infectious diseases				
Paracoccidioidomycosis	28 (96.55%)	1 (3.45%)	51.64 ± 10.11	**29 (1.11%)**
Candidiasis	0 (0%)	2 (100%)	70 ± 4	**2 (0.08%)**
Dermatological diseases				
Lichen planus	4 (25%)	12 (75%)	54.14 ± 11.56	**16 (0.61%)**
Pemphigus	2 (20%)	8 (80%)	43.98 ± 16.11	**10 (0.38%)**
Pemphigoid	0 (0%)	2 (100%)	58 ± 9	**2 (0.08%)**
Physical and chemical injuries				
Amalgam Tattoo	29 (25.22%)	86 (74.78%)	48.6 ± 15.23	**115 (4.4%)**
Ulcers	21 (38.30%)	26 (61.70%)	60.14 ± 14.30	**47 (1.8%)**
Exogenous pigmentation	5 (55.56%)	4 (44.44%)	50.13 ± 10.36	**9 (0.34%)**
Oral manifestations of systemic diseases				
Amiloidosis	1 (50%)	1 (50%)	72 ± 1	**2 (0.08%)**
Developmental disorders				
Lymphoepithelial cyst	11 (30.56%)	25 (69.44%)	43.28 ± 17	**36 (1.38)**
Dermoid and teratoid cyst	15 (72.73%)	7 (27.27%)	22.44 ± 15.47	**22 (0.84)**
Epidermoid cyst	12 (60%)	7 (40%)	29.79 ± 19.44	**19 (0.77)**
Thrombus	4 (33.33%)	8 (66.67%)	45.25 ± 15.17	**12 (0.46)**
Varicose veins	3 (37.5%)	5 (62.5%)	60.14 ± 10.71	**8 (0.31)**
Thyroglossal duct cyst	1 (50%)	1 (50%)	26 ± 18	**2 (0.08)**

Table 2. Malignant lesions in the floor of the mouth.

	Malignant Lesions			
Malignant floor of the mouth pathologies	M (%)	F (%)	Mean age (years) at diagnosis ± Standard deviation	Total (%)
Salivary gland				
Adenoid cystic carcinoma	7 (36.84%)	12 (63.16%)	56 ± 20,89	**19 (1.35)**

Mucoepidermoid carcinoma	7 (50%)	7 (50%)	49.82 ± 20.94	**14 (1)**
Adenocarcinoma	0 (0%)	3 (100%)	49.67 ± 7.54	**3 (0.21)**
Clear cell hyalinizing carcinoma	0 (0%)	1 (100%)	36 ± 0	**1 (0.07)**
Epithelial				
Oral squamous cell carcinoma	1,081 (80.62%)	266 (19.38%)	58.93 ± 16.71	**1347 (95.94)**
Verrucous carcinoma	5 (62.5%)	3 (37.5%)	67 ± 17.36	**8 (0.57)**
Squamous basaloid carcinoma	2 (100%)	0 (0%)	72 ± 10	**2 (0.14)**
Carcinoma Cuniculatum	0 (0%)	1 (100%)	86 ± 0	**1 (0.07)**
Soft tissue tumors				
Leiomyosarcoma	0 (0%)	1 (100%)	53 ± 0	**1 (0.07)**
Kaposi's sarcoma	0 (0%)	1 (100%)	29 ± 0	**1 (0.07)**
Carcinosarcoma	1 (100%)	0 (0%)	71 ± 0	**1 (0.07)**
Hematological diseases				
ALK-positive anaplastic large cell lymphoma	1 (100%)	0 (0%)	18 ± 0	**1 (0.07)**
MALT Lymphoma	0 (0%)	1 (100%)	64 ± 0	**1 (0.07)**
Small cell B-cell lymphomas	1 (50%)	1 (50%)	69 ± 43.1	**2 (0.14)**
Large B-cell lymphoma	1 (50%)	1 (50%)	43 ± 29.34	**2 (0.14)**

Table 3. Frequency of floor of the mouth lesions in Latin America according to age and gender.

			Age (years)						
Floor of the mouth pathologies	Sex	<20 n (%)	20-30 n (%)	30-40 n (%)	40-50 n (%)	50-60 n (%)	>60 n (%)	NR (%)	Total n (%)
Salivary gland									
Ranula	F	231(51%)	88 (20%)	45(10%)	26 (6%)	21 (5%)	15 (3%)	24 (5%)	450(100%)
	M	120(43%)	36 (16%)	41(15%)	22 (8%)	26 (9%)	14 (4%)	15 (5%)	274(100%)
Non-specific chronic inflammatory process	F	12 (8%)	5 (4%)	9 (7%)	20 (14%)	41 (30%)	41 (30%)	9 (7%)	137(100%)
	M	3 (4%)	7 (8%)	6 (7%)	15 (18%)	20 (24%)	25 (30%)	9 (8%)	85 (100%)

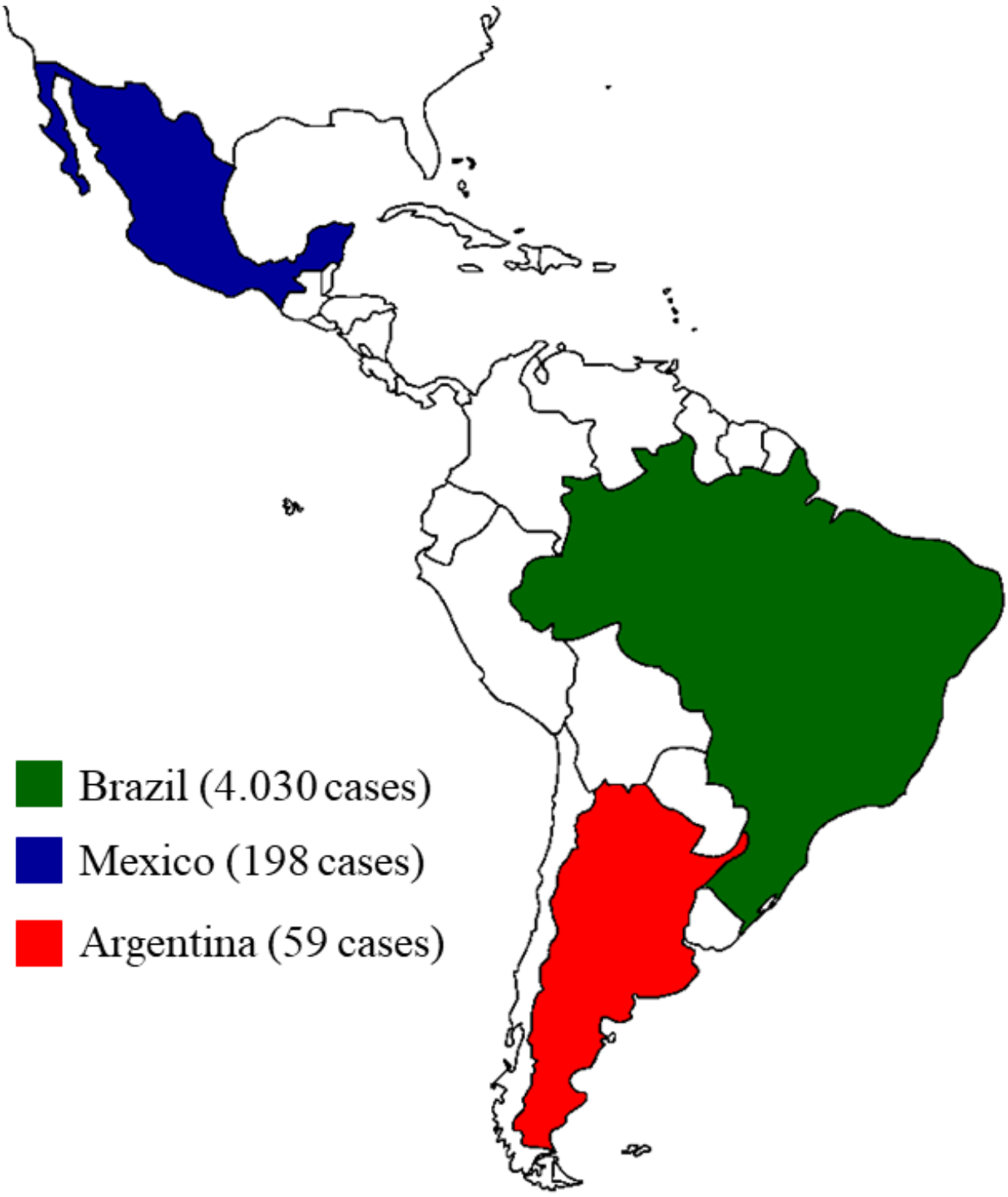
Sialolitiasis	F	9 (8%)	14 (13%)	14(13%)	18 (17%)	21 (19%)	27 (25%)	5 (5%)	108(100%)
	M	9 (10%)	13 (15%)	8 (9%)	13 (15%)	16 (18%)	21 (24%)	8 (9%)	88 (100%)
Retention cyst	F	6 (18%)	5 (15%)	3 (10%)	8 (24%)	5 (15%)	2 (6%)	4 (12%)	33 (100%)
	M	7 (31,5%)	7 (31,5%)	2 (9%)	2 (9%)	2 (9%)	1 (5%)	1 (5%)	22 (100%)
Adenomatous hyperplasia	F	0 (0%)	0 (0%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	2 (100%)
	M	0 (0%)	0 (0%)	2 (40%)	0 (0%)	0 (0%)	1 (20%)	2 (40%)	5 (100%)
Pleomorphic adenoma	F	0 (0%)	0 (0%)	0 (0%)	2 (100%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
	M	0 (0%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)
Adenoid cystic carcinoma	F	0 (0%)	0 (0%)	1 (8,5%)	4 (33%)	4 (33%)	2 (17%)	1 (8,5%)	12 (100%)
	M	0 (0%)	0 (0%)	1 (14%)	0 (0%)	1 (14%)	4 (58%)	1 (14%)	7 (100%)
Mucoepidermoid carcinoma	F	0 (0%)	0 (0%)	2 (29%)	0 (0%)	2 (29%)	2 (29%)	1 (13%)	7 (100%)
	M	0 (0%)	1 (14%)	1 (14%)	1 (14%)	2 (29%)	0 (0%)	2 (29%)	7 (100%)
Adenocarcinoma	F	0 (0%)	0 (0%)	1 (25%)	0 (0%)	2 (75%)	0 (0%)	0 (0%)	3 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Clear cell hyalinizing carcinoma	F	0 (0%)	0 (0%)	1(100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Epithelial									
Oral leukoplakia	F	2 (1%)	3 (1%)	19 (8%)	23 (9%)	55 (22%)	139 (56%)	8 (3%)	249(100%)
	M	1 (1%)	2 (1%)	12 (5%)	39 (17%)	60 (26%)	99 (44%)	14 (6%)	227(100%)
Hyperkeratosis	F	0 (0%)	0 (0%)	0 (0%)	6 (32%)	5 (25%)	6 (32%)	2 (11%)	19 (100%)
	M	0 (0%)	2 (10%)	0 (0%)	2 (10%)	8 (40%)	7 (35%)	1 (5%)	20 (100%)
Papilloma	F	1 (3%)	3 (10%)	1 (3%)	5 (17%)	5 (17%)	13 (43%)	2 (7%)	30 (100%)
	M	2 (4%)	3 (7%)	8 (18%)	8 (18%)	10 (22%)	12 (27%)	2 (4%)	45 (100%)
Verruca Vulgaris	F	0 (0%)	0 (0%)	0 (0%)	2 (50%)	0 (0%)	2 (50%)	0 (0%)	4 (100%)
	M	1 (25%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (75%)	0 (0%)	3 (100%)
Condyloma	F	0 (0%)	1(33,33%)	0 (0%)	0 (0%)	1(33,33%)	1(33,33%)	0 (0%)	3 (100%)
	M	0 (0%)	0 (0%)	1 (25%)	2 (50%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Verruciform xanthoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	0 (0%)	1 (50%)	0 (0%)	0 (0%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)

Oral squamous cell carcinoma	F	0 (0%)	2 (1%)	8 (3%)	25 (9%)	74 (28%)	140 (53%)	17 (6%)	266(100%)
	M	1 (0%)	1 (0%)	17 (1%)	190(18%)	426(39%)	397(37%)	49 (5%)	1.081(100)
Verrucous carcinoma	F	0 (0%)	0 (0%)	0 (0%)	1 (25%)	0 (0%)	2 (75%)	0 (0%)	3 (100%)
	M	0 (0%)	0 (0%)	1 (20%)	0 (0%)	0 (0%)	3 (40%)	1 (20%)	5 (100%)
Squamous basaloid carcinoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)
Carcinoma cuniculatum	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Soft tissue tumors									
Inflammatory fibrous hyperplasia	F	2 (1%)	0 (0%)	3 (2%)	24 (12%)	59 (30%)	94 (48%)	12 (7%)	194(100%)
	M	0 (0%)	2 (4%)	4 (9%)	6 (14%)	8 (18%)	24 (53%)	1 (2%)	45 (100%)
Fibrous hyperplasia	F	0 (0%)	1 (1%)	5 (4%)	18 (15%)	40 (32%)	55 (44%)	5 (4%)	124(100%)
	M	3 (8%)	1 (3%)	2 (6%)	5 (14%)	8 (22%)	15 (42%)	2 (5%)	36 (100%)
Lipoma	F	0 (0%)	0 (0%)	2 (8%)	6 (25%)	6 (25%)	7 (29%)	3 (13%)	24 (100%)
	M	0 (0%)	1 (6%)	0 (0%)	5 (31%)	4 (25%)	6 (38%)	0 (0%)	16 (100%)
Hemangioma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (14%)	5 (72%)	1 (14%)	7 (100%)
	M	1 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	0 (0%)	2 (100%)
Neurofibroma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
	M	4 (66%)	0 (0%)	1 (17%)	1 (17%)	0 (0%)	0 (0%)	0 (0%)	6 (100%)
Pyogenic granuloma	F	0 (0%)	1 (17%)	0 (0%)	1 (17%)	1 (17%)	1 (17%)	2 (32%)	6 (100%)
	M	0 (0%)	0 (0%)	1 (50%)	0 (0%)	0 (0%)	1 (50%)	0 (0%)	2 (100%)
Rhabdomyoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	0 (0%)	0 (0%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)	0 (0%)	2 (100%)
Lymphangioma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	1(100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Myofibroma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
Hamartoma	F	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (%)

Leiomyosarcoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Kaposi's sarcoma	F	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Carcinosarcoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
Infectious diseases									
Paracoccidioidomycosis	F	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	1 (3,5%)	3 (11%)	6 (21%)	12 (43%)	5 (18%)	1 (3,5%)	28 (100%)
Candidiasis	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (100%)	0 (0%)	2 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Dermatological diseases									
Lichen planus	F	0 (0%)	1 (8%)	1 (8%)	2 (17%)	2 (17%)	6 (50%)	0 (0%)	12 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	1 (25%)	2 (50%)	1 (25%)	0 (0%)	4 (100%)
Pemphigus	F	2 (25%)	0 (0%)	0 (0%)	3 (38%)	2 (25%)	0 (0%)	1 (12%)	8 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (50%)	1 (50%)	0 (0%)	2 (100%)
Pemphigoid	F	0 (0%)	0 (0%)	0 (0%)	1 (50%)	0 (0%)	1 (50%)	0 (0%)	2 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Physical and chemical injuries									
Amalgam tattoo	F	3 (3%)	5 (6%)	12(14%)	14 (16%)	33 (39%)	15 (17%)	4 (5%)	86 (100%)
	M	0 (0%)	0 (0%)	5 (17%)	6 (22%)	10 (34%)	5 (17%)	3 (10%)	29 (100%)
Ulcers	F	1 (4%)	0 (0%)	2 (9%)	1 (4%)	4 (16%)	15 (59%)	3 (12%)	26 (100%)
	M	0 (0%)	2 (10%)	0 (0%)	2 (10%)	6 (28%)	9 (42%)	2 (10%)	21 (100%)
Exogenous pigmentation	F	0 (0%)	0 (0%)	0 (0%)	2 (50%)	0 (0%)	1 (25%)	1 (25%)	4 (100%)
	M	0 (0%)	0 (0%)	1 (20%)	1 (20%)	3 (60%)	0 (0%)	0 (0%)	5 (100%)
Developmental disorders									
Lymphoepithelial cyst	F	2 (8%)	2 (8%)	5 (20%)	3 (12%)	9 (36%)	2 (8%)	2 (8%)	25 (100%)
	M	0 (0%)	2 (18%)	2 (18%)	2 (18%)	3 (27%)	1 (9,5%)	1 (9,5%)	11 (100%)
Dermoid and teratoid cyst	F	3 (43%)	1 (14%)	1 (14%)	0 (0%)	0 (0%)	0 (0%)	2 (29%)	7 (100%)

	M	9 (61%)	2 (13%)	0 (0%)	2 (13%)	2 (13%)	0 (0%)	0 (0%)	15 (100%)
Epidermoid cyst	F	2 (25%)	3 (38%)	0 (0%)	1 (12%)	2 (25%)	0 (0%)	0 (0%)	8 (100%)
	M	8 (68%)	0 (0%)	1 (8%)	1 (8%)	1 (8%)	1 (8%)	0 (0%)	12 (100%)
Thrombus	F	1 (13%)	0 (0%)	1 (13%)	0 (0%)	5 (61%)	0 (0%)	1 (13%)	8 (100%)
	M	0 (0%)	1 (25%)	0 (0%)	2 (50%)	1 (25%)	0 (0%)	0 (0%)	4 (100%)
Varicose veins	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (40%)	2 (40%)	1 (20%)	5 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	1(33,33)	1(33,33)	1(33,33)	0 (0%)	3 (100%)
Thyroglossal duct dyst	F	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Hematological diseases									
ALK-positive anaplastic large cell lymphoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
	M	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
MALT Lymphoma	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Small cell B-cell lymphomas	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
	M	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
Large B-cell lymphoma	F	0 (0%)	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
Oral manifestations of systemic diseases									
Amiloidosis	F	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)
	M	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (100%)	0 (0%)	1 (100%)

Figure 1. Distribution of sample in the oral pathology diagnosis centres.



3 CONCLUSÃO

Em centros representativos de diagnóstico de patologia orais da América Latina, lesões em assoalho bucal representaram 3.73% de todas as amostras acessadas e carcinoma de células escamosas, rânula e leucoplasia foram os tipos histológicos mais comuns.

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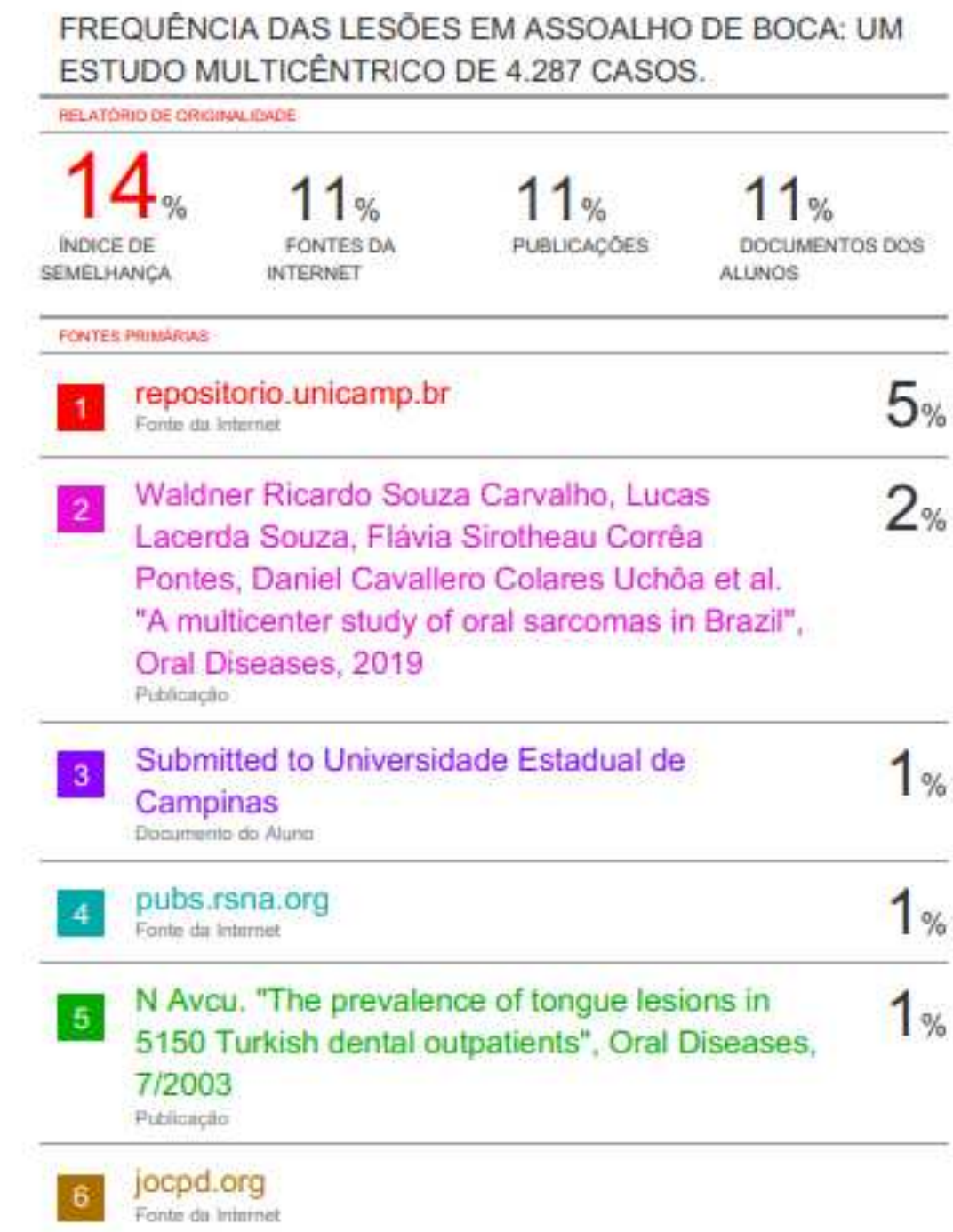
ANEXOS

Anexo 1 - Verificação de originalidade e prevenção de plágio



FREQUÊNCIA DAS LESÕES EM ASSOALHO DE BOCA: UM ESTUDO MULTICÊNTRICO DE 4.287 CASOS.

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2	Waldner Ricardo Souza Carvalho, Lucas Lacerda Souza, Flávia Sirotheau Corrêa Pontes, Daniel Cavallero Colares Uchôa et al. "A multicenter study of oral sarcomas in Brazil", Oral Diseases, 2019 Publicação	2%
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5	N Avcu. "The prevalence of tongue lesions in 5150 Turkish dental outpatients", Oral Diseases, 7/2003 Publicação	1%
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Anexo 2 - Certificado do Comitê De Ética em Pesquisa

UFPA - HOSPITAL UNIVERSITÁRIO JOÃO DE BARROS BARRETO DA

PARECER CONSUBSTANCIADO DO CEP

DADOS DO PROJETO DE PESQUISA

Título da Pesquisa: Epidemiologia das lesões em assoalho de boca: Um estudo retrospectivo.
Pesquisador: Anderson Mauricio Paiva e Costa
Área Temática:
Versão: 2
CAAE: 09429519.0.0000.0017
Instituição Proponente: Hospital Universitário João de Barros Barreto - UFPA
Patrocinador Principal: Financiamento Próprio

DADOS DO PARECER

Número do Parecer: 3.381.233

Apresentação do Projeto:
As Lesões de assoalho bucal podem se apresentar como desafio diagnóstico para cirurgiões dentistas, devido há um vasto espectro de patologias envolvidas nesta região. Lesões em assoalho bucal, podem ser classificadas em tumores benignos e malignos, condições inflamatórias, malformações vasculares, anomalias de desenvolvimento. O objetivo deste estudo é realizar a análise das patologias bucais diagnosticadas em assoalho bucal, através da análise dos prontuários dos pacientes com lesão em assoalho de boca diagnosticado por exame histopatológico, do ano 2000 até 2019, do serviço de patologia bucal do Hospital Universitário João de Barros Barreto (HUJBB). Serão avaliados os seguintes dados clínicos dos pacientes: Sexo, idade, cor da pele, localização da lesão, hipótese clínica diagnóstica, diagnóstico histopatológico final. Os dados serão tabelados e feito análises estatísticas descritivas. Trata-se este de um estudo descritivo retrospectivo com abordagem quantitativa, que de acordo com Polit, Beck e Hungler (2004) é definido como a descrição objetiva sistemática do conteúdo analisado; se realiza com toda a informação numérica obtida através da investigação e que posteriormente será apresentada com o auxílio de quadros, tabelas e medidas que irão traduzir as informações que serão classificadas e analisadas por meio de técnicas estatísticas.

Situação do Parecer:

Endereço: RUA DOS MUNDURUCUS 4487
Bairro: GUAMA **CEP:** 66.073-000
UF: PA **Município:** BELEM
Telefone: (91)3201-6754 **Fax:** (91)3201-6663 **E-mail:** cephujbb@yahoo.com.br

Aprovado

Necessita Apreciação da CONEP:
Não

BELEM, 10 de Junho de 2019

Assinado por:
João Soares Felicio
(Coordenador(a))

Anexo3 - Documento de submissão do artigo

Brazilian Oral Research

WHAT IS THE FREQUENCY OF FLOOR OF THE MOUTH LESIONS? A DESCRITIVE STUDY OF 4,287 CASES.

Journal:	*Brazilian Oral Research*
Manuscript ID	BOR-2020-0007
Manuscript Type:	Original Research Report
Specialties:	Oral Pathology
Category--Select your categories from the <A HREF='http://www.nlm.nih.gov/mesh/MBrowser.html' target='_new'> MeSH or <A HREF='http://decs.bvs.br/' target='_new'> DeCS lists.:	Epidemiology, floor of the mouth, benign, malignant

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