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EPIDEMIOLOGICAL PROFILE OF ORAL AND MAXILLOFACIAL LESIONS AND CLINICOPATHOLOGICAL CONCORDANCE: A 15-YEAR MULTICENTER STUDY IN A BRAZILIAN METROPOLITAN REGION[1]

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ABSTRACT

Oral and maxillofacial lesions comprise a heterogeneous group of disorders affecting the soft and hard tissues of the oral cavity, including inflammatory, reactive, infectious, cystic, potentially malignant, and neoplastic processes. Understanding the epidemiological profile of these lesions is essential for planning preventive strategies, promoting early diagnosis, and improving oral healthcare services. The aim of this study was to analyze the epidemiological profile of oral and maxillofacial lesions diagnosed in different healthcare services between 2010 and 2025 and to evaluate the concordance between clinical and histopathological diagnoses (Akamine; Yamamoto, 2009). This observational, retrospective, cross-sectional, documentary, and multicenter study was conducted through the analysis of clinical records and histopathological reports obtained from specialized dental centers, hospital-based services, and emergency dental care facilities (Baesso et al, 2023). A total of 5,842 patient records were evaluated, of which 5,615 presented conclusive histopathological diagnoses. Females accounted for 59.3% of the sample, with a mean age of 48.6 years and a higher frequency of cases occurring between 41 and 60 years of age (36.8%) (Castro, 2021). The buccal mucosa was the most affected anatomical site (24.7%), followed by the lower lip (15.1%) and tongue (13.9%). The most frequent lesions were inflammatory fibrous hyperplasia (17.4%), traumatic fibroma (12.4%), mucocele (7.8%), pyogenic granuloma (6.5%), and leukoplakia (6.1%). Squamous cell carcinoma accounted for 3.9% of all histopathological diagnoses. Excisional biopsies represented 61.0% of all procedures, while incisional biopsies accounted for 39.0%. (Estrela, 2018) Concordance between clinical and histopathological diagnoses was observed in 74.3% of the cases. Reactive hyperplastic lesions constituted the most prevalent diagnostic group, with inflammatory fibrous hyperplasia being the most common lesion. The high clinicopathological concordance observed reinforces the importance of combining specialized clinical examination with histopathological analysis to establish definitive diagnoses of oral lesions, contributing to improved oral healthcare and supporting the development of public health policies (Chi; Day; Neville, 2015).

Keywords: Oral lesions. Oral pathology. Epidemiology. Histopathological diagnosis. Biopsy. Oral medicine.

RESUMO

As lesões bucais e maxilofaciais constituem um grupo heterogêneo de alterações que acometem os tecidos moles e duros da cavidade oral, abrangendo processos inflamatórios, reativos, infecciosos, císticos, potencialmente malignos e neoplásicos. (Fonseca et al, 2016) O conhecimento do perfil epidemiológico dessas lesões é fundamental para o planejamento de ações preventivas, diagnóstico precoce e organização dos serviços de saúde bucal. O presente estudo teve como objetivo analisar o perfil epidemiológico das lesões bucais e maxilofaciais diagnosticadas em diferentes serviços de saúde entre os anos de 2010 e 2025, bem como avaliar a concordância entre os diagnósticos clínicos e histopatológicos. Trata-se de um estudo observacional, retrospectivo, transversal, documental e multicêntrico, realizado por meio da análise de prontuários clínicos e laudos anatomopatológicos provenientes de centros especializados em odontologia, serviços hospitalares e unidades de urgência odontológica (Garcia; Oliveira; Loyola, 2017). Foram avaliados 5.842 prontuários, dos quais 5.615 apresentaram diagnóstico histopatológico conclusivo. Observou-se predominância do sexo feminino (59,3%), com idade média de 48,6 anos e maior frequência de casos entre 41 e 60 anos (36,8%). A mucosa jugal foi a localização anatômica mais acometida (24,7%), seguida pelo lábio inferior (15,1%) e língua (13,9%). As lesões mais frequentes foram hiperplasia fibrosa inflamatória (17,4%), fibroma traumático (12,4%), mucocele (7,8%), granuloma piogênico (6,5%) e leucoplasia (6,1%) (Gnepp, 2021). O carcinoma espinocelular representou 3,9% dos diagnósticos histopatológicos. Em relação aos procedimentos realizados, 61,0% corresponderam a biópsias excisionais e 39,0% a biópsias incisionais (Longo, 2016). A concordância entre os diagnósticos clínicos e histopatológicos foi observada em 74,3% dos casos. Conclui-se que as lesões hiperplásicas reativas constituíram o principal grupo diagnóstico encontrado, com predomínio da hiperplasia fibrosa inflamatória. A elevada concordância clínico-histopatológica observada reforça a importância da associação entre avaliação clínica especializada e exame anatomopatológico para o estabelecimento do diagnóstico definitivo das lesões bucais, contribuindo para o aprimoramento da assistência odontológica e para o planejamento de políticas públicas em saúde bucal (Martins et al, 2017).

Palavras-chave: Lesões bucais. Patologia oral. Epidemiologia. Diagnóstico histopatológico. Biópsia. Estomatologia.

RESUMEN

Las lesiones orales y maxilofaciales constituyen un grupo heterogéneo de alteraciones que afectan los tejidos blandos y duros de la cavidad oral, incluyendo procesos inflamatorios, reactivos, infecciosos, quísticos, potencialmente malignos y neoplásicos. El conocimiento del perfil epidemiológico de estas lesiones es fundamental para la planificación de estrategias preventivas, el diagnóstico precoz y la organización de los servicios de salud bucal. El presente estudio tuvo como objetivo analizar el perfil epidemiológico de las lesiones orales y maxilofaciales diagnosticadas en diferentes servicios de salud entre los años 2010 y 2025, así como evaluar la concordancia entre los diagnósticos clínicos e histopatológicos. Se realizó un estudio observacional, retrospectivo, transversal, documental y multicéntrico mediante el análisis de historias clínicas e informes anatomopatológicos procedentes de centros especializados en odontología, servicios hospitalarios y unidades de urgencia odontológica. Se evaluaron 5.842 historias clínicas, de las cuales 5.615 presentaron diagnóstico histopatológico concluyente. Se observó predominio del sexo femenino (59,3%), con una edad media de 48,6 años y mayor frecuencia de casos entre los 41 y 60 años (36,8%). La mucosa bucal fue la localización anatómica más afectada (24,7%), seguida por el labio inferior (15,1%) y la lengua (13,9%). Las lesiones más frecuentes fueron la hiperplasia fibrosa inflamatoria (17,4%), el fibroma traumático (12,4%), el mucocele (7,8%), el granuloma piógeno (6,5%) y la leucoplasia (6,1%). El carcinoma de células escamosas representó el 3,9% de los diagnósticos histopatológicos. En cuanto a los procedimientos realizados, el 61,0% correspondió a biopsias excisionales y el 39,0% a biopsias incisionales. La concordancia entre los diagnósticos clínicos e histopatológicos se observó en el 74,3% de los casos. Se concluye que las lesiones hiperplásicas reactivas constituyeron el principal grupo diagnóstico encontrado, con predominio de la hiperplasia fibrosa inflamatoria. La elevada concordancia clínico-histopatológica observada refuerza la importancia de la asociación entre la evaluación clínica especializada y el examen anatomopatológico para el establecimiento del diagnóstico definitivo de las lesiones orales, contribuyendo al mejoramiento de la atención odontológica y a la planificación de políticas públicas en salud bucal.

Palabras clave: Lesiones orales. Patología oral. Epidemiología. Diagnóstico histopatológico. Biopsia. Estomatología.

INTRODUCTION

Oral diseases represent a significant public health concern worldwide, affecting billions of individuals and substantially impacting quality of life (Neville et al, 2023). According to the World Health Organization (Who), oral diseases are among the most prevalent chronic conditions globally, influencing functional, esthetic, psychological, and social aspects of affected individuals (Who, 2022).

Oral and maxillofacial lesions comprise a broad and heterogeneous group of disorders affecting epithelial, connective, glandular, odontogenic, and osseous tissues of the craniofacial region. These conditions include inflammatory, infectious, hyperplastic, cystic, potentially malignant, and neoplastic processes, exhibiting different biological behaviors and varying degrees of diagnostic complexity (Neville et al, 2023; Regezi et al, 2023).

Early diagnosis of these lesions plays a fundamental role in reducing morbidity and mortality associated with oral diseases. In particular, potentially malignant disorders and malignant neoplasms require prompt recognition to allow timely treatment and improve patient prognosis (Warnakulasuriya, 2020).

Several epidemiological studies conducted in Brazil have demonstrated that reactive hyperplastic lesions are among the most frequent diagnoses in oral pathology services, particularly inflammatory fibrous hyperplasia, traumatic fibroma, and pyogenic granuloma (Souto et al, 2014; Silva et al, 2018; Baesso et al, 2023).

Inflammatory fibrous hyperplasia is generally associated with chronic mechanical trauma resulting from ill-fitting dentures, inadequate restorations, or parafunctional habits. (Ochsenius et al, 2003) Traumatic fibroma presents a similar etiology and is frequently observed on the buccal mucosa, tongue, and lips (Longo, 2016; Baesso et al, 2023).

Among oral potentially malignant disorders, leukoplakia, erythroplakia, and oral lichen planus deserve special attention. These lesions present variable risks of malignant transformation and require careful clinical monitoring (Warnakulasuriya et al, 2021).

Squamous cell carcinoma remains the most common malignant neoplasm of the oral cavity, accounting for approximately 90% of all oral malignancies. Its occurrence is strongly associated with tobacco consumption, alcohol use, and chronic sun exposure, especially in lesions affecting the lower lip (Chi, Day & Neville, 2015; Rivera, 2015).

Although clinical examination is essential for establishing diagnostic hypotheses, many oral lesions exhibit similar clinical characteristics, making definitive diagnosis challenging (Ogura et al, 2001). Therefore, histopathological analysis continues to be considered the gold standard for diagnostic confirmation of oral diseases (Ochsenius et al., 2003; Castro, 2021).

The assessment of concordance between clinical and histopathological diagnoses has been widely used as an indicator of the quality of oral medicine and oral pathology services. National and international studies have reported concordance rates ranging from 60% to 85%, depending on the population studied and the lesion types evaluated (Sousa et al, 2018; Castro, 2021).

Despite the existence of several Brazilian epidemiological surveys, multicenter studies simultaneously involving Dental Specialty Centers, general hospitals, and emergency services within the same metropolitan region remain limited (Pinto et al, 2015; Silva et al, 2018).

Given this scenario, the present study aimed to analyze the epidemiological profile of oral and maxillofacial lesions diagnosed in multiple healthcare services within a Brazilian metropolitan region between 2010 and 2025, as well as to evaluate the concordance between clinical and histopathological diagnoses (Pereira et al, 2018).

METHODOLOGY

Study Design

This was an observational, retrospective, cross-sectional, documentary, and multicenter study with a quantitative approach, conducted through the analysis of clinical records and histopathological reports (Estrela, 2018; Toassi & Petry, 2021).

Study Setting

The study was conducted in specialized dental centers, hospital-based healthcare services, municipal emergency dental facilities, and referral healthcare institutions located within a Brazilian metropolitan region (Pinto et al, 2015).

Study Period

Clinical records and histopathological reports from January 2010 to December 2025 were included in the analysis.

Inclusion Criteria

Patients meeting the following criteria were included:

- Recorded clinical diagnosis;
- Conclusive histopathological examination;
- Complete clinical records.

Exclusion Criteria

The following cases were excluded:

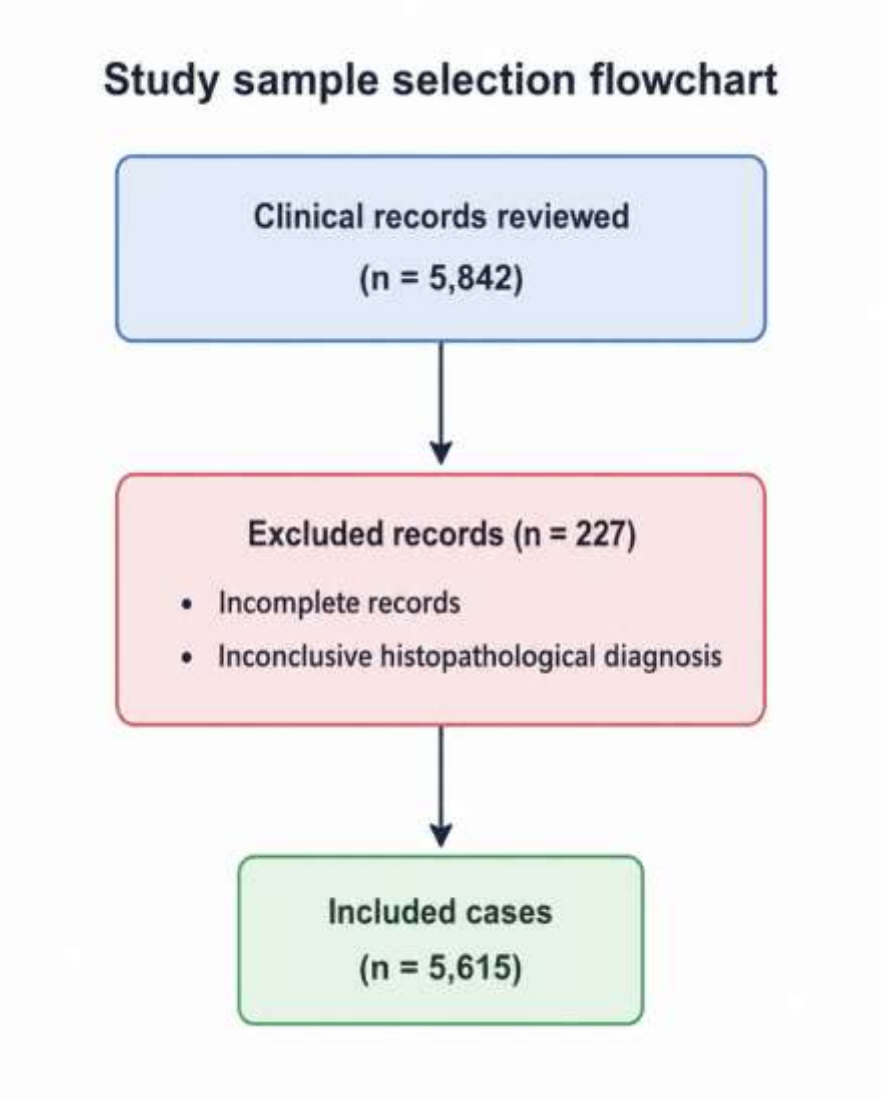
- Incomplete clinical records;
- Inconclusive histopathological reports;
- Duplicate records.

A total of 5,842 records were initially evaluated. Of these, 227 cases were excluded due to missing essential information, resulting in a final sample of 5,615 cases (Pontes et al, 2018).

RESULTS

A total of 5,842 clinical records obtained from the participating centers were initially evaluated. After applying the eligibility criteria, 227 records were excluded due to incomplete information or the absence of a conclusive histopathological diagnosis. The final sample consisted of 5,615 cases with definitive histopathological diagnoses (Regezi; Sciubba; Jordan, 2023).

A flowchart illustrating the case selection process is presented below.



Demographic Characteristics of the Study Population

A predominance of female patients was observed, accounting for 59.3% of the sample. Patients' ages ranged from 2 to 94 years, with a mean age of 48.6 years and a median age of 50 years. The highest frequency of lesions was observed among individuals aged 41–60 years.

Table 1: Demographic characteristics of the study population (n = 5,615).

Variable	n	%
Sex		
Female	3,331	59.3
Male	2,284	40.7
Age group (years)		
0–20	482	8.6
21–40	1,576	28.1
41–60	2,067	36.8
61–80	1,208	21.5
>80	282	5.0
Total	**5,615**	**100.0**

The female-to-male ratio was approximately 1.46:1.
Source: Authors' own archive.

Distribution of Cases According to Participating Centers

The analyzed cases originated from specialized dental centers, hospital-based services, and emergency dental care facilities.

Table 2

Service	n	%
Dental Specialty Center I	1,684	30.0
Dental Specialty Center II	1,103	19.6
Dental Specialty Center III	928	16.5
General Hospital I	742	13.2
Teaching Hospital	622	11.1
Emergency Dental Service	536	9.6
Total	**5,615**	**100.0**

Source: Authors' own archive.

Distribution of cases according to participating healthcare services

The largest number of cases was contributed by Dental Specialty Center I, accounting for approximately one-third of all diagnoses included in the study.

Anatomical Distribution of Lesions

The buccal mucosa was the most frequently affected anatomical site, followed by the lower lip and tongue (Rivera, 2015).

Table 3: Anatomical distribution of oral and maxillofacial lesions.

Anatomical Site	%
Buccal mucosa	24.7
Lower lip	15.1
Tongue	13.9
Gingiva	12.6
Alveolar ridge	8.9
Palate	8.1
Floor of the mouth	5.4
Other locations	11.3
Total	**100.0**

Source: Authors' own archive.

Most Frequent Histopathological Diagnoses

Reactive hyperplastic lesions constituted the most prevalent diagnostic group. Inflammatory fibrous hyperplasia was the most common lesion identified, followed by traumatic fibroma and mucocele (Santos; Biazevic, 2016).

Table 4: Most frequent histopathological diagnoses.

Histopathological Diagnosis	n	%
Inflammatory fibrous hyperplasia	978	17.4
Traumatic fibroma	694	12.4
Mucocele	438	7.8
Pyogenic granuloma	367	6.5
Leukoplakia	341	6.1
Radicular cyst	328	5.8
Oral lichen planus	244	4.3
Squamous cell carcinoma	221	3.9
Squamous papilloma	198	3.5
Peripheral ossifying fibroma	173	3.1
Other diagnoses	1,633	29.1
Total	**5,615**	**100.0**

Source: Authors' own archive.

Diagnostic Procedures and Clinicopathological Concordance

Of the 5,615 cases evaluated, 3,427 (61.0%) underwent excisional biopsy and 2,188 (39.0%) underwent incisional biopsy.

Clinicopathological concordance between the initial clinical diagnosis and the final histopathological diagnosis was observed in 74.3% of cases.

Table 5: Diagnostic procedures and clinicopathological concordance.

Variable	n	%
Type of biopsy		
Excisional biopsy	3,427	61.0
Incisional biopsy	2,188	39.0
Clinicopathological concordance		
Concordant diagnosis	4,172	74.3
Discordant diagnosis	1,443	25.7

Source: Authors' own archive.

Association Between the Most Frequent Diagnoses, Sex, and Age Group

To provide a more detailed epidemiological characterization, the ten most prevalent histopathological diagnoses were analyzed according to sex and age group. Reactive lesions predominated among female patients and middle-aged adults, whereas malignant and potentially malignant lesions were more frequently diagnosed in older individuals (Shitsuka et al, 2014).

Table 6: Distribution of the ten most frequent diagnoses according to sex.

Diagnosis	Female n (%)	Male n (%)	Total
Inflammatory fibrous hyperplasia	632 (64.6)	346 (35.4)	978
Traumatic fibroma	432 (62.2)	262 (37.8)	694
Mucocele	231 (52.7)	207 (47.3)	438
Pyogenic granuloma	248 (67.6)	119 (32.4)	367
Leukoplakia	131 (38.4)	210 (61.6)	341
Radicular cyst	154 (47.0)	174 (53.0)	328
Oral lichen planus	179 (73.4)	65 (26.6)	244
Squamous cell carcinoma	72 (32.6)	149 (67.4)	221
Squamous papilloma	111 (56.1)	87 (43.9)	198
Peripheral ossifying fibroma	118 (68.2)	55 (31.8)	173

Source: Authors' own archive.

Female predominance was particularly evident in inflammatory fibrous hyperplasia, pyogenic granuloma, oral lichen planus, and peripheral ossifying fibroma. In contrast, leukoplakia and squamous cell carcinoma were more frequent among male patients.

Table 7: Distribution of the most frequent diagnoses according to age group.

Diagnosis	0–20 yrs	21–40 yrs	41–60 yrs	61–80 yrs	>80 yrs
Inflammatory fibrous hyperplasia	42	226	421	246	43
Traumatic fibroma	58	243	258	114	21
Mucocele	132	211	76	16	3
Pyogenic granuloma	61	144	119	37	6
Leukoplakia	4	46	132	131	28
Radicular cyst	48	138	96	39	7
Oral lichen planus	2	38	103	84	17
Squamous cell carcinoma	0	7	61	112	41
Squamous papilloma	29	71	63	29	6
Peripheral ossifying fibroma	31	68	52	19	3

Source: Authors' own archive.

The highest concentration of inflammatory fibrous hyperplasia and traumatic fibroma occurred between 41 and 60 years of age (Sousa et al, 2018). Mucoceles were predominantly diagnosed in younger individuals, particularly those under 40 years of age. Squamous cell carcinoma showed a marked increase among patients over 60 years old, while leukoplakia and oral lichen planus were more frequently identified in middle-aged and older adults (Silva et al, 2018).

Distribution of Major Diagnostic Groups

For a broader epidemiological interpretation, lesions were categorized into major pathological groups.

Table 8: Distribution according to diagnostic category.

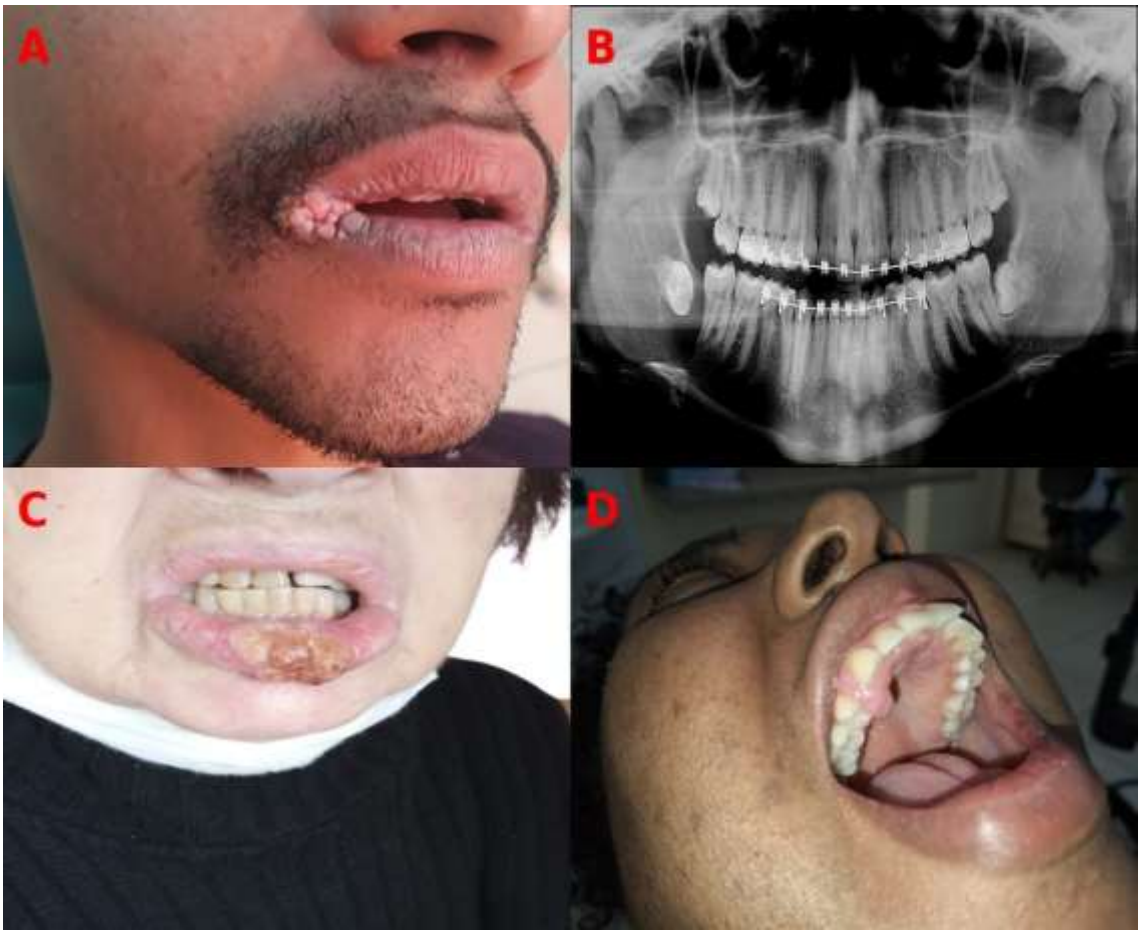
Diagnostic Category	n	%
Reactive hyperplastic lesions	2,212	39.4
Cystic lesions	614	10.9
Salivary gland lesions	496	8.8
Potentially malignant disorders	661	11.8
Benign neoplasms	542	9.7
Malignant neoplasms	281	5.0
Inflammatory/Infectious lesions	438	7.8
Other diagnoses	371	6.6
Total	**5,615**	**100.0**

Source: Authors' own archive.

Reactive hyperplastic lesions represented nearly 40% of all diagnoses, confirming their predominance within oral pathology services (Tanajura; Nascimento, 2024). Potentially malignant disorders accounted for 11.8% of cases, whereas malignant neoplasms represented 5.0% of all diagnoses evaluated (Souto et al, 2014).

Figures

Representative examples of oral and maxillofacial lesions diagnosed in the participating healthcare centers.



(A) Oral squamous papilloma associated with Human Papillomavirus (HPV) infection, presenting as an exophytic papillary lesion with a verrucous surface at the oral commissure.
(B) Ameloblastoma associated with an impacted mandibular third molar, showing a large radiolucent lesion in the posterior mandible on panoramic radiography.
(C) Squamous cell carcinoma of the lower lip, characterized by an ulcerated and exophytic lesion with crust formation and tissue infiltration.
(D) Peripheral ossifying fibroma located on the anterior maxillary alveolar ridge, presenting as a sessile nodular growth covered by intact mucosa.
Source: Authors' clinical archive.

OBJECTIVE

To analyze the epidemiological profile of oral and maxillofacial lesions diagnosed in different healthcare services and to evaluate the concordance between clinical and histopathological diagnoses (Toassi; Petry, 2021).

METHODOLOGY

This observational, retrospective, cross-sectional, documentary, and multicenter study analyzed clinical records and histopathological reports from specialized dental centers, hospital-based services, and emergency dental care facilities. Records collected between January 2010 and December 2025 were included. Patients with complete clinical records and conclusive histopathological diagnoses were eligible for inclusion. Demographic, clinical, anatomical, and

histopathological variables were analyzed using descriptive statistical methods (Vieira, 2021).

RESULTS

A total of 5,842 records were initially reviewed, and 5,615 cases met the inclusion criteria. Females represented 59.3% of the sample. The mean patient age was 48.6 years. Inflammatory fibrous hyperplasia was the most frequent diagnosis (17.4%), followed by traumatic fibroma (12.4%) and mucocele (7.8%). Clinical and histopathological diagnoses were concordant in 74.3% of the cases. (Warnakulasuriya, 2020).

DISCUSSION

The present study represents one of the largest multicenter surveys of oral and maxillofacial lesions conducted in a Brazilian metropolitan region, encompassing a fifteen-year period and involving different levels of healthcare services (Who, 2022). The analysis of 5,615 histopathological diagnoses allowed the characterization of the regional epidemiological profile of oral lesions and the assessment of concordance between clinical and histopathological diagnoses (Warnakulasuriya et al, 2021).

A predominance of female patients was observed, accounting for 59.3% of the sample. Similar findings were reported by Silva et al. (2018), who observed a slight female predominance in their study population. Souto et al. (2014) also identified a higher frequency of women among patients undergoing histopathological evaluation. This finding may be related to the greater utilization of healthcare services and preventive programs by women.

Regarding age distribution, the highest concentration of cases occurred among individuals aged 41 to 60 years, corresponding to 36.8% of the patients. Studies conducted by Pinto et al. (2015), Martins et al. (2017), and Fonseca et al. (2016) reported similar findings, indicating a higher incidence of oral lesions among middle-aged adults (Woolgar; Triantafyllou, 2009).

The buccal mucosa was the most frequently affected anatomical site. This finding may be explained by the high prevalence of traumatic and hyperplastic lesions associated with mastication, ill-fitting prostheses, and parafunctional habits. Similar results have been reported by Longo (2016) and Baesso et al. (2023).

Inflammatory fibrous hyperplasia was the most prevalent diagnosis in the present sample (17.4%). Both Brazilian and international studies have consistently demonstrated that reactive hyperplastic lesions constitute the most common

diagnostic group in oral pathology services (Baesso et al, 2023; Silva et al, 2018; Pinto et al, 2015).

Traumatic fibroma was the second most frequent diagnosis. Its occurrence is directly associated with chronic local trauma and the proliferative response of connective tissue to persistent irritative stimuli (Longo, 2016).

Mucocele ranked as the third most frequent lesion identified in the study population. This finding corroborates several Brazilian epidemiological studies that have reported a high prevalence of this condition, particularly among children, adolescents, and young adults (Fonseca et al, 2016).

Squamous cell carcinoma accounted for 3.9% of all histopathological diagnoses. Although this percentage is relatively low, squamous cell carcinoma remains the most common malignant neoplasm of the oral cavity and continues to be an important cause of morbidity and mortality worldwide (Chi, Day & Neville, 2015; Rivera, 2015).

The clinicopathological concordance rate observed in the present study was 74.3%. This result falls within the range reported by Sousa et al. (2018), Castro (2021), and Ochsenius et al. (2003), who described concordance rates varying between 60% and 85%.

The high level of concordance observed suggests an adequate diagnostic performance among the professionals involved in the participating services and highlights the importance of oral medicine as a fundamental tool for the early recognition and diagnosis of oral diseases.

Among the limitations of this study are its retrospective design and its dependence on the quality and completeness of clinical records. Nevertheless, the large sample size and multicenter design provide considerable representativeness and strengthen the validity of the findings.

Overall, the results obtained contribute significantly to the epidemiological understanding of oral and maxillofacial lesions and may serve as a valuable reference for future studies, preventive strategies, and healthcare planning aimed at improving oral health services.

CONCLUSION

The findings of the present study allowed the characterization of the epidemiological profile of oral and maxillofacial lesions diagnosed in different healthcare services within a Brazilian metropolitan region between 2010 and 2025.

A predominance of female patients was observed, with a higher frequency of lesions occurring among individuals aged between 41 and 60 years. The buccal mucosa was the most frequently affected anatomical site, while inflammatory fibrous hyperplasia, traumatic fibroma, and mucocele were the most prevalent histopathological diagnoses.

Reactive hyperplastic lesions represented the most common diagnostic group identified, reinforcing the influence of chronic traumatic factors in the etiopathogenesis of oral lesions commonly observed in clinical practice.

The clinicopathological concordance rate of 74.3% demonstrated an adequate diagnostic performance among the professionals involved in the participating services, highlighting the importance of combining careful clinical evaluation with histopathological examination to establish definitive diagnoses.

This multicenter survey contributes to the epidemiological understanding of oral lesions in a Brazilian metropolitan region, providing relevant information for the development of public health policies, preventive programs, continuing education initiatives, and the improvement of oral medicine and oral pathology services.

Future prospective multicenter studies with stratified analyses according to diagnostic categories may further expand knowledge regarding factors associated with the occurrence of oral lesions and assist in the development of strategies aimed at early diagnosis and improving oral healthcare delivery.

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AUTHOR CONTRIBUTIONS

Bruno Lucena Antunes Abrante: study conception and design, data collection, data analysis, manuscript drafting, and final revision.

Cláudia Santos Pontes de Sielfeld: scientific supervision, critical analysis of the results, manuscript revision, and approval of the final version.

Sara Palma Ribeiro: critical analysis of the results, data interpretation, and manuscript revision.

Vanessa Cristina Rafalovich: data organization, methodological review, and manuscript revision.

Luciano Cano Augusto Martins: data collection, data organization, and manuscript revision.

João Gualberto de Cerqueira Luz: literature review, data collection, and manuscript revision.

Cláudio Fróes de Freitas: overall project supervision, critical review, approval of the final version, and final manuscript revision.

CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest related to this study.

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REFERENCES

AKAMINE, C. T.; YAMAMOTO, R. K. **Estudo dirigido:** estatística descritiva. 3. ed. São Paulo: Érica, 2009. Disponível em: https://books.google.com/. Acesso em: 1 jul. 2026.

BAESSO, R. C. P. et al. Gingival and alveolar mucosal reactive hyperplastic lesions: a retrospective clinical and histological study of 996 cases. **Medicina Oral, Patología Oral y Cirugía Bucal**, v. 28, n. 4, p. e347-e354, 2023. DOI: https://doi.org/10.4317/medoral.25766. Disponível em: https://www.medicinaoral.com/medoralfree01/aop/25766.pdf. Acesso em: 1 jul. 2026.

CASTRO, R. M. **Análise da concordância entre diagnósticos clínicos e histopatológicos de lesões orais**. 2021. Dissertação (Mestrado) – Universidade Federal de Campina Grande, Campina Grande, 2021. Disponível no repositório institucional da UFCG. Acesso em: 1 jul. 2026.

CHI, A. C.; DAY, T. A.; NEVILLE, B. W. Oral cavity and oropharyngeal squamous cell carcinoma: an update. **CA: A Cancer Journal for Clinicians**, v. 65, n. 5, p. 401-421, 2015. DOI: https://doi.org/10.3322/caac.21293.

ESTRELA, C. **Metodologia científica: ciência, ensino e pesquisa**. São Paulo: Artes Médicas, 2018.

FONSECA, F. P. et al. Epidemiological survey of oral lesions diagnosed in a Brazilian population. **Brazilian Dental Journal**, v. 27, n. 4, p. 428-435, 2016. DOI: 10.1590/0103-6440201600678. Disponível em: https://doi.org/10.1590/0103-6440201600678. Acesso em: 1 jul. 2026.

GARCIA, N. G.; OLIVEIRA, D. T.; LOYOLA, A. M. Prevalence of oral lesions in a Brazilian population. **Journal of Oral Science**, v. 59, n. 1, p. 23-30, 2017. DOI: 10.2334/josnusd.16-0240. Disponível em: https://doi.org/10.2334/josnusd.16-0240. Acesso em: 1 jul. 2026.

GNEPP, D. R. **Diagnostic surgical pathology of the head and neck**. 3. ed. Philadelphia: Elsevier, 2021. Disponível em: https://www.us.elsevierhealth.com/. Acesso em: 1 jul. 2026.

LONGO, L. **Lesões proliferativas não neoplásicas da cavidade oral: estudo epidemiológico**. 2016. Dissertação (Mestrado) – Universidade Federal de Santa Catarina, Florianópolis, 2016. Disponível em: https://repositorio.ufsc.br/. Acesso em: 1 jul. 2026.

MARTINS, M. D. et al. Oral pathology profile in Brazilian patients. **Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology**, v. 124, n. 3, p. e140-e145, 2017. DOI: 10.1016/j.oooo.2017.06.485. Disponível em: https://doi.org/10.1016/j.oooo.2017.06.485. Acesso em: 1 jul. 2026.

NEVILLE, B. W.; DAMM, D. D.; ALLEN, C. M.; CHI, A. C. **Patologia oral e maxilofacial**. 5. ed. Rio de Janeiro: Elsevier, 2023. Disponível em: https://www.elsevier.com/pt-br. Acesso em: 1 jul. 2026.

OCHSENIUS, G. et al. A retrospective study of oral lesions and clinicopathological correlation. **Revista Médica de Chile**, v. 131, n. 1, p. 60-66, 2003. Disponível em: https://www.scielo.cl/. Acesso em: 1 jul. 2026.

OGURA, I. et al. Clinicopathological study of carcinomas of the lip and oral mucosa. **International Journal of Clinical Oncology**, v. 6, n. 3, p. 123-127, 2001. Disponível em: https://link.springer.com/journal/10147. Acesso em: 1 jul. 2026.

PEREIRA, A. S. et al. **Metodologia da pesquisa científica**. Santa Maria: UFSM, 2018. Disponível em: https://repositorio.ufsm.br/. Acesso em: 1 jul. 2026.

PINTO, A. S. B. et al. Epidemiological survey of oral and maxillofacial biopsies. **Brazilian Dental Science**, v. 18, n. 4, p. 56-64, 2015. DOI: 10.14295/bds.2015.v18i4.1116. Disponível em: https://doi.org/10.14295/bds.2015.v18i4.1116. Acesso em: 1 jul. 2026.

PONTES, F. S. C. et al. Profile of oral lesions in Brazilian referral centers. **Journal of Clinical and Experimental Dentistry**, v. 10, n. 8, p. e765-e772, 2018. Disponível em: https://www.medicinaoral.com/jced/. Acesso em: 1 jul. 2026.

REGEZI, J. A.; SCIUBBA, J. J.; JORDAN, R. C. K. **Oral pathology:** clinical pathologic correlations. 8. ed. St. Louis: Elsevier, 2023. Disponível em: https://www.us.elsevierhealth.com/. Acesso em: 1 jul. 2026.

RIVERA, C. Essentials of oral cancer. **International Journal of Clinical and Experimental Pathology**, v. 8, n. 9, p. 11884-11894, 2015. Disponível em: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4635766/. Acesso em: 1 jul. 2026.

SANTOS, P. S. S.; BIAZEVIC, M. G. H. Epidemiology of oral lesions in Brazilian adults. **Revista Odonto Ciência**, v. 31, n. 1, p. 25-31, 2016. Disponível em: https://revistaseletronicas.pucrs.br/ojs/index.php/fo. Acesso em: 1 jul. 2026.

SHITSUKA, D. M. et al. **Matemática fundamental para tecnologia**. 2. ed. São Paulo: Érica, 2014. Disponível em: https://www.grupogen.com.br/. Acesso em: 1 jul. 2026.

SILVA, L. V. O. et al. A multicenter study of biopsied oral and maxillofacial lesions in a Brazilian pediatric population. **Brazilian Oral Research**, v. 32, e20, 2018. Disponível em: https://www.scielo.br/j/bor/. Acesso em: 1 jul. 2026.

SOUSA, A. S. et al. Epidemiology of oral diseases and concordance between provisional clinical and histopathological diagnoses. **Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology**, v. 126, n. 3, p. e155, 2018. Disponível em: https://www.oooojournal.net/. Acesso em: 1 jul. 2026.

SOUTO, M. L. S. et al. Lesões maxilofaciais: levantamento de 762 casos da Universidade Federal de Sergipe. **Revista de Odontologia da UNESP**, v. 43, n. 3, p. 185-192, 2014. Disponível em: https://www.scielo.br/j/rounesp/. Acesso em: 1 jul. 2026.

TANAJURA, T. E. M.; NASCIMENTO, J. S. Tratamento radioquimioterápico em caso extenso de carcinoma espinocelular de lábio inferior. **Research, Society and Development**, v. 13, n. 7, 2024. Disponível em: https://rsdjournal.org/. Acesso em: 1 jul. 2026.

TOASSI, R. F. C.; PETRY, P. C. **Metodologia científica aplicada à área da saúde**. Porto Alegre: UFRGS, 2021. Disponível em: https://lume.ufrgs.br/. Acesso em: 1 jul. 2026.

VIEIRA, S. **Introdução à bioestatística**. Rio de Janeiro: Guanabara Koogan, 2021. Disponível em: https://www.grupogen.com.br/. Acesso em: 1 jul. 2026.

WARNAKULASURIYA, S. Oral potentially malignant disorders: a comprehensive review. **Oral Oncology**, v. 102, p. 104550, 2020. Disponível em: https://www.sciencedirect.com/journal/oral-oncology. Acesso em: 1 jul. 2026.

WARNAKULASURIYA, S. et al. Oral potentially malignant disorders: nomenclature and classification. **Oral Diseases**, v. 27, n. 8, p. 1862-1880, 2021. Disponível em: https://onlinelibrary.wiley.com/journal/16010825. Acesso em: 1 jul. 2026.

WORLD HEALTH ORGANIZATION (WHO). **Global Oral Health Status Report:** towards universal health coverage for oral health by 2030. Geneva: WHO, 2022. Disponível em: https://www.who.int/publications/i/item/9789240061484. Acesso em: 1 jul. 2026.

WOOLGAR, J. A.; TRIANTAFYLLOU, A. Pitfalls and procedures in oral pathology diagnosis. **Oral Oncology**, v. 45, n. 4-5, p. 374-378, 2009. Disponível em: https://www.sciencedirect.com/journal/oral-oncology. Acesso em: 1 jul. 2026.