



RESEARCH ARTICLE

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ANALYSIS OF ORAL INJURY BIPSIES CARRIED OUT IN A CLINICAL SCHOOL OF DENTISTRY IN NORTHEAST BRAZIL

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ABSTRACT

This study aimed to analyze biopsied lesions at the Faculdade de Imperatriz, Maranhão, Brazil. A sample of 150 cases of patients who underwent a biopsy procedure during the period from 2013 to 2016 were included in the research. As data samples were performed through the reports of the archives in the dental clinic of the Faculdade de Imperatriz. The research involved a database of histopathological diagnoses, was considered grouped and characterized by the year, the age and history of the patients, the anatomical location of the lesion, the diagnosis of the disease and the histopathological diagnosis. Then, as the surveys were statistically analyzed in Microsoft Excel® 2016. Most patients who underwent the biopsy procedure were male (54.7%). One mucocèle was a more diagnosed lesion (11.3%), followed by root cyst (9.3%) and squamous cell carcinoma (8.6%). The mandible was the most affected local anatomical (17.3%). There was clinical and histopathological agreement in 55.3% of the cases. We observed a variety of lesions diagnosed through biopsies with more frequent non-neoplastic lesions and a predominance of agreement between clinical and histopathological diagnoses.

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INTRODUCTION

Given the variety of lesions that may exist in the oral mucosa that must be identified by the dental professional, stomatology is the specialty of dentistry that plays a crucial role in the study of oral anatomy and all its alterations, in order to contribute to the professional dental surgeon will then perform a correct diagnosis and apply the proper treatment (Santos et al., 2013).

The buccomaxillofacial complex is subjected to different types of soft and hard tissue lesions. Thus, the diagnosis of oral lesions is essential for dental practice since there is a high regularity of their involvement in the population and the common frequency of affected patients in dentist offices with dubious lesions. Such lesions may even be neglected when there is inadequacy in standardized oral mucosa examination and differential diagnosis, thus leading to an indication of inadequate treatment resulting in ineffectiveness (Silva et al.,

2011). Thus, biopsy is an essential procedure for the elucidation of diagnoses of oral pathologies since clinical and radiographic examinations, although of great importance, are not sufficient and contribute only to provisional and not definitive diagnosis, since in most cases Maxillofacial lesions do not present clinical manifestations that allow the establishment of a prompt diagnosis on visual examination (HuandaCórdova, 2012). In this sense, after a histopathological examination, the biopsy allows an early recognition of changes that affect the oral cavity, being benign or malignant, by distinguishing lesions in the stomatognathic complex. Thus, there is a favoring of a higher probability of success after injury treatment and patient survival (Silva *et al.*, 2013). In order to carry out an oral health assessment of certain populations, epidemiological research is extremely important in the process of developing health promotion and prevention means, thus contributing to the reduction of the incidence and evolution of certain diseases⁵. This statement is also ratified by the World Health Organization (1991), which states that epidemiological surveys are, in fact, the primordial resources that imply the investigation of the current situation, in addition to assessing the needs for implementation and maintenance of oral health services (Mumcuet *et al.*, 2005).

In this context, at the national level, there is a lack of records regarding the epidemiology of oral lesions in several variables, especially age, gender, race, habits, time and stage of the development of the lesions (Santos *et al.*, 2004). Notwithstanding this, this fact worsens even more when returned to the state of Maranhão. However, although scarce, there are some studies on the incidence of oral lesions in the literature, but few have documented the frequency of histologically confirmed lesions in adults, with a certain limitation to certain groups. (Jones *et al.*, 2006; Mendez *et al.*, 2012). Given the above, in short, a careful analysis of information contained in examinations of a pathology cooperates in the knowledge about its incidences and prevalences and provides information on epidemiological characteristics of the population that is treated. Therefore, the present study aimed to analyze the relative frequency of biopsied oral lesions at the School of Imperatriz Dental School, Imperatriz-MA, and to evaluate the agreement between clinical and histopathological diagnoses.

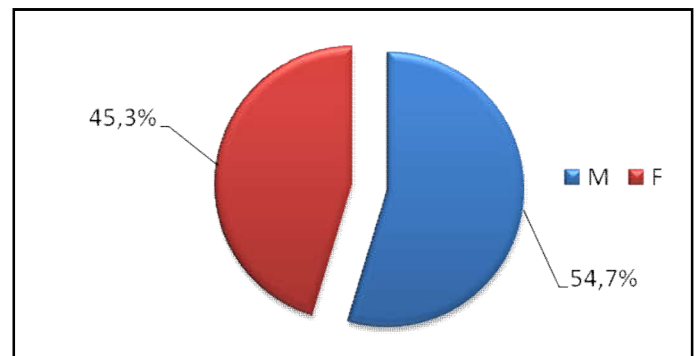
MATERIALS AND METHODS

Descriptive, cross-sectional analytical study with a quantitative approach. Such research strategies aim to describe the characteristics of a given population, phenomenon or to establish relationships between variables by a given temporal cut. Relative frequencies of the most common oral lesions were observed, as well as the level of agreement between the clinical and histopathological diagnosis of 150 patients assisted by the Dental Clinic of the Faculty of Imperatriz – Facimp Wyden, in the city of Imperatriz-MA, from February 2013 to December 2016. The sample included patients who underwent the biopsy procedure and who had their histopathological reports issued. The study excluded patients who did not sign the Informed Consent Form (ICF) and were treated outside the research analysis period. Data were obtained through access to the patients' clinical records and histopathological reports previously sent by the São Leopoldo Mandic Institute. These were then collected and recorded in an appropriate spreadsheet. Data were grouped and characterized according to the following items: age and gender of the

patient, lesion found, anatomical location of the lesion, clinical diagnosis and histopathological diagnosis. Statistical analysis of the information obtained was performed by the Microsoft Excel® 2016 software. The study complies with the precepts of Resolution No. 466/2012 and was approved by the Ethics and Bioethics Committee of the Faculty of Empress, process number 027-1 / 2019 at a meeting held on March 7, 2019.

RESULTS

From the categorization and processing of the data, they were sectioned and presented. Regarding the profile of patients regarding gender, it was evidenced that 82 (54.7%) were male and 68 (45.3%) female, as shown in Graph 1.



Graph 1. Characterization of subjects by gender

Source: Primary Data

M - Male; F - Female; % - percentage

The most prevalent lesion was mucocele, which totaled 17 cases, equivalent to 11.3% of the sample. Root cyst was the second most frequent lesion found in 14 cases, representing 9.3% of the sample. Then, squamous cell carcinoma and fibroma, both present in 10 cases corresponding to 6.6% of the sample, each. The distribution of histopathological diagnoses, sent by the São Leopoldo Mandic Institute, were represented in Table 1, by the ten most frequent in descending order, totaling 90 out of 150 of the sample.

Table 1. Most frequent diagnoses found

Variable	N	%
Diagnostic Findings		
Mucocele	17	11,3
Root cyst	14	9,3
Squamous cell carcinoma	13	8,6
Fibroma	10	6,6
Pyogenic Granuloma	8	5,3
Ameloblastoma	7	4,6
Inflammatory fibrous hyperplasia	6	4,0
Residual cyst	5	3,0
Dentigerous cyst	5	3,0
Keratocyst	5	3,0
Total	90	58,7

Source: Primary Data.

N - Number; % - percentage

Regarding the anatomical sites, the mandible was the most affected region and was in 26 cases, equivalent to 17.3% of the sample, followed by the lower lip (16.6%) and maxilla (15.3%).

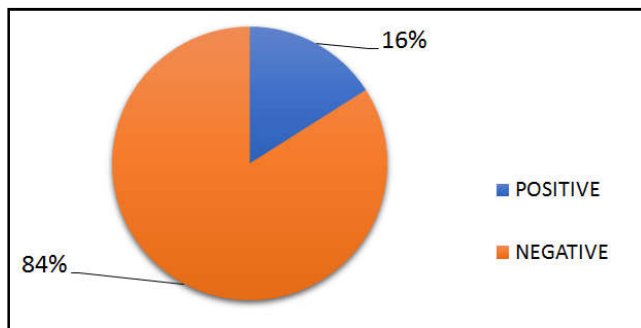
The ten regions most affected by injuries were recorded in descending order in Table 2.

Table 2. Most frequently affected anatomical sites

Variable	N	%
Anatomical location		
Jaw	26	17,3
Bottom lip	25	16,6
Jaw	23	15,3
Not registered	16	10,6
Hard palate	9	6,0
Language	8	5,3
Soft palate	7	4,6
Mucosa jugal	7	4,6
Gum	6	4,0
Alveolar border	5	3,0
Total	150	100

Source: Primary Data.
N - Number; % - percentage

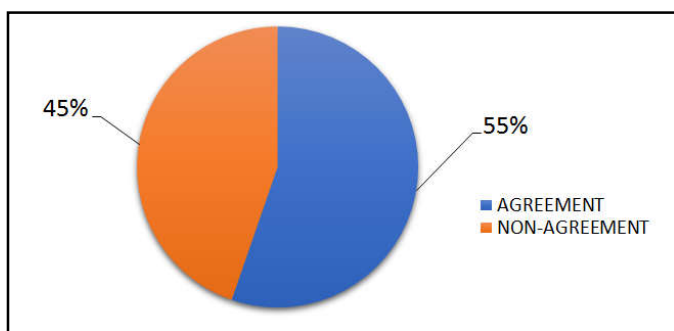
Regarding malignant neoplastic lesions, they were only present in 24 of the cases, which is equivalent to 16% of the research. Statistical data of present and absent lesions were recorded in Graph 2.



Source: Primary Data.
N - Number; % - percentage

Graph 2. Confirmation of malignant neoplastic lesions

As for the comparison between the clinical diagnosis made by the academics and the histopathological one, there was agreement in 83 cases, representing 55.3%, of the research (Graph 3).



Source: Primary Data.
N - Number; % - percentage

Graph 3. Clinical-histopathological agreement

DISCUSSÃO

The results show the institutional reality related to the analyzed theme, and in this perspective it is worth mentioning, according to Silva *et al.* (2011) that a correct anamnesis, complemented by thorough physical examination and complementary exams, increases the correct diagnosis, which implies a high level of agreement between clinical and histopathological diagnoses during patient care and favors

better treatment and prognosis. In the analysis, agreement was found between the clinical and histopathological diagnoses in 55.3% of the cases. Similar level of agreement rate was reported in a previous study by Conceição *et al.* (2011), with a value of 57.72%. This finding is explained by the existence of disciplines in the curriculum that efficiently address the area of oral pathology and diagnosis, allowing greater knowledge acquisition to academics before the activities in the clinic. Nevertheless, the presence of specialist teachers in the field can contribute to such value found (Silva *et al.*, 2011). It should be noted that this study portrays the epidemiological reality with the application of methodology based on biopsy material, diverging from some studies found in the literature that are based on clinical examinations (Souza *et al.*, 2014). In a study conducted in southern Brazil by Aquino *et al.* (2010) it was confirmed that this difference between methodologies results in the difficulty of comparing the results studied. Thus, it is explained that the medical records of the entire sample were analyzed, since the biopsy procedure was requested in this survey as an inclusion factor. It is worth noting that the results revealed a significant difference regarding the sample distribution between males (82) and females (68). The fact that there is a higher prevalence of males does not corroborate with most studies (Conceição *et al.*, 2011; Santos *et al.*, 2013; Souza *et al.*, 2014) showing that the researched institutional reality differs from part of scientific research performed and found in the literature.

The most predominant lesion in this study was the mucocele, totaling 17 (11.3%) of the cases. This lesion is very present in the oral mucosa and occurs through the rupture of a salivary gland duct causing mucin leakage to the soft tissues, which often occurs due to local trauma, which relates the nibbling habit with this pathology (Souza *et al.*, 2014; Neville, 2016; Souza *et al.*, 2017). It is important to highlight that such injury is highlighted in several studies (Conceição *et al.*, 2011; Vazet *et al.*, 2011; Santos *et al.*, 2013; Souza *et al.*, 2014), being the most frequent in the group of salivary glands, thus emphasizing their relevance and the need for the dental surgeon to make the correct diagnosis and treatment. Root cyst and squamous cell carcinoma follow, respectively, as the most common lesions. The latter also underlines the fact that this is the most common malignant tumor in the mouth and is responsible for 90% of oral cancer in Brazil, which is the fifth most common type of cancer in males (Vazet *et al.*, 2011). In the meantime, it is alluded to in relation to inflammatory fibrous hyperplasia that in several studies (Aquino *et al.*, 2010; Conceição *et al.*, 2011; Santos *et al.*, 2013; Souza *et al.*, 2014) was highlighted among the three the most frequent or even the most frequent, antagonizing the findings of this study that presented only 6 cases, not placing it among the most frequent. Regarding the location of the lesions, the mandible, maxilla and lower lip were respectively the three most affected anatomical regions. From this perspective, these results correspond to those found in studies by Silva *et al.* (2011) and Souza *et al.* (2014) performed, mainly in relation to the lower lip, which was the most frequent in most of these. In contrast, in relation to the mandible, the most prevalent anatomical region in the results, in others, was not relevant. Thus, considering the location of the lesions, for Aquino *et al.* (2010) It is crucial to give celebrity to the pathologist, who can make comparisons and differentiate the affected regions from the histological / anatomical characteristics of each region. Regarding neoplastic lesions 16% were present in the sample. Although the percentage rate reveals a large minority, it is

important to emphasize that when the lesion is malignant its tendency to morbidity and mortality is high, emphasizing the need for knowledge of academics and professionals to make an early diagnosis, providing the patient under these conditions with timely guidance regarding pathology, cure or reduction of sequelae (Vazet *et al.*, 2011).

Conclusion

The analysis of the frequency of biopsied oral lesions proposed in this study aimed to verify the most frequent lesions and provide information about the population served in the research scenario. The objective was achieved, considering the effective analysis of the frequencies and their elucidation. Knowledge about the most common oral pathologies in a given place provides high relevance data for identifying the profile of the investigated population, as well as helping to better conduct the diagnosis process, treatment plan and prevention strategies for these diseases. In this study, several variables related to the frequency of pathologies and agreement between clinical and histopathological diagnosis were evaluated. It was observed in the analyzed population that the male gender was the most present among the patients submitted to the biopsy procedure. In addition, the most prevalent lesions were mucocele, root cyst and squamous cell carcinoma. Under this panorama, in relation to the most affected anatomical points, the jaw, lower lip and maxilla stood out. The frequency sovereignty of non-neoplastic lesions was also verified. Thus, such results may support relevant information for the creation of preventive methods for these and other pathologies in the studied institution. However, despite the importance of the information found, it is important to emphasize the need for further studies in the institution analyzed for further expansion of clarifications and possible comparisons under temporal cut-off to assess issues related to the theme and that the results cannot be generalized to divergent populations.

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