



BRIEF REPORT

Minor salivary gland tumours: a 10-year study

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KEYWORDS

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Abstract

Salivary gland tumours represent between 2% and 6.5% approximately, of all head and neck tumours. The aim of this paper was to identify the frequency of minor salivary gland tumours among patients in the Oral Medicine Clinic of the Federal University of Paraná during the period from 1997 to 2007. A retrospective study was conducted on 1923 histopathological analyses of oral lesions. Fourteen cases of salivary gland tumours were found, of which 7 were benign and 7 malignant. The lesions were localized mainly in the palate (71.5%). By histological type, 50% of the lesions were characterized as pleomorphic adenoma, 28.6% mucoepidermoid carcinoma, 14.3% cystic adenoid carcinoma, and 7.1% as polymorphous adenocarcinoma. These findings suggest that salivary gland tumours have a low incidence in the population and that the pleomorphic adenoma is the most common type of tumour, followed by mucoepidermoid carcinoma.

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PALABRAS CLAVE

Glándulas salivales;
Neoplasias;
Manifestaciones
bucales

Neoplasias de glándulas salivales menores: estudio de 10 años

Resumen

Las neoplasias de las glándulas salivales representan aproximadamente un 2-6,5% de todos los tumores de la cabeza y cuello. El objetivo de este trabajo es identificar la frecuencia de neoplasias de glándulas salivales menores en pacientes de Medicina Oral de la Universidad Federal de Paraná atendidos de 1997 a 2007. Se realizó un estudio retrospectivo mediante el análisis de 1.923 laudos histopatológicos, y se halló 14 casos de neoplasias de glándulas salivales. Las lesiones encontradas fueron 7 tumores benignos y 7 malignos. Las alteraciones, en su mayoría, se encontraban en la mucosa palatina (71,5%). En cuanto al tipo histológico, el 50% se caracterizó como adenoma pleomorfo; el 28,6% como carcinoma mucoepidermoide; el 14,3% como carci-

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noma adenoide quístico, y el 7,1% como adenocarcinoma polimorfo. Estos resultados permiten concluir que las neoplasias de glándulas salivales tienen una baja incidencia en la población y que el adenoma pleomorfo es el tipo de neoplasia más común, seguido del carcinoma mucoepidermoide.

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Introduction

Neoplasms of the salivary glands (NSGs) are rare, approximately 2%–6.5% of all tumours in the head and neck region; this low incidence is one of the major determinants that several papers have emphasized in retrospective analyses.^{1–5}

The purpose of this study is to determine the frequency of minor NSGs in patients treated at the Oral Medicine Department of the Federal University of Paraná (UFPR) between 1997 and 2007 by collecting data concerning the location, histological tumour type, clinical features, age, and gender.

Methods

We performed a retrospective, descriptive study, based on a review of case histories and pathology examinations of oral biopsies carried out at the UFPR Oral Medicine Department between January, 1997, and December, 2007. All patients freely signed an informed consent form on the day of the initial examination. Of the cases with NSG, data were taken recording age, gender, race, anatomical location, shape,

and size of the lesion and the pathologist's diagnosis. The diagnoses were reviewed according to the WHO classification of salivary gland tumours.²

Results

Out of a total of 1923 pathology examinations performed in this period, there were 14 cases of NSG, thus a frequency of 0.73% was obtained. The mean age was 37 years for females and 30 years for males. NSG was observed more frequently in white patients (85.8%).

As for the type of tumour, 7 cases were benign, all pleomorphic adenomas and 7 malignant: 4 mucoepidermoid carcinomas, 2 adenoid cystic carcinoma, and 1 low grade polymorphous adenocarcinoma.

Considering gender distribution, malignant tumours were more frequent in women (n=4) and benign tumours in males (n=4). With regard to the location of the lesions, the palatal mucosa was the most frequent location, with 10 cases (71.5%), followed by 2 cases (14.3%) in the labial mucosa, 1 case (7.1%) on the sides of the tongue and 1 (7.1%) in the cheek mucosa. The description of all variables in the study is shown in Table.

Tabla Description of the neoplasms of minor salivary glands found in the present study

Year	Classification	Location	Pathology	Age	Gender	Race	Size	Evolution time	Symptoms
1998	Benign	Upper lip	Pleomorphic adenoma	25	Female	Mixed	2 cm	10 years	Absent
1999	Benign	Soft palate	Pleomorphic adenoma	66	Male	White	2 cm	1 year	Present
1999	Benign	Hard palate	Pleomorphic adenoma	23	Male	White	2 cm	6 months	Absent
2000	Malignant	Hard palate	Mucoepidermoid carcinoma	47	Male	White	3 cm	1 year	Absent
2000	Malignant	Edge of the tongue	Polymorphous adenocarcinoma	58	Male	White	3 cm	2 months	Present
2003	Benign	Lower lip	Pleomorphic adenoma	62	Female	White	1 cm	5 months	Absent
2004	Malignant	Hard palate	Cystic adenoid carcinoma	33	Male	White	3 cm	3 months	Absent
2005	Malignant	Hard palate	Mucoepidermoid carcinoma	23	Female	White	1 cm	10 days	Absent
2006	Malignant	Hard palate	Mucoepidermoid carcinoma	19	Female	White	2 cm	11 months	Absent
2006	Benign	Hard palate	Pleomorphic adenoma	32	Male	White	3 cm	1 month	Absent
2006	Malignant	Soft palate	Cystic adenoid carcinoma	35	Female	White	1 cm	2 years	Present
2006	Malignant	Cheek mucosa	Mucoepidermoid carcinoma	77	Female	White	2 cm	10 months	Present
2007	Benign	Hard palate	Pleomorphic adenoma	27	Male	Black	2 cm	1 year	Absent
2007	Benign	Hard palate	Pleomorphic adenoma	24	Female	White	2 cm	4 months	Absent

Discussion

Neoplasms of minor salivary glands are rare and their true frequency and main locations of incidence are not precisely known. Tumours of minor salivary glands represent 9%–23% of glandular tumours. The frequency of tumours of minor salivary glands in the present study was 0.73% ($n=14$). Retrospective studies in different countries show frequencies ranging from 0.28% to 1.4% of total biopsies performed.^{3–8}

As for the type of tumour found in this study, both the benign and malignant tumours had a frequency of 50%. The scientific literature shows that benign salivary gland tumours represent 18%–67%, whereas malignant tumours represent 33%–82%.^{3–9} The differences in the results appear to be related to the profile of the department carrying out the diagnosis and/or treatment. Studies in specialized centres have higher rates of malignant tumours.¹⁰ However, studies in dental out-patient clinics report predominantly benign tumours.^{4,6–9} These results may explain that the present study shows 50% of benign tumours and 50% of malignant tumours, since all biopsies were performed in an out-patient context.

Pleomorphic adenoma is the most common tumour of the minor salivary glands, representing 21%–70% of all neoplasms (benign and malignant) and 71%–100% of benign neoplasms.^{1,3–13} In this study, pleomorphic adenoma was found in 50% of the total sample and also represented 100% of benign tumours, which is a similar result to those found in the literature.^{3–12} With regard to malignant tumours, there was great diversity as 4 of the 7 malignant tumours were mucoepidermoid carcinomas (57.2% of all malignant tumours and 28.6% of total tumours), 2 were adenoid cystic carcinomas (28.6% of all malignant tumours and 14.3% of total tumours), and 1 low grade polymorphous adenocarcinoma (14.2% of all malignant tumours and 7.1% of total tumours). This frequency is similar to those reported in the literature, where the mucoepidermoid carcinoma and adenoid cystic carcinoma are the most frequent.^{7–9,11–14}

The literature shows that NSG affects women more frequently.^{3–13} In this study, 50% of the cases were female. Malignant tumours were more frequent in women ($n=4$) and benign in male ($n=4$), results which differ from those reported in the literature, where malignant tumours are more common in males.^{13,14}

The palate was the most affected anatomical site for both types of neoplasms with 71.4% of cases, both malignant and benign. These results are similar to those of other studies reported in the scientific literature, where the mucosa of the palate is the most affected, with approximately 60% of malignant lesions and 77% of benign.^{4–16} However, the small number of cases in other locations is insufficient to carry out a precise comparative analysis of the other sites involved.

The researchers emphasize that neoplasm alterations in the salivary glands have a high diversity of histological features, especially in lesions originating from the cells forming the ducts.¹⁷ The varied histological appearance of the neoplasms in salivary glands is a reflection of the differentiation of more than one type of tumour cell, their cell patterns and synthesis of extracellular matrix deposited by some tumour cells originating in the salivary glands.¹⁷ In this study, despite the small number of cases, we could identify four different histological types.

With the methodology used and the results obtained, it was possible to observe that NSG has a low incidence in the population. In this study, benign and malignant neoplasms showed the same frequency. In relation to histological types, pleomorphic adenoma was the most common, followed by mucoepidermoid carcinoma.

Consideration should be given to any increase in size in the region of the palate, due to the risk of an NSG. This type of cancer, despite being rare, should be diagnosed early to avoid radical treatment with sequelae for patients.

Conflict of interests

The authors have indicated there is no conflict of interest.

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