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Clinical and microscopic characteristics of lip squamous cell carcinomas in an oral diagnostic service

Características clínicas y microscópicas del carcinoma de células escamosas de labio: estudio de un servicio de diagnóstico oral

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RESUMEN

Objetivos: Determinar las características clínicas e histopatológicas de casos clínicos con diagnostico final de carcinoma de células escamosas en labio, en la clínica de estomatología de la Facultad de Odontologia de Bauru(FOB-USP). ***Material y Métodos***: Fue realizada una búsqueda de datos a través de un software creado por la FOB-USP que contiene los registros de los casos clínicos atendidos en este establecimiento en el transcurso de 11 años. Un total de 5136 casos clínicos fueron registrados, siendo que 163 correspondían a carcinoma de células escamosas, de los cuales solo 18 casos registrados tenían localización en labio inferior. En todos estos casos, fue realizado biopsia incisional formando parte de la muestra final. Las informaciones clínicas e histopatológicas fueron obtenidas por medio de los registros electrónicos e historias clínicas, los cuales fueron sometidos a análisis. ***Resultados***: Deltotal de la muestra final, un 78% fueron de raza blanca, la mayoría jubilados y con hábito de fumar. El tiempo de evolución de la lesión tuvo una media de 9 meses, tamaño medio de 1,5 cm de diámetro. Las características histopatológicas fueron descritas como una invasión de islotes con características de displasia epitelial. ***Conclusiones***: Conocer las características clínicas y las características histopatológicas son importantes para realizar un adecuado diagnóstico de carcinoma de células escamosas en labio, dirigiéndose a la mejor estrategia terapéutica, generando así un mejor pronóstico.

PALABRAS CLAVE: Carcinoma células escamosas, labio.

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SUMMARY

Objectives: Establish the clinical and microscopic characteristics of the patients diagnosed with lip squamous cell carcinoma (SCC) in an oral diagnostic service of Bauru School of Dentistry. ***Material en methods***: A search was made throughsoftware created internallywhich contains the records of the clinical cases attended in the last 11 years.The survey revealed of 5136 records, 163 SCC, but only 18 located in the lip. All cases had the final diagnosis confirmed byincisional biopsy and made the final sample. The clinical and histopathological information were taken from the records and submitted for analysis. ***Results***: 78% were white men, being mostly retired and smokers. The average progression time was 9 months and the lesion diameter 1.5 cm. The histopathologic characteristics showed an invasion pattern of islets with constantly present dysplastic features. ***Conclusions***: Knowledge of both clinical and histopathological features is fundamental for proper SCC of the lip diagnosis, directing to the best therapeutic strategy, thus generating a better prognosis.

KEY-WORDS: Carcinoma, squamous cell, lip.

INTRODUCTION

Squamous cell carcinoma (SCC) of the lip is a common tumour of the oral cavity (1,2). This cancer is directly related to excessive sun exposure and tobacco (1-5).

Retrospective studies (6), tumour frequency in women (3), factors that influence the prognosis(4) and others are examples of what exists in the literature. Santos et al (2) analysed 58 cases of lip cancer over 10 years describing the demographic characteristics of etiologic factors, clinical stage and histological analysis.

Despite being a well-known type of cancer, it's rare in the literature a research demonstrating jointly the epidemiological, clinical and histopathological characteristics of lip cancer. Based on these facts the aim of this study was to perform a retrospective analysis of lower lip cancer casuistry from our database, one of the reference service in oral diagnosis, located in the state of São Paulo in a region with approximately 800,000 inhabitants, over a period of 11 years.

MATERIAL AND METHODS

An initial search was done using computer software (developed institutionally) that contains the data of patients seen in an academic unit of oral diagnosis between the years 2002 and 2013. The survey was conducted in this software using the term "Squamous cell cancer " as search, and all records found in this research were separated and

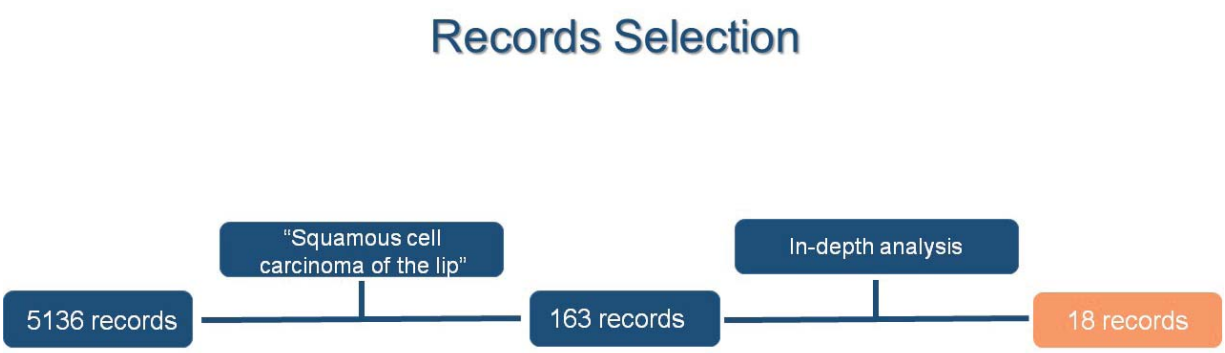

Figure 1. Selection of therecords analyzed

formed the initial sample. Out of 5136 records in the period surveyed, 163 returned the initial search and underwent detailed analysis (reading of all physical records). Only patients with a final diagnosis of squamous cell carcinoma located in the lower lip and confirmed by incisional biopsy (18 patients) formed the final sample of our study (Figure 1).

Patient demographics such as gender, race, age, occupation and harmful health habits (smoking and drinking) were collected from medical records along with the clinical information of the SCC (disease duration, size, shape, surface, consistency and sensitivity). The microscopic information was obtained through the reports of incisional biopsies of tumours and that included pattern of invasion, pleomorphism, hyperchromatism, dyskeratosis, atypical mitosis, keratin pearls, type and intensity of the inflammatory infiltrate. All slides were reviewed in an optical microscope and the features presented in pathologic reports were confirmed. ‘

RESULTS

General Information

Regarding gender approximately 14/18 (78%) were men, all white, aged between 43 to 81 years (median 54 years). Several occupations were reported by patients; however, the retired individual was the most found, 39%. Excessive sun exposure was reported by 44% of the 18 patients with lip cancer. On the harmful habits it was found that 78% of patients were smokers and only 17% reported excessive use of alcoholic beverages (Table 1).

Clinical information

The evolution time of the tumor varied between 2 and 36 months, with an average of 9 months. Up to 4.9 cm tumors were found (table 1), but the average tumor size was 1.5 cm (figure 2).

Table 1. Clinical information of 18 patients with squamous cell carcinoma of the lip.

Clinic Information (Patients)	Solar exhibition	Smoking	Alcoholism	Time of evolution (months)	Size	Form	Surface	Consistency	Sensibility
1	*	Yes	Yes	12	1 cm	Circular	Irregular	Firm	Normal
2	Yes	Yes	No	4	3 cm	Irregular	Irregular	Flaccid	Normal
3	*	Yes	No	*	0,8 cm	Irregular	Irregular	*	*
4	*	Yes	No	6	4,9 cm	Irregular	Irregular	Elastic	*
5	Yes	No	No	4	1,2 cm	Irregular	Irregular	Firm	Normal
6	Yes	Yes	No	36	1,5 cm	Irregular	Irregular	Firm	Painful
7	Yes	Yes	No	*	0,7 cm	Irregular	Irregular	Firm	Painful
8	Yes	Yes	*	12	3 cm	Irregular	Irregular	Firm	Painful
9	*	Yes	Yes	12	1 cm	Irregular	Irregular	Firm	Normal
10	*	*	*	8	1,5 cm	Rectangular	Flat	Flaccid	Painful
11	*	No	No	6	0,5 cm	Irregular	Irregular	Flaccid	Normal
12	*	Yes	Yes	5	0,4 cm	*	Irregular	Elastic	Painful
13	Yes	Yes	*	12	1,5 cm	Irregular	Irregular	Firm	*
14	Yes	Yes	No	12	1 cm	Irregular	Verrucose	Firm	Normal
15	*	Yes	*	8	3 cm	*	*	Elastic	Painful
16	Yes	Yes	No	2	1 cm	Irregular	Flat	Elastic	Painful
17	*	*	*	2	2 cm	*	*	Elastic	Painful
18	*	No	No	4	2 cm	*	*	Elastic	*

* – no information in the record

Figure 2. Ulcer with high and whitish edges in the lower lip with diagnosis of squamous cell carcinoma.

Table 2. Histopathological characteristics of the biopsies of 18 patients with squamous cell carcinoma of the lip

Histopathological Information *(Patients)*	Pattern of invasion	Pleomorphism	Hyperchromatism	Dyskeratosis	Atypical mitosis	Keratin pearl	Type of infiltration	Intensity of infiltration
1	Cords and islets	Yes	Yes	Yes	Yes	Yes	Mono**	Intense
2	Islets	Yes	Yes	Yes	Yes	Yes	Mono e Poly*	Intense
3	Islets	Yes	Yes	No	Yes	Yes	Mono e Poly	Intense
4	Islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
5	Islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
6	Islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
7	Islets	Yes	Yes	No	Yes	Yes	Mono	Intense
8	Islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
9	Cords and islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
10	Cords and islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
11	Islets	No	Yes	No	Yes	Yes	Mono	Intense
12	Islets	Yes	Yes	No	Yes	Yes	Mono	Intense
13	Islets	Yes	Yes	No	Yes	Yes	Mono	Intense
14	Islets	Yes	Yes	Yes	Yes	Yes	Mono	Intense
15	Islets	Yes	Yes	No	Yes	Yes	Mono	Intense
16	Islets	Yes	Yes	No	Yes	Yes	Mono e Poly	Intense
17	Islets	No	No	No	No	No	Mono	Intense
18	Cords	No	No	No	No	No	Mono	Intense

* Polymorphonuclear; ** Mononuclear

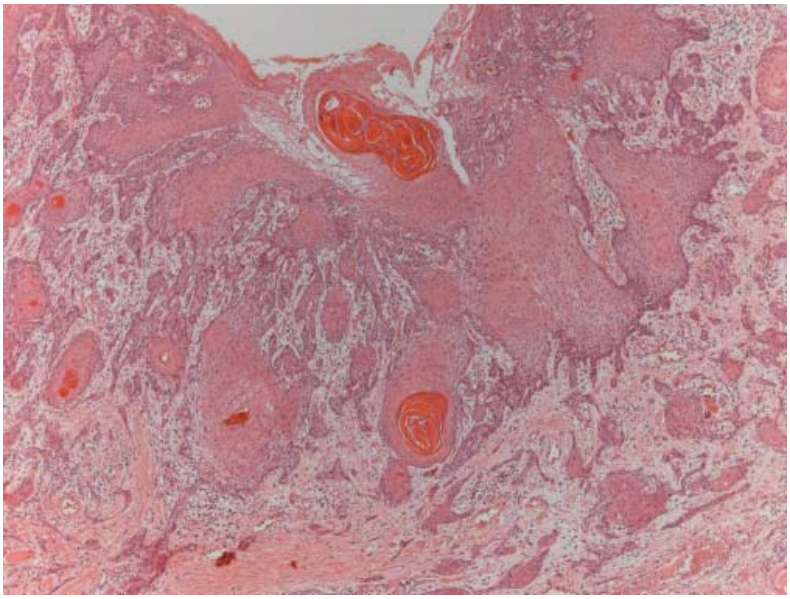

Figure 3. Squamous cell carcinoma well- differentiated, with keratin pearl training, low grade of pleomorphism, and pattern of invasion of islands and thick strands (H.E 50x).

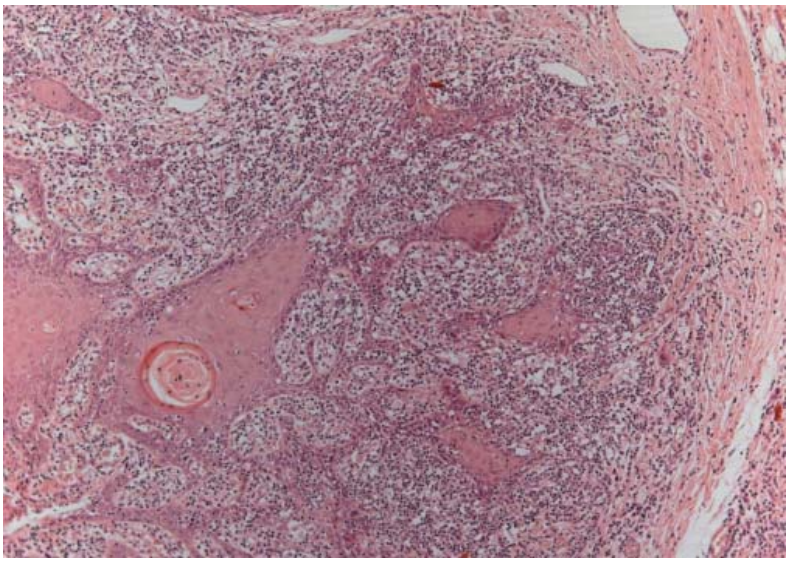

Figure 4. Infiltrated inflammatory mononuclear permeating islands of neoplastic cells (H.E 200x).

Approximately 67% of lip squamous cell carcinomas showed irregular surface with predominantly firm consistency (44%) or elastic consistency (33%) and the soreness was reported in 44% of patients (table 1).

Histopathological information

The islet invasion pattern (figure 3) was described in all tumors analyzed, however some of this islet had cords of tumor cells (table 2). The epithelial dysplasia characteristics (pleomorphism, hyperchromatism, dyskeratosis, atypical mitosis and keratin pearls) were constantly found in squamous cell carcinoma of the lip. The inflammatory infiltrate accompanying tumors was predominantly mononuclear (figure 4), and in three specimens ulcerated areas covered by fibrin and polymorphonuclear inflammatory infiltrate were also found (table 2).

All patients were referred to the oncology service of head and neck municipality reference to antioneoplastic treatment. The surgical specimens were analyzed in surgical referral service outside our institution.

DISCUSSION

Being the ultraviolet radiation the main etiologic agent of squamous cell carcinoma of the lip, tropical countries such as Brazil have high rates of incidence of this malignant neoplasm. Men are more affected by thelip SCC and, in our sample, a ratio of men to women of 3,5: 1 was found in patients with lip cancer, confirming other studies in the scientific literature (1-3,6-8). The neoplasia is directly related with exposure to sunlight the lip SCC primarily affects Caucasians, which was observed in 100% of our sample patients. Information from the literature revealed large proportion of Caucasians affected by the lip SCC, with ratios ranging from 81% to 94.8% of patients (1,2,4,5).

The variation in the lip SCCs time course of this study was from 2 to 36 months. 43.1% of the sample showed less than a year of evolution and 56.9% over 1 year. The relatively long time of lesion evolution until the diagnosis is due to its less aggressive clinical manifestations and usually low growth rate. Average evolution times less than one year were also found in other epidemiological studies in the literature, which suggests oscillation time is according to the population studied, regional weather, peculiar habits of the population and other factors (1-3).

The lip SCC usually have size greater than 1 cm in diameter at its greatest extent, because of its asymptomatic manifestation, it is often neglected by patients in seeking dental or physician diagnosis. The average size of the tumours in this study was 1.5 cm; nonetheless, one case revealed approximately 5 cm diameter size. A majority part of researches, the tumours have inferior size than 2 cm and clinical staging T1 (1-4,7).

Regarding the habits registered in the records we found 14/18 (78%) smokers, but a low percentage of alcoholics. High percentages of smokers were also found by many researchers in other studies and the association with alcohol consumption varies among the groups studied (1-3,5).

Microscopic analysis showed features compatible with well differentiated tumors. Many keratin pearls, dyskeratosis, mild pleomorphism and hyperchromatism with scarce atypical mitosis, and a predominantly mononuclear infiltrate characterized the sample. These results are consistent with those described in the literature, consolidating as well as in this sample these tumors are usually well differentiated and slightly aggressive (1,6,9).

The SCC of the lip is widely known to have a good prognosis, low metastasis rate, high rate of survival and it is usually treated with surgery frequently only on the affected site (10). Due to these characteristics, many patients abandon the follow-up, as consequence, a low number of patients have a complete follow-up in the analysed period of time.
Due to the characteristics previously presented, there are few studies that show the basic features of the SCC of the lip and how it presents itself on a daily basis. It is well established that the association of clinical information with microscopic data facilitates the diagnosis of SCCP of the lip, the management and the follow up. In addition to provide more accurate means of communication between clinician and pathologist.

This epidemiological study meets the suggestion of the World Health Organization considering that population epidemiological studies are relevant to know the current situation of oral diseases estimating the needs of implementation and maintenance of oral health (11,12). In 2016 the Brazilian National Cancer Institute estimates more than 15.000 new cases of oral cavity cancer, with a large part affecting the lip. Knowledge of both clinical and histopathological features is fundamental for a proper diagnosis of SCC of the lip, directing to the best therapeutic strategy, thus generating a better prognosis.

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