

## Comparative study of cell alterations in oral lichen planus and epidermoid carcinoma of the mouth mucosa

*Fernando Augusto Cervantes Garcia de Sousa<sup>1</sup>,  
Thaís Cacbuté Paradella<sup>2</sup>, Adriana Aigotti  
Haberbeck Brandão<sup>3</sup>, Luiz Eduardo Blumer Rosa<sup>4</sup>*

Keywords: epidermoid carcinoma, lichen planus, mouth mucosa.

### Summary

Currently, much is discussed regarding the pre-malignant nature of mouth mucosa lichen planus. **Aim:** The present study aims at analyzing the alterations found in the epithelial cells present in the oral cavity lichen planus, comparing them to those found in epidermoid carcinoma. **Materials and Methods:** Histological cross-sections of oral lichen planus and epidermoid carcinoma, dyed by hematoxylin-eosin, were analyzed through light microscopy. **Result:** the most frequently found alterations in oral lichen planus were: an increase in the nucleus/cytoplasm relation (93.33%), nucleus membrane thickness (86.67%) and bi-nucleus or multinucleous (86.67%). The Student t test ( $\alpha=5\%$ ) revealed a statistically significant difference between the average number of cell alterations in oral lichen planus ( $5.87\pm 1.57$ ) and in epidermoid carcinoma ( $7.60\pm 1.81$ ). As to the types of alterations, the chi-squared test also revealed statistically significant differences among the lesions assessed in relation to the following cell alterations: nuclear excess chromatism, atypical mitoses, cellular pleomorphism and abnormal cell differentiation ( $p<0.05$ ). **Conclusion:** Despite the fact that in some cases, some pathologists may make mistakes in the histopathological diagnosis of oral lichen planus, the results obtained in this study show that the alterations present in oral lichen planus differ considerably from those seen in epidermoid carcinoma, thus showing how distinct these two diseases are.

<sup>1</sup> Master's degree in oral biopathology (dental surgeon).

<sup>2</sup> Master's degree in restorative dentistry (dental surgeon).

<sup>3</sup> Assistant professor of general pathology, FOSJC/UNESP (Physician).

<sup>4</sup> Adjunct professor of oral pathology, FOSJC/UNESP (dental surgeon).

Address for correspondence: Fernando Augusto Cervantes Garcia de Sousa - Rua Irmã Maria Demétria Kfruri 196 Jardim Esplanada II 12242-500 São José dos Campos  
São Paulo SP.  
CAPES

This paper was submitted to the RBORL-SGP (Publishing Manager System) on 17 October 2007. Code 4876.

The article was accepted on 4 March 2008.

---

## INTRODUCTION

---

Since 1910, when the first case of gingival cancer was reported in a patient with oral lichen planus (OLP), the latter has become the focus of much controversy. Many studies have attempted to assess the malignant transformation potential of OLP. These studies have suggested that a lesion originally diagnosed as OLP has a 6.51% possibility of undergoing malignant transformation in time;<sup>1-5</sup> based on these studies, the World Health Organization (WHO) has classified OLP as a potentially malignant disease.<sup>6</sup>

Some authors, however, argue that such transformation has not been sufficiently documented to justify this classification. According to these authors, more precise criteria are needed to diagnose OLP precisely, especially from a histopathological standpoint. Most of the cases of malignant transformation would thus not be considered as such, since in these cases there probably were histopathological signs suggesting a malignancy at the moment of the initial diagnosis, which would void the hypothesis of OLP.<sup>7-8</sup>

Van der Meij and Van der Waal<sup>9</sup> (2003) illustrated this difficulty in the diagnosis of OLP. These authors found that there was no consensus in the histopathological diagnosis of 42% of cases in which the clinical diagnosis was clear. This is probably because the inflammation present in OLP may cause cell alterations similar to those seen in epithelial dysplasia or in epidermoid carcinoma.<sup>10</sup>

In this context, the purpose of this study was to analyze the changes in epithelial cells of OLP, and to compare such changes with those found in the epidermoid carcinoma; the intention was to seek for similarities and differences to facilitate the histopathological diagnosis and establish its inflammatory nature.

---

## MATERIAL AND METHOD

---

After reviewing OLP and epidermoid carcinoma cases diagnosed at the Serviço de Patologia Cirúrgica da Faculdade de Odontologia de São José dos Campos, UNESP, from 1995 to 2005, thirty cases of each lesion were randomly selected. Three independent examiners reassessed these cases to confirm the initial histopathological diagnosis. If any doubts remained, the case was immediately replaced.

Eisenberg's<sup>7</sup> (2000) histopathological criteria were used as essential for the diagnosis of OLP, as shown on Table 1. Additionally, only those cases which generated no doubts about the diagnosis of OLP, in patients that did not smoke or take alcoholic beverages, were included in this study.

Paraffin blocks with the biopsied samples were separated for each case. New 5µm slices were made of these

samples and placed on clean glass slides for hematoxylin-eosin (HE) staining.

Two independent examiners analyzed the histological sections under light microscopy. Cell alterations were investigated in each of the cases, according to the following criteria:

- a) increased nucleus/cytoplasm ratio;
- b) hyperchromatic nuclei;
- c) irregular distribution of chromatin;
- d) thickening of the nuclear membrane;
- e) loss of cell adhesion;
- f) increased size and number of nucleoli;
- g) bi- or multinucleation;
- h) atypical mitoses;
- i) cell pleomorphism;
- j) abnormal cell differentiation.

If examiners differed as to the presence or absence of any criterion, a third examiner evaluated the case in question under similar conditions; the majority opinion prevailed.

Student's t test and the chi-square test were used for the statistical analysis; the significance level was 5%.

Finally, all of the procedures described above were authorized by the Research Ethics Committee of the Faculdade de Odontologia de São José dos Campos - UNESP (protocol number 008/2006-PH/CEP of 14 March 2006).

**Table 1.** Histological criteria for the diagnosis of OLP<sup>7</sup>

---

### Essential findings

- liquefied baseline layer
- intense lymphocyte infiltrate in layers underlying the epithelium, with effacement of the baseline layer
- normal epithelial cell maturation

### Other findings (non-essential)

- interpapillary crests in a "sawtooth" shape
- hyperparakeratosis
- Civatte bodies
- separation of the epithelium of the lamina propria

### Exclusion criteria

- cells with large and/or hyperchromatic nuclei
  - presence of dyskeratosis
  - increased number of mitoses or atypical mitoses
  - projection of epithelial "drop-like" cones
  - absence of liquefied baseline layer
  - loss of epithelial stratification
  - heterogeneous inflammatory infiltrate
  - extension of infiltrate to deeper layers
  - perivascular infiltrate
-

Download English Version:

<https://daneshyari.com/en/article/4106911>

Download Persian Version:

<https://daneshyari.com/article/4106911>

[Daneshyari.com](https://daneshyari.com)