Oral lichen planus clinical study with the clinicopathological correlation in the diagnosis of O.L.P.

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**ABSTRACT**

**Background:** Oral lichen planus (OLP) is a chronic inflammatory disease with different clinical presentation.

**Objective:** To evaluate the clinical-pathologic characteristic of OLP lesion and to study the correlation between clinical and histopathologic assessment of OLP.

**Materials and Methods:** A randomly selected biopsies of sixty-three OLP patients, who sent to college of dentistry / oral pathology department were studied.

**Results:** Females were more frequently affected by OLP than males (female=52.38%, male=47.61%) and mostly at the middle age group (25.4%). OLP was more frequently found on the cheek, tongue than palate and lip. Statistically significant differences could be identified for OLP lesion in terms of age, sex, and site of location.

Confirmation of clinical diagnosis of OLP by means of histopathologic study of a biopsy specimen is generally advised. However, hardly any data exist about the correlation between clinical and histopathologic diagnosis of OLP. In (42.31%) of case, in which the pathologist agreed about the histopathologic diagnosis being diagnostic of OLP, there was a lack of consensus on the clinical diagnosis. Conversely, about (38.46%) of case in which the clinicians agreed about the clinical and histopathologic diagnosis being diagnostic of OLP.

**Conclusion:** Based on the finding of the present study, there appears to be lack of clinicopathologic correlation in the diagnostic assessment of OLP.

**Keywords:** Oral Lichen Planus. (J Coll Dentistry 2005; 17(2): 57-60).

**INTRODUCTION**

OLP is a chronic inflammatory disease characterized by relapses and remissions (1-3) that occur in approximately 1% to 2% of the general population (4-5).

Associated factors such as stress may aggravate the clinical presentation. Systemic medications such as non-steroidal anti-inflammatory analgesics, anti-hypertensive and oral hypoglycemics can contribute to the development of oral lichen planus-like lesions, representing lichenoid drug reactions. Few studies have found that dental restorative materials, including amalgam, gold, and nickel, may be related to local lesions in a small number of patients (6). Infectious agents or an association with autoimmune disorders have been involved (7,8). Lichen planus is almost exclusively a condition of adult, with most patients being between 30 and 60 years of age. A slight majority of patients are women, and no racial distinctions are seen (9). OLP eruptions usually have a distinct clinical morphology and a characteristic distribution, but it may also present a confusing array of patterns (7).

Andreasen’s classical classification that consisted of reticular, papular, plaque, atrophic, bullous and erosive forms (10) was simplified by other authors who consider only reticular, atrophic and erosive clinical presentation (11).

Lichen planus typically appears as white net-like lines or white patches, usually on the inside of the cheeks. The lines and patches can also appear on the tongue and gingiva that do not usually cause any discomfort and can often go unnoticed, and may only be recognized by a dentist or hygienist during a routine examination. In some cases red patches, ulcers and blisters can appear, the gingiva can become thin, red and shiny and become painful to brush (9).

Lichen planus is believed to represent an abnormal immune response in which epithelial cells are recognized as foreign, secondary to changes in the antigenicity of the cell surface (12). It is a cell-mediated immune condition of unknown etiology, in which T-lymphocytes accumulate beneath the epithelium of the oral mucosa and increased the rate of differentiation of the stratified squamous epithelium, resulting in hyperkeratosis and erythema with or without ulceration (6).

Histologically, lichen planus shows hyperkeratosis, “Saw-tooth” rete ridges, liquefactive degeneration of the basal cell layer, and a band-like subepithelial inflammatory infiltrate. Discrete eosinophilic ovoid bodies (Civatte bodies) are occasionally seen in the basal cell layer (13).

As oral lichen planus is regarded to be a clinicopathologic diagnosis, i.e. based on a combination of clinical and histopathologic criteria, confirmation of clinical diagnosis of
oral lichen planus by histopathologic study of a biopsy specimen in generally advised\(^{(14)}\).

Onofre et al studied the correlation between the clinical and histopathologic diagnosis in 45 patients with leukoplakia and oral lichen planus and found a clinicopathologic discrepancy in a quarter of these lesions\(^{(15)}\).

The aim of the present study was to study the correlation between the clinical and histopathologic assessment of oral lichen planus.

**MATERIALS & METHOD**

A sample of 63 specimens represent H & E stained tissue sections of oral lichen planus were collected from the files of oral pathology department in College of Dentistry from 1998-2002. It includes 30 males and 33 female with age range was 16-85.

Clinical diagnosis of oral lichen planus was depended on dentist report that refers the biopsy. The clinical diagnosis of the cases was categorized as either: 1-diagnostic as oral lichen planus, 2-other definable lesion; or 3-differential diagnosis includes oral lichen planus.

The oral biopsy specimens were routinely processed for histologic study after fixation in 10% buffered formalin and stained with hematoxylin and eosin.

Histopathologic diagnosis was divided to 3 categories, first one includes oral lichen planus, 2\(^{nd}\) category was suggestive lichen planus and the third was lichenoid lesions.

Statistical analysis was performed with a chi-square test for qualitative parameters according to Contingency tables (Steel,Torrie (1980)) in order to showed the correlation between age, location of lesion and the sex of the patients, also the clinical and pathological diagnosis correlation, the association measurement used was the statistical program SAS (2001)\(^{(16,17)}\).

**RESULTS**

In this study 63 case sheets and H & E stained tissue sections of oral biopsies which were diagnosed as oral lichen planus were studied, 33 females (52.38%) and 30 males (47.61%); OLP was most frequent between 31-40 years (16 cases 25.4%) and less frequent at the age range of (41-50 years)(15 cases 23.8%). In general OLP was more shown in females than males specially at the age of 30-60 years, and give the highest percentage at the age of 31-40 years (33.33%) and lower percentage at the age 10-20 years and (71->) years, while for male the highest percentage at 21-30 and 41-50 years (20%) and less affect at the age 10-20 years (3.33%) as shown in table (1).

Statistically significant difference was found between the present of lesion at different age groups and sexes.

<table>
<thead>
<tr>
<th>Age of Patients</th>
<th>Female n.</th>
<th>Female %</th>
<th>Male n.</th>
<th>Male %</th>
<th>Total n.</th>
<th>Total %</th>
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<tbody>
<tr>
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<td>1</td>
<td>3.33</td>
<td>1</td>
<td>1.59</td>
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<tr>
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<td>6</td>
<td>20.00</td>
<td>8</td>
<td>12.70</td>
</tr>
<tr>
<td>31-40</td>
<td>11</td>
<td>33.33</td>
<td>5</td>
<td>16.67</td>
<td>16</td>
<td>25.40</td>
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<td>27.27</td>
<td>6</td>
<td>20.00</td>
<td>15</td>
<td>23.80</td>
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<tr>
<td>51-60</td>
<td>8</td>
<td>24.24</td>
<td>5</td>
<td>16.67</td>
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<td>20.64</td>
</tr>
<tr>
<td>61-70</td>
<td>3</td>
<td>9.09</td>
<td>4</td>
<td>13.33</td>
<td>7</td>
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<tr>
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<td>0.00</td>
<td>3</td>
<td>10.00</td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
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<td>52.38</td>
<td>30</td>
<td>47.61</td>
<td>63</td>
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\(\chi^2 = 6.3066\) \(p (0.05)\)

According to the site of the disease, it has been found that the buccal mucosa (cheek) was significantly the most frequent site for OLP lesions (38 cases) as compared to other site in oral cavity, where the unilateral lesions were identified in 21 patients (33.33%) (female=39.39%, male=26.27%). Tongue was the second most frequent site (14 cases, 22.22%) followed by that the lesion affect more than one site (7 cases, 11.11%), lip (3 cases, 4.76%) and palatal mucosa (1 case, 1.59%) as shown in table (2).

The results of comparison of the clinical and histopathologic data are summarized in table (3).

On histopathological basis, obvious OLP constitute (82.54%) beside those that reported to be suggestive of LP (9.52%), while a small percentage (7.94%) were lichenoid eruption

The diagnosis of the lesion as OLP clinically was reported in 23 cases and only 20 of them were proved to be so on histopathological criteria (38.46%). While 19.23% of cases that diagnosed histopathologically as lichen planus were clinically including the differential diagnosis of LP.

**Table(1) Distribution of OLP cases according to sex and age group**

**Oral Pathology, Oral Medicine, Dental Radiology**
In 44.44% of the cases in which the pathologists agreed about the histopathologic diagnosis, there appeared to be no consensus on the clinical diagnosis. Conversely, in only 38.46% of cases in which both the pathologists and clinicians agreed about OLP diagnosis. Thus the lack of clinicopathologic correlation could be explained by First, the choice of the most appropriate area for biopsy might play a role. Gynther et. al. (21) reported the advantages of the application of oral microscopy in selecting the representative site for a biopsy compared with clinical examination alone.

Secondly, the lack of clinicopathologic correlation might partially caused by the study design. The reviewing pathologists were not aware of clinical presentation of the lesions, as this might have influenced their diagnostic decision-making. Finally, the lack of clinical diagnostic criteria in order to differentiate oral lichenoid lesions (e.g. drug or amalgam related) from “idiopathic” OLP might be partially responsible for the lack of clinicopathologic correlation.

Therefore, we can not rely on a clinical or histopathologic diagnosis alone. However, some described an additional tool (direct immunofluorescent techniques) in the diagnostic assessment of OLP.(22).

**REFERENCES**