Association of oral and dermal lesions of lichen planus in patients referring to dermatology clinic of Razi Hospital, 2001

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ABSTRACT

Purpose: Lichen planus (LP) is a common chronic immunologic inflammatory epidermal and mucocutaneous disorder involving skin, oral mucosa and both sometimes, the main cause of which is still unknown. Due to the importance and its prevalence, this study was carried out in order to assess the association of oral and dermal lesions in patients referring to Dermatology Clinic of Tehran Razi Hospital during summer of 2001.

Materials & Methods: In this descriptive study, a total of 101 patients with individual involvement of LP in skin or mucosa were selected among 6510 patients referred to Tehran Razi Hospital-Dermatology Clinic. The selected cases were subjected to further and exact clinical examination along with interview, while in suspected lesions, the conducted histopathologic tests obtained by biopsy were used for the evaluation. A questionnaire was completed for each patient after taking history and physical examination, including history of systemic diseases, interacting medication, smoking habits, presence of oral and dermal lesions, the onset of mucosal and skin lesions and the treatment period, oral lesion’s signs and the patients complaint, involvement location, form, manner of distribution, oral lesion history as well as existence of amalgam restorations along side the lesion chi-square used to assess differences for variables.

Results: The study revealed 34 percent association of oral and dermal lesions in the study population, while individual dermal lesion were observed in 61.1 percent of patients and individual oral lesions in 4.9 percent. The incidence of oral LP lesions was slightly higher in females in comparison to males (40.4 percent in females and 37.3 percent in males). About 20 percent of patients who gave history of oral LP, reported smoking cigarettes, while there was no case of pipe smoking or different smoking habits. Patients with dermal lichen planus reported a time between 1-6 months passing from their appearance, while the cases with oral lichen planus were unaware of the beginning time of lesions. The most reported symptom of oral lichen planus in the study population was the burning sensation, while the buccal mucosa was the most common site of involvement and reticular form was the high prevalent.

Conclusion: High incidence of dermal and oral lichen planus association revealed throughout the study calls the attention for complete systemic examinations of the patients. As this study was carried out in the dermatology clinic, it seems that other studies in dental schools as well as throughout the public will be of necessity and importance to verify the results. According to this study, there was not a significant statistical relationship between LP and other variables.

Keywords: Lichen planus, Oral lesions, Dermal lesions, Oral diseases.

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INTRODUCTION

Lichen planus (L.P) is a common inflammatory chronic mucocutaneous disease that appears in the mucosae, skin or as both of them simultaneously in the infected patients. The incidence of both dermal and oral symptoms of lichen planus is reported in 16-70 percent of infected patients in different studies. Prevalence of Lichen planus varies about 1-4 percent in different societies. The incidence in females was reported twice than in males. The primary symptoms of lichen planus appears after 40 years of age and the average of the infected patients age is about 50 years. The most prevalent symptoms of the disease are unfavorable roughness during oral mucosa palpation, pain and burning sensation especially after the use of special foods (e.g., spicy). The possibility of turning to aggressive forms of diseases in its course is about 1-3.5 percent declared in different studies.

The etiology of lichen planus is not clearly known up to now but factors like immunological disorders, emotional stress, genetic reasons, mechanical stimulations, drug usage, hepatitis C virus infection, electrogalvanic current, hypertension and allergy are indicated to be related to the incidence of the disease. Some studies revealed the role of systemic diseases such as diabetes, chronic liver disease and alcoholic cirrhosis in relation to lichen planus.

Since, the etiology is still unknown, there is no definite treatment protocol for the purpose. The protocols used for are to control of the systemic diseases, replacement of metal fillings, stopping of interactive medication, topical steroid therapy, antimitabolite administration, antifungal-agents, retinoids, interferon use, cyclosporine, laser therapy and psoralen long wave UVA therapy (PUVA) with unavoidable side effects and problems.

In this study, association of oral and dermal lichen planus was investigated in patients with dermal lichen planus referred to the dermatology clinic of Tehran Razi hospital in 2001. Results could be useful in the examination of skin in patients with oral lichen planus as well as oral examination of patients with dermal lesions in dental and dermal clinics.

MATERIALS & METHODS

This descriptive study was conducted descriptively via observation, interview, clinical examinations and biopsy test results (histopatological diagnosis) in doubtful cases. The study samples were the referred patients with oral or dermal lichen planus according to the diagnosis made by the clinicians of the Razi hospital. They were selected by simple non-randomized method. The data were collected in a questionnaire for each case.

All patients referred to the dermatology clinic of Tehran Razi hospital who satisfied the study inclusion criteria were selected for the investigation. They were examined by professors and post-graduate students of the center to making the final diagnosis either through clinical examinations or by paraclinic tests. A questionnaire was used for each patient to record medical and dental history and clinical examination. In doubtful cases, the biopsy was used for the diagnosis.

After obtaining enough and fair number of patients, the collected data were inserted to a special statistical program (SPSS FOR WINDOWS VER. 10.0) and analyzed. The statistical analysis consisted of Pearson correlation test when comparing the variable’s relations with each other. The level of type one error ($\alpha$) used in the study was 0.05.

RESULTS

A total of 103 patients (52 females (50.5%) and 51 males (49.5%)) who fulfilled the study requirements were selected from 6510 persons referring to Dermatology clinic of Tehran-Razi Hospital in summer of 2001. The age range of the samples were between 108
7-82 years, while the age of males was 37.7±17.82 years and the age of females was 43.3±16.46 years. 63 patients (61.1 percent) of the patients had dermal lesions only, 5 patients (4.9 percent) had oral lichen planus only while 35 cases (34 percent) showed both dermal and oral symptoms of lichen planus. (table 1)

The study showed that 35 of 40 patients with oral lichen planus disorder had dermal symptoms simultaneously, showing the association of 88 percent among the study population. Also, 35 of 98 cases with dermal lesions had oral symptoms too which results to association estimate of 36 percent. In another word it can be stated that 88 percent of oral lichen planus patients had dermal lesions and 36 percent of dermal lichen planus cases had oral lesion at the same time, while the overall association of dermal and oral lesions of lichen planus was estimated to be 34 percent throughout the study.

Table 1. The frequency of lichen planus symptoms in the study population.

<table>
<thead>
<tr>
<th>Lesion type</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermal</td>
<td>98</td>
<td>95.5%</td>
</tr>
<tr>
<td>Oral</td>
<td>40</td>
<td>38.9%</td>
</tr>
<tr>
<td>Dermal only</td>
<td>63</td>
<td>61.1%</td>
</tr>
<tr>
<td>Oral only</td>
<td>5</td>
<td>4.9%</td>
</tr>
<tr>
<td>Dermal and Oral</td>
<td>35</td>
<td>34%</td>
</tr>
</tbody>
</table>

10 patients (9.7 percent) indicated a positive hypertension history, of which, 9 patients were subjected to drug usage. In addition, 5 patients (12.5 percent) reported the same history from those with oral lichen planus lesions only and all of them were using drugs for the treatment. The statistical analysis revealed no significant correlation between hypertension or anti-hypertension drugs with the appearance of oral lichen planus disorder.

6 patients (5.8 percent) had diabetes were known case of diabetes melitus and 5 ones were under medication. This rate was about 5 percent in OLP patients were all used medication. No significant statistical correlation was found between positive diabetes involvement or anti-diabetic drug usage and oral lichen planus inflammation.

In this study, there was not positive history of using antifungal and anti inflammatory drugs, hepatitis infection, connective tissue diseases as well as bone marrow transplantation.

12.6% of patients including 23.5% of males and 1.9% of females had smoking habits. 8 cases (20 percent) of OLP patients were smoking cigarettes, but no significant statistical correlation was found between smoking and oral lesions of LP. No patient stated pipe or other forms of smoking but cigarettes.

Considerable number of patients (76.9 percent) did not report a symptom as their complaint of their oral lesions. The most prevalent symptom was burning of the mouth and then the roughness feeling, stated by 17.5 percent and 7.5 percent of symptomatic patients respectively.

In order of frequency, the sites of oral mucosal involvement were as follow: cheek with 28.2 percent involvement, lip vermilion 10.7%, tongue sides 4.9%, lip intra-mucosa 2.9%, under tongue area 1.9%, mouth floor, soft tissue and gingiva with 1% involvement had the next ranks of oral lichen planus lesions. 14 patients (32.5 percent) had more than one site involvement of OLP. There was not any involvement of hard tissue or alveolar mucosae.

90% of the lesions were keratotic and the remaining 10 percent were nonkeratotic. Keratotic disorders had almost the same incidence in both sexes, while nonkeratotic lesions were 3 times more prevalent in female (75% and 25%).

Reticular lesions of keratotic kind had the...
incidence, with 61.1% papillary lesions, 25% circular and plaque-like lesions, and 5.7% linear lesions. Erosive and atrophic lesions comprised 75% of oral non-keratotic lesions, while 25% were bullous lesions. Two-sided lesions were present in 75% of cases, and one-sided 25%.

No patient with dermal lesions reported previous oral lichen planus. Nine patients (22.5%) presented with amalgam fillings. No significant correlation was found between OLP incidence and amalgam restoration.

**DISCUSSION**

The association of dermal and oral lichen planus was estimated at 34% in patients referred to the Dermatology Clinic of Tehran Razi Hospital, similar to Silverman's findings. Singh (1979) reported a different rate, which may be due to sample differences. From 40 patients with OLP, 88% had dermal lesions, and 22.5% had amalgam fillings. The most prevalent age group was 40-49 years, significantly younger than Singh's study. The gender distribution was equal, and no significant correlation was found between OLP and diabetes, hypertension, or smoking. The association with amalgam restorations was not significant.

**CONCLUSIONS**

The range of association between dermal and oral lichen planus was consistent with previous studies. OLP involvement occurred in the first three decades of life. The study found no significant correlation between variables such as amalgam restorations or smoking. Older studies reported different results, which may be due to differing sample characteristics.

The most prevalent age group in the present study was 40-49 years, compared to Singh's 20-29 years. This discrepancy may be due to societal differences and study design variations.
years aged group with 1.9 percent incidence and 40-49 age group with 20.4 percent incidence had the least and the most prevalence respectively. This suggests that OLP increases with age until 40-49 years of age and then decreases.

The prevalence of the disease was slightly higher in females rather than in males. It was shown that the number of males referred for diagnosis was higher than females while the females followed the treatment seriously. The role of amalgam restoration and smoking as risk factors of LP were not supported by the study.

REFERENCES