Clinical Spectrum of Oral Lichen Planus in Hepatitis C Sero-Positive Patients

ABSTRACT

Background: Oral Lichen Planus can occur alone or as part of generalized Lichen Planus. Clinical presentation differs in various associated conditions such as in patients of Hepatitis C sero-positive cases.

Objective: The objective of this study was to evaluate the clinical and morphological spectrum of oral Lichen Planus in HCV sero-positive cases.

Place and Duration: This cross sectional observational study was conducted at Oral and Maxillofacial Surgery, Department of Dentistry Shaheed Zulfiqar Ali Medical University (PIMS) Islamabad, reported within the period of five years (2008 to 2013).

Materials and Methods: A total number of 78 patients of Oral Lichen Planus with seropositivity were included. An assessment was carried out to describe the morphological patterns and sites in these cases.

Results: Out of 78 patients enrolled in this study, 62% were males and 38% were females. Mean age of the patients were 39.5 ± 6.4 years. Duration of disease was 1-5 years in 53%, 6-19 years were 24% and remaining 23 % had duration of disease for more than 20 years. Buccal mucosa was involved in 52.5%. Patients having lesion at dorsal tongue were 21.7%, lesions at ventral and lateral was seen in 10.2%, gingiva in 8.9% and lower lip was involved in 6.4% of the cases. Further assessment shows that 34.3% patients with buccal mucosa involvement had reticular type of OLP, 24.5% had erosive type and 15.3% had erythematous type lesions. Patients with involvement of dorsal tongue, 10.2% had reticular type lesion, 5.1% had erosive type and 1.2% had erythematous type of lesion. Among patients with ventral and lateral tongue lesions, 5.1% had reticular type, 1.2% had erosive and 1.2% had erythematous lesions.

Conclusion: This study indicated the higher prevalence of reticular type of OLP and the most common site of involvement was buccal mucosa in patients of OLP with Hepatitis C seropositivity.

Key words: Oral Lichen Planus, Hepatitis C, morphology, seropositivity

Address for Correspondence
Prof. Zahoor Ahmed Rana
Head of Dept, Oral And Maxillofacial Surgery Department /Shaheed Zulfiqar Ali Bhutto Medical University (PIMS) Islamabad.
Email: Rajput8@hotmail.com
Introduction
Lichen Planus is a common muco-cutaneous disease of unknown aetiology with immunopathological mechanisms implicated in its pathogenesis. It affects adults more commonly with higher prevalence in women. Over all prevalence of Lichen Planus in adult population is 1-2 % of the general population whereas Oral Lichen Planus occur in 60 -70 % of patients of generalized Lichen Planus. The global distribution of the disease is not associated with any racial predilection. Lichen Planus varies considerably in different geographical areas. Oral Lichen Planus can persist for more than 20 years and spontaneous remission is not common. This muco-cutaneous condition is of squamous cell origin. The classification of OLP was based on Anderson classification, who classified it in six types, which later was simplified in three forms. These types include reticular, plaque-like, atrophic, papular, erosive, ulcerative, and bullous forms of the disease. The reticular pattern is considered the most common in general population, but in oral medicine clinics, erosive forms predominate as a consequence of the symptomatology and chronicity. Oral Lichen Planus usually involve any site of the buccal mucosa, gingival and lateral or dorsal borders of the tongue. It is associated with pre malignant risk and incidence of malignancy has been estimated up to 0.4-5.6 %. In unknown etiological context of the disease, it has been attributed with autoimmune disorder while number of confounding factors such as stress, trauma, drugs (NSAID), Angiotensin Converting Enzymes Inhibitors, dental materials such as amalgam and some viral infections. Infectious agents including hepatitis C, Herpes Virus, Cytomegalovirus, human papilloma virus, Epstein bar virus and H. pylori have been documented. Hepatitis C Virus is an RNA virus and is the major cause of acute and chronic hepatitis. The prevalence of Hepatitis C in Pakistan has been cited in the range of 2.2.-14% and approximately 10 million people in Pakistan are infected with HCV. Clinical feature of OLP include burning sensation, pain, discomfort, irritation, swelling and bleeding on brushing. These symptoms are more common in erosive forms of the disease.

Materials and Methods
This was a cross sectional observational study. This study was conducted at Oral and Maxillofacial Surgery, Department of Dentistry Shaheed Zulfiqar Ali Medical University (PIMS) reported within the period of five years (2008 to 2013). A sample size of 78 patients of Oral Lichen Planus with seropositivity for hepatitis C was included. An informed consent was obtained from patients enrolled in this study. The patients were diagnosed with OLP based on characteristic clinical findings and were confirmed histopathologically. Antibodies to HCV were tested by ELISA. Information of each patient was recorded on specially designed data-collection form. The inclusion criteria included patients above the age of 12 years from both genders with hepatitis C seropositivity. Patients were diagnosed clinically on the bases of clinical findings. Histopathological confirmation of lichen planus in doubtful cases was done, anti-HCV seropositivity and the test for anti-HCV antibody detection was done by the second-generation enzyme linked immunosorbeent assay (ELISA). The exclusion criteria included for those patients who were taking drugs which can cause lichenoid drug eruptions such as gold salts, quinine, thiazide diuretics, beta blockers and patients suffering from other medical conditions such as diabetes mellitus, vitiligo, alopecia areata and ulcerative colitis. Statistical analysis was performed, continuous variables like age were calculated by means and Standard Deviation and descriptive statistics was applied for analysis of categorical data.

Results
The above mentioned 78 subjects, diagnosed as OLP with Hepatitis C seropositivity were assessed for clinical features of OLP, oral site of involvement and presence of symptoms. Demographic profile of the selected patients were assessed which indicate that out of 78 patients enrolled in this study, the majority, 62% were male and 38% were female. Mean age of the patients was 39.5 ± 6.4 years. Duration of disease was 1-5 years in 53%, 6-19 years were 24% and remaining 23 % had duration of disease for more than 20 years. The site, type and Morphological distribution of the OLP was assessed in selected patients which shows that 34.3% patients with buccal mucosa involvement had reticular type of OLP, 24.5% had erosive type and 15.3% had erythematous type lesions, patients having involvement of dorsal touge,10.2% had reticular type lesion,5.1% had erosive type and 1.2% had erythematous type of lesion. Among patients with
ventral and lateral tongue lesions, 5.1% had reticular type, 1.2% had erosive and 1.2% had erythematous lesions. (Table I, figure I)

Table I. Site, type and morphological distribution of Oral Lichen Planus

<table>
<thead>
<tr>
<th>Site</th>
<th>Reticular (%)</th>
<th>Erosive (%)</th>
<th>Erythematous (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buccal Mucosa</td>
<td>27 (34.6%)</td>
<td>19 (24.5%)</td>
<td>12 (15.3%)</td>
</tr>
<tr>
<td>Dorsal Tongue</td>
<td>8 (10.2%)</td>
<td>4 (5.1%)</td>
<td>2 (2.5%)</td>
</tr>
<tr>
<td>Ventral/lateral tongue</td>
<td>4 (5.1%)</td>
<td>1 (1.2%)</td>
<td>1 (1.2%)</td>
</tr>
</tbody>
</table>

Figure 1. Morphological Distribution
Site of lesions were assessed which shows buccal mucosa was involved in 52.5% patients, patients having lesion at dorsal tongue were 21.7%, ventral and lateral tongue was seen in 10.2%, gingiva in 8.9% and lower lip was involved in 6.4%. (Table II)

Table II. Site distribution of Oral Lichen Planus

<table>
<thead>
<tr>
<th>Site</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buccal mucosa</td>
<td>41 (52.5%)</td>
</tr>
<tr>
<td>Dorsal tongue</td>
<td>17 (21.7%)</td>
</tr>
<tr>
<td>Ventral/lateral tongue</td>
<td>8 (10.2%)</td>
</tr>
<tr>
<td>Gingiva</td>
<td>7 (8.9%)</td>
</tr>
<tr>
<td>Lower lip</td>
<td>5 (6.4%)</td>
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</table>

Discussion

**Oral Lichen Planus** is a chronic disease affecting more than half of the patients of generalized Lichen Planus. This study was aimed to determine the frequency and distribution of types and oral sites affected in the selected subjects. A number of studies have been carried out in Pakistan and various other parts of the world depicting variation in geographical and demographical distribution of OLP. In our study, majority of the patients were male; out of 78 selected patients, 54 were male and remaining 24 were female. The mean age group was from 45-55 years of age. This distribution of age is in accordance to number of studies which show higher prevalence of OLP in the same age group. The male predominance in this study is however in contradiction to finding in other studies showing higher frequency in female population. This contradiction may be because of higher turnover of male patients in dental OPD in a public hospital. In our study, majority of the patients had oral lesion in this study involvement of buccal mucosa was found in 52.5%, dorsal tongue 21.7%, ventral and lateral tongue 10.2%, gingiva 8.9% and lower lip in 6.4%. Erosive form was the most symptomatic form of OLP in this study; it caused pain and burning in almost all patients. While for the observed clinical form of OLP in patients infected with HCV; we found that the most frequent clinical form of OLP of our study group are those of the reticular (51%) and erosive (34%) OLP. However, some studies report conflicting results. Mignogna conducted a comparative study with an objective to determine differences in the clinical presentation features of oral Lichen Planus (OLP) between HCV sero-positive and HCV sero-negative patients. This study indicated that the reticular type was more common in HCV sero-positive than in HCV sero-negative patients, they found plaque lesions more common in HCV negative patients; 15.5% versus 5.2% HCV positive patients (P < 0.01). There were no significant differences in the frequency of erosive (27.2% in HCV-ve and 27.6% in HCV+ve) and atrophic (5.3% in HCV-ve and 5.2% in HCV+ve) forms between the two groups. The frequency of erosive was 27.2% and 27.6% in HCV positive and HCV negative patients respectively and there was no statistically significant difference in both these group. That study was a case control study where as in our study we selected the Hepatitis C positive patients. The results reflected in this study were in accordance to our study.

Strak et al compared the clinical presentation of OLP in patients with HCV positive patients which show that HCV +ve patients showed certain oral locations more frequently affected than HCV -ve ones: lip mucosa, 28.6% versus 7.3%; tongue, 57.1% versus 29.1%; and gingiva, 71.4% versus 23.6%. The number of affected intraoral locations was higher in HCV +ve patients (71.4%) than among HCV -ve ones (20.4%; ch2 = 8.34; P < 0.011). No statistically significant differences could be established in terms of density of sub epithelial
inflammatory infiltrate between these groups. In many studies, it has been observed that occurrence of OLP and Hepatitis C patients can be due to the fact that patients with HCV positive, while receiving treatment may develop OLP but as the objective of our study was not to analyse the association of Hepatitis C with OLP, we limited our focus of results on symptoms, types and site of occurrence. Asad et al evaluated that even in cases of HCV positive patients taking treatment, the morphology and sites of involvement were different. However our study has indicated the pattern and clinical spectrum of Oral Lichen Planus in northern Pakistan.

**Conclusion**

The results of this study provide an evidence based evaluation of the clinical expression of OLP with Hepatitis C patients. This shows that majority of the patients had higher prevalence of reticular type of OLP and the commonest site was buccal mucosa. This study high lights the need for liver examination in all patients with oral lichen planus, particularly those showing lesions on the gingiva with multiple intraoral locations. The rational of this study was to emphasize the screening of the patients of OLP so that proper treatment can be planned.

**References**

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