A study on the involvement of oral mucosa and oral manifestations in common dermatologic diseases - Lichen planus, Pemphigus and Psoriasis

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Abstract

Aims: To assess the oral involvement and to evaluate the oral manifestations in common dermatologic diseases - Lichen planus (LP), Pemphigus and Psoriasis. Methods: The patients for this study were selected from various hospitals in Mangalore. A total of 44 patients were carefully examined in natural light for the dermal lesions. The oral cavity was examined with the help of mouth mirror in artificial light after gentle drying of the area and a detailed case history was taken. The number, distribution and features of the lesions were noted. Results: Slight female predilection was observed in LP (52.94%) and Pemphigus (57.14%) cases while there was a male predilection of 4:1 in Psoriasis patients. Initial lesions on the oral mucosa were observed in 76.47% and 71.43% of LP and Pemphigus patients respectively. No definite oral manifestations were seen in any Psoriasis patients. The most favorable site for both Lichen planus and Pemphigus was buccal mucosa. Conclusions: The sole involvement of the oral mucosa was seen in 50% of the patients with LP. The buccal mucosa was one of the most frequently affected sites in Lichen Planus and Pemphigus cases. No significant oral findings were observed in Psoriasis patients. Key words: Lichen Planus; Pemphigus; Psoriasis.

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Introduction

Skin and mucous membrane are similar in their origin and histology but differ in their environment. Among the numerous systemic diseases presenting oral and perioral manifestations the dermatological diseases occupy a place of choice. The correct diagnosis of mucocutaneous lesions is necessary for the early and proper institution of the treatment, which can control the disease to remain in mild form itself or can completely cure.

Lichen Planus, Pemphigus and Psoriasis are some of the common dermatological diseases which may show oral manifestations, sometimes much earlier to the development of the skin lesions.

Lichen planus (LP) is a distinctive, unique, common, inflammatory disorder, characterized by the presence of unique papules and occasionally, hypertrophic plaques, erosions, and/or bullae, that may involve all skin surfaces and mucous membranes, nails and hair (1). Scully et al., (2) stated that the clinical lesions of oral Lichen Planus normally include bilateral white reticular lesions, typically in the posterior buccal mucosa (90% cases), tongue (30%) or on alveolar ridge/ gingival (13%), but rarely on the palate or lip vermilion. Occasionally, LP is seen on the lips alone.

On the other hand, Pemphigus is defined as a group of chronic blistering diseases in which histologically there is acantholysis and blister formation within the epidermis (3). In this disease, mucous membranes are affected in 95% of patients, in as many as 25% of patients these may be the primary site of involvement (1).

While, Psoriasis is a chronic, remitting and relapsing inflammatory skin disorder with a strong genetic predisposition (4). There are different opinions in the literature regarding the oral manifestations of psoriasis. Few authors have reported the oral manifestations of psoriasis in which patients exhibited scaly lesions of the lips (5), erythematous plaques of buccal mucosa and palate etc.,(6). Some observers feel that they have never seen unequivocal psoriasis of a true mucous membrane. Confusion has arisen from the fact that many areas of the buccal mucosa are normally parakeratotic; hence their normal histology resembles that of psoriasis (1).

Studies on the oral manifestations of the dermatological diseases and their documentation are essential as this knowledge helps the dentists to detect them early. Thus, the present study aimed to assess the oral involvement and to evaluate the oral symptoms in common dermatologic diseases such as Lichen planus, Pemphigus and Psoriasis among patients attending different hospitals in Mangalore.

Material and methods

The present study was conducted after obtaining the permission from ethical committee of Yenepoya Dental College, Mangalore. The patients for this study were selected from various hospitals in Mangalore. The selection of the patients was done on the basis of the diagnosis given in conjunction with the dermatologists of the medical hospitals. Those patients diagnosed as having Lichen Planus/ Pemphigus/ Psoriasis of the skin and willing to participate in the study were included and those who were unwilling to participate were excluded. After obtaining the written consent from the patients, a detailed case history and examination was carried out by a post graduate student of Oral Pathology under the supervision of qualified expert in oral diagnosis.

The patients were carefully examined in natural light for the dermal lesions. The oral cavity was examined with the help of mouth mirror in artificial light after gentle drying of the area. The number, distribution and features of the lesions were
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noted. After taking necessary precautions palpation was carried out for tenderness, discharge, base and edges of the lesion. The lymph nodes draining the affected area were palpated. All the information and findings were recorded in the proforma. Later analysis of the data and tabulation was done as shown in the results.

Results

A total of 17 cases of Lichen Planus (LP) were examined during the course of study. Slightly greater incidence of the disease was seen in females (52.94%) as compared to males (47.05%). Seven (15.55%) of the 44 patients included in this study had Pemphigus. A slight female predilection was noted in this study with 4 of the affected patients being females (57.14%) as compared to 3 males (42.86%). Twenty cases of psoriasis were seen during the course of this study. Of the 20 patients, 16 were males and 4 were females.

Table 1: Gender wise distribution of cases

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Total</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lichen planus</td>
<td>17</td>
<td>8 (47.05%)</td>
<td>9 (52.95%)</td>
</tr>
<tr>
<td>Pemphigus vulgaris</td>
<td>7</td>
<td>3 (42.86%)</td>
<td>4 (57.14%)</td>
</tr>
<tr>
<td>Psoriasis</td>
<td>20</td>
<td>16 (80%)</td>
<td>4 (20%)</td>
</tr>
</tbody>
</table>

Age of the patients with Lichen Planus ranged from 18-63 years; with Pemphigus ranged from 24-65 years while with psoriasis ranged from 12-62 years (not presented in tables)

In the present study, 13 of the 17 patients (76.47%) with Lichen Planus had initial lesions on the oral mucosa, while in 3 patients (17.65%) the skin was involved first; one patient (5.88%) had the lesions simultaneously on skin and oral mucosa.

The oral mucosa was the primary site of involvement in 5 (71.43%) out of 7 patients of Pemphigus, no definite oral manifestations were seen in the 20 patients of Psoriasis.

Involvement of only oral cavity was seen in 9 (52.44%), both the skin and oral mucosa were seen in 8 patients (47.06%) of Lichen Planus cases, all the 7 patients having Pemphigus showed both skin and oral involvement whereas none of the 20 patients having Psoriasis showed definite oral involvement. The most favorable site for both Lichen planus and Pemphigus was buccal mucosa (table 4). Among LP patients, hard palate involvement was seen in 3 patients (17.65%). Among the Pemphigus patients, the buccal mucosa was involved in 6 cases (85.71%), lower lip in 3 cases (42.85%), lateral border of tongue in 1 case (14.85%), palate in 1 case (14.85%) and floor of the mouth in 1 case (14.85%). The gingiva was also involved in 3 cases (42.85%).

Table 2: Initial site of occurrence of the lesions

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Skin n (%)</th>
<th>Oral mucosa n (%)</th>
<th>Both n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lichen planus</td>
<td>3 (17.65%)</td>
<td>13 (76.47%)</td>
<td>1 (5.88%)</td>
</tr>
<tr>
<td>Pemphigus vulgaris</td>
<td>1 (14.29%)</td>
<td>5 (71.43%)</td>
<td>1 (14.29%)</td>
</tr>
<tr>
<td>Psoriasis</td>
<td>20 (100%)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 3: Site of involvement of the oral lesions

<table>
<thead>
<tr>
<th>Lesion</th>
<th>UL</th>
<th>LL</th>
<th>RBM</th>
<th>LBM</th>
<th>HP</th>
<th>SP</th>
<th>DT</th>
<th>LBT</th>
<th>FG</th>
<th>AG</th>
<th>FM</th>
<th>MBF</th>
<th>OP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lichen Planus</td>
<td>-</td>
<td>1</td>
<td>12</td>
<td>16</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Pemphigus</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

UL- upper lip, LL – lower lip, RBM- right buccal mucosa, LBM- left buccal mucosa, HP-hard palate, SP-soft palate, DT-dorsal tongue, LBT-lateral border of tongue, FG-free gingival, AG-attached gingival, FM-Floor of the mouth, MBF-muccobuccal fold, OP-oropharynx
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Table 4: Distribution of study population according to oral symptoms

<table>
<thead>
<tr>
<th>Oral symptoms</th>
<th>Lichen planus</th>
<th>Pemphigus</th>
<th>Psoriasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty in swallowing</td>
<td>2(11.76%)</td>
<td>3 (42.86%)</td>
<td>-</td>
</tr>
<tr>
<td>Difficulty in eating</td>
<td>4(23.53%)</td>
<td>5 (71.43%)</td>
<td>-</td>
</tr>
<tr>
<td>Burning sensation</td>
<td>16(94.12%)</td>
<td>2(28.57%)</td>
<td>-</td>
</tr>
<tr>
<td>Mild halitosis</td>
<td>7(41.2%)</td>
<td>4(57.1%)</td>
<td>-</td>
</tr>
<tr>
<td>Severe halitosis</td>
<td>2(11.8%)</td>
<td>3(42.9%)</td>
<td>-</td>
</tr>
<tr>
<td>Excess salivation</td>
<td>3(17.7%)</td>
<td>1(14.3%)</td>
<td>-</td>
</tr>
<tr>
<td>Less salivation</td>
<td>4(24%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fissured tongue</td>
<td>-</td>
<td>-</td>
<td>1(5%)</td>
</tr>
<tr>
<td>Poor periodontal health</td>
<td>-</td>
<td>-</td>
<td>4(20%)</td>
</tr>
<tr>
<td>Prominence of Linea alba</td>
<td>-</td>
<td>-</td>
<td>1(5%)</td>
</tr>
<tr>
<td>No abnormality</td>
<td>-</td>
<td>-</td>
<td>14(70%)</td>
</tr>
</tbody>
</table>

Discussion

Lichen Planus

A total of 17 cases of Lichen Planus (LP) were examined during the course of study. Slightly greater incidence of the disease was seen in females (52.94%) as compared to males (47.05%). This frequency is comparable to that reported previously in the literature (7-9). Crispian Scully et al., (2) in an update of Oral LP, mentioned that female to male ratio is 2:1. LP predominantly is a disease of middle aged and elderly persons. Moschella (10), Lacy (11), Koves and Banoczy (12), Shklar and McCarthy (13) reported that age of the patients varied from 13-78 years. In the present study the age of the patients varied from 18-63 years.

LP may manifest only on the skin or oral mucous membrane (OMM) or both the skin and OMM may be involved. The involvement of the buccal mucosa as the predominant site, is in accordance with the findings of Crispian Scully et al, (2), Shklar and McCarthy (13) and Mascarrenhas. Hard palate involvement seen in 3 patients (17.65%) is slightly higher than the figure of 10% reported by Shklor and McCarthy (13).

Pemphigus

A slight female predilection was noted among pemphigus patients in this study. This is in agreement with the findings of Lever (15), who has reported that females are more frequently affected than males. However Ryan (16) and Krein (17) have reported slight male predilection in Pemphigus vulgaris which is contrary to the findings in this study.

The oral mucosa was the primary site of involvement in 5 patients (71.43%) which confirms with the findings by Shah (more than 75%) (18), Pisanti (19) and Rosenberg (20) (56-65% of the cases). In contrary, Demis (1) and Lever (15) reported a lower rate of oral involvement which was 25%. The site predilection for cheek, lips, gingiva, palate and tongue as observed by Cooke (21), Zegarelli (22), Gilmore and Bennett (23), was also seen in this study. The gingiva was also involved in 3 cases (42.85%) which coincided with the findings of Kempler (2) who observed that the gingiva is one of the most commonly involved sites for Pemphigus. The complaints of difficulty in swallowing and eating and increased salivation reported by our study population have been mentioned previously by Demis (1) and Lever (15) in Pemphigus patients.

Psoriasis

Psoriasis occurred in more frequency in males than females with a 4:1 ratio. This is in agreement with Pogrel and Cram (25), who noticed a male predilection in their series of 100 patients with acute relapse of cutaneous psoriasis. On the other hand another investigator (26) stated that psoriasis occurs with nearly equal frequency in males and females. The mean age at onset of 39.7 years observed in the current study is slightly lower than 33 years that has been reported
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by a previous study (25). No specific oral lesion was identified in any of the psoriasis cases, only a spectrum of nonspecific oral manifestations was observed.

Conclusions

Lichen Planus and Pemphigus showed slight female predilection while Psoriasis showed a male predilection. Majority of the patients with the skin disease were in their 3rd decade. The sole involvement of the oral mucosa was seen in 50% of the patients with LP. The buccal mucosa was one of the most frequently affected sites in Lichen Planus and Pemphigus cases. No significant oral findings were observed in Psoriasis patients. Among Lichen Planus patients, most of them complained of burning sensation while difficulty in eating was reported by many of the subjects with Pemphigus.

References


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