Distribution of Lichen Planus at Extra Oral Site in Oral Lichen Planus Patients

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Abstract: Background: Lichen planus (LP) is a mucocutaneous inflammatory disease of unknown origin. The skin and oral mucosa are the most frequently involved areas. Other mucous membranes (including the genital, esophagus, and conjunctiva) and skin appendages (e.g. scalp, hair and nails) can also be affected. Oral lichen planus (OLP) is a chronic inflammatory mucous disease. WHO consider OLP as a precancerous condition at 2005, but the premalignant potential of OLP is still debatable. Malignant transformation has been estimated to occur in 0.5 - 2.9 % of the OLP patients. Materials and Methods: The study comprised from 60 OLP patients, the patients was diagnosed by clinical examination. Subjects were excluded if they were edentulous, pregnant, were took medications, or were receiving operative treatment, with no evidence of severe chronic periodontitis or autoimmune diseases such as SLE and RA. Results: The highest number of cases, 20 cases (33.3%) from 30-39 years, The lowest number of cases appear at so young and old age patients as four cases (6.66%). The highest frequency at sex distribution is female, it form (73.3%). The highest number of oral lichen planus types at reticular form, it form (86.6%). The highest number of distribution LP at other site of body in OLP patients are cutaneous part all over the body, it form (33.3%). The lowest frequency at nail and this consider as a rare case, it form (3.3%). Conclusion: Data was shown that LP at other site of body can associated with OLP in (86.6%). Nail lichen planus (NLP) appear as one case even it consider as a rare case.

Keywords: Lichen planus LP, Oral Lichen planus OLP, Nail lichen planus NLP

1. Introduction

Lichen planus (LP) is a mucocutaneous inflammatory disease of unknown origin. The skin and oral mucosa are the most frequently involved areas. Other mucous membranes (including the genital, esophagus, and conjunctiva) and skin appendages (e.g. scalp, hair and nails) can also be affected (1).

Lichen comes from the Greek word leichent (meaning flat) and possibly the striking clinical color of the pimples on skin led to the designation lichen rubber (Latin; red). Planus refers to the clinical appearance of the skin papule; flattened, smooth and depressed on the summit, as first described by Wilson in 1869 (2).

It affect primarily middle aged adults, and the prevalence is greater in women while children are rarely affected (2).

Cutaneous lichen planus Figure (1) is classically described as “The six P’s”, namely purple, polygonal, planar (flat-topped), pruritic, papules and plaques (3).

Lesions vary in size from 1 mm to 2 cm in diameter mostly distributed on the flexor surfaces of the limbs, ankle, thighs, lower back, trunk and neck may also affected. The lesions may remain localized to a few areas or there may be an acute eruption with appearance of lesions in corps. The lesions may remain discrete or as eruption with appearance of lesions in crops. The lesions may remain discrete or may occur in groups which coalesce to form large irregular papules. Pruritus is often prominent in LP but varies in severity depending on the types of the lesion and extent of involvement. Pruritus may precede the appearance of the lesions, although some patients are completely asymptomatic (2), Figure (2).

Figure 1: Cutaneous lichen planus

LP has a wide range of clinical appearances that correlate well with disease severity. Cutaneous lesions occur in 20% to 60% of patients/clients with oral lichen planus. Skin lesions tend to wax and wane and unlike oral lesions are relatively short-lived (six months to 2 years) tending to resolve on their own (4).
Oral lichen planus (OLP) is a chronic inflammatory mucous disease. WHO consider OLP as a precancerous condition at 2005, but the premalignant potential of OLP is still debatable. Malignant transformation has been estimated to occur in 0.5 -2.9 % of the OLP patients (5).

It is found in 1–2 % of the general adult population, affects women more than men and occurs most often in middle-aged and older adults. Clinical presentation of OLP ranges from asymptomatic reticular white lichen (reticular papules and plaques), to symptomatic atrophic erosive red lichen (erythema, ulcerative and bullous) with symptoms of burning, irritation and pain, which may undergo malignant transformation (6), Figure (3).

Clinical Diagnosis

OLP lesions commonly present as:-
- Asymptomatic white striae (Wickham's striae).
- Bilateral symmetrical distribution.
- Distributed on the buccal mucosa along the occlusal line.
- Commonly involves the buccal mucosa (upto 90%), gingiva and tongue.
- Less common sites include the palate, lip and floor of the mouth.
- Unilateral presentation of OLP is atypical (10).

LP lesions commonly present as:-
- Small, purplish, polygonal, flat-topped papules, and/or as hypertrophic, scaly skin patches.
- The most common sites are the flexor surfaces of the wrist and elbow, the anterior surfaces of the tibia and ankle, and the lumbar region.
- Affected skin may be itchy, and discoloration may remain after papules have cleared.
- Other cutaneous variants include hypertrophic, bullous, atrophic, linear, and follicular forms.
- Lesions on the scalp, while rare, can cause temporary or permanent hair loss.
- LP of the ears can contribute to hearing loss.
- LP of the fingernails or toenails may result in ridges, thinning or splitting of nails, and temporary or permanent nail loss.
- The vulva, vagina, or penis may be affected. Lesions on the female genitalia can cause burning and pain with intercourse; such lesions are usually red and eroded, but occasionally appear as white areas. Purple or white annular patches, or flat topped shiny papules, occur on the glans penis (bulbous tip of the penis). Long-term erosive lichen planus of the genitalia can lead to vulvar or penile cancer.
- Lichen planus of the mucous membranes of the eyes, while rare, can cause scarring and blindness.
- LP of the esophagus, while rare, may result in narrowing or the formation of tight, ring-like band that can make swallowing difficult (4).

2. Material and methods

Subjects
All subjects were Iraqi and were recruited from the Merjan hospital/ Dermatology department/Babil/ Iraq, between 5-January-2017 to 1-May-2017.

The patient group comprised from 60 OLP patients with no evidence of severe chronic periodontitis or autoimmune diseases such as SLE and RA. Oral lichen planus was diagnosed by clinical examination. Subjects were excluded if they were edentulous, pregnant, have any other autoimmune diseases, were took medications, or were receiving operative treatment.
3. Results

Age distribution
Sixty individuals participated as patients with OLP in the present study including the following age results as show in Table (1):

Their ages ranged from 10-70 years with a mean±SD of 43.2±16.33 years for patient group. The highest frequency of age was distributed from 30-39 years, it form twenty patients (33.3%) was observed to be in the age group. Frequency from 10-19, 20-29, 70-79 years as four patient for each one with percent (6.66%). The lowest frequency of age appear at so young and old age patients.

<table>
<thead>
<tr>
<th>Age group (year)</th>
<th>Patient group (no.= 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-19</td>
<td>4 (6.66%)</td>
</tr>
<tr>
<td>20-29</td>
<td>4 (6.66%)</td>
</tr>
<tr>
<td>30-39</td>
<td>20 (33.3%)</td>
</tr>
<tr>
<td>40-49</td>
<td>8 (13.3%)</td>
</tr>
<tr>
<td>50-59</td>
<td>12 (20%)</td>
</tr>
<tr>
<td>60-69</td>
<td>8 (13.3%)</td>
</tr>
<tr>
<td>70-79</td>
<td>4 (6.66%)</td>
</tr>
<tr>
<td>mean±SD</td>
<td>43.2±16.33</td>
</tr>
</tbody>
</table>

Table 1: Distribution of patient and healthy samples according to age groups.

Sex distribution
Frequency distribution of patient and healthy groups according to sex is shown in Table (2): forty four patients (73.3%) were females and sixteen (26.6%) were males in patient group.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Patient group (no.= 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>16 (26.6%)</td>
</tr>
<tr>
<td>Female</td>
<td>44 (73.3%)</td>
</tr>
</tbody>
</table>

Table 2: Frequency distribution of patient and control groups according to sex.

Types of oral lichen planus distribution
Among the 60 OLP patients as show in table (3): (86.6 %) have reticular form of OLP, (6.66%) have erosive form of OLP,(6.66%) with reticular form of OLP with melanin pigmentation, figure (4).

<table>
<thead>
<tr>
<th>Types of OLP</th>
<th>Patient group (no.= 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reticular</td>
<td>52 (86.6 %)</td>
</tr>
<tr>
<td>Erosive</td>
<td>4(6.66 %)</td>
</tr>
<tr>
<td>Reticular form with melanin pigmentation</td>
<td>4 (6.66 %)</td>
</tr>
</tbody>
</table>

Table 3: Frequency distribution of patient groups according to types of OLP.

Distribution of LP at other site of body in OLP patients
Among the 60 OLP patients, many of them was found have LP at another part of body as show in table (4) that describe the site distribution throughout the body among the patient group. Twenty patients (33.3%) have LP at cutaneous part all over the body. Twelve patients (20%) have LP at (cutaneous & lip) parts. Eight patients (13.3%) don’t have any LP at another part of body. Seven patients (11.6%) have LP at (cutaneous & scalp) parts. Six patients (10.0%) have LP at (lip & scalp) parts. Six patients (10.0%) have LP distributed at (lip, face ,palm & scalp) parts. One patient (3.3%) have LP at nail figure (5), (6), (7).

<table>
<thead>
<tr>
<th>Types of LP at other site associated with OLP lesions.</th>
<th>Patient group (no.= 60)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP only at cutaneous part all over the body</td>
<td>20 (33.3%)</td>
</tr>
<tr>
<td>LP at cutaneous parts &amp; lip</td>
<td>12 (20.0%)</td>
</tr>
<tr>
<td>NO</td>
<td>8 (13.3%)</td>
</tr>
<tr>
<td>LP at cutaneous parts &amp; scalp.</td>
<td>7 (11.6%)</td>
</tr>
<tr>
<td>LP at lip &amp; scalp.</td>
<td>6 (10.0%)</td>
</tr>
<tr>
<td>LP at lip &amp; face &amp;palm &amp; scalp.</td>
<td>6 (10.0%)</td>
</tr>
<tr>
<td>LP at nail.***</td>
<td>1 (1.6%)</td>
</tr>
</tbody>
</table>

Table 4: L P at other site of body distribution associated with OLP lesions.
The reticular type was the most frequent clinical form observed, they form (86.6%) followed by the erosive type and reticular form with melanin pigmentation (6.6%). This finding was also noticed in harmony by other investigators (11-13). As reticular type considered as early and simplest form of OLP. All the cases in this study is new cases not diagnosed before.

The OLP may be associated with lichen planus at other sites of body, the cutaneous part all over the body form the most frequent, they form (33.3%), while LP at nail form (3.3%) cause it found in one case.

LP commonly involves the oral mucosa, but extraoral sites may be affected including the skin, scalp, genital area and nails. Forty percent lesions occur on both oral and cutaneous surfaces, 35% occur on cutaneous surfaces alone and 25% occur on mucosa alone (“isolated” OLP)(16).

Cutaneous LP lesions usually develop within several months of OLP lesions. There is no correlation between extent or severity of OLP and cutaneous LP(16). Cutaneous LP lesions are typically flat-topped, purple papules with white striae called Wickham's striae. They occur most often on the arms, legs and back and are usually pruritic(16). Generalized involvement may occur along with significant postinflammatory hyperpigmentation(16). Cutaneous LP lesions typically resolve within 1–2 years but OLP lesions may persist for more than 20 years.

OLP is chronic with periods of exacerbation and remission (17). Stress was identified most frequently by patients as a cause of their acute disease flares(16). OLP rarely undergoes spontaneous remission. Close follow-up and monitoring with monthly visits are necessary for patients with severe symptoms, poorly controlled erosive disease and those on systemic therapy. Once disease activity and symptoms are fairly well controlled, OLP patients should be evaluated every 6–12 months(16).

A 10-year-old boy was diagnosed with NLP in association with OLP, he have onychodystrophy of fingernails with poor response to topical agents. The naillesions had occurred and progressed for 3 years. Physical examination revealed soft, thin, splitting, brittle nails, including swelling with erythematous change (Figure 7). Asymptomatic slightly raised whitish plaques were noted over the bilateral buccal mucosa (Figure 6). No other skin lesions were found. A nail matrix biopsy was suggested, but the patient refused due to concerns over possible nail deformity after the biopsy. Some recent studies have suggested that a diagnosis of nail LP may be made when it exists together with typical cutaneous/mucous membrane LP disease.
Lichen planus can affect nails in about 10% of the cases (18). Nail involvement in LP in isolation is uncommon and has always been associated with typical skin or mucocutaneous lesions. Rarely nail lichen planus may occur in the absence of skin, oral or genital lesions. The majority of nails changes results from damage to the nail matrix, or nail root. Nail changes can occur with or without skin involvement. The nails when affected tend to become deformed. Commonly only two or three fingernails or toenails are involved. Occasionally all the nails could be affected (18).

Longitudinal ridging and grooving, Pitting, Nail thinning. Nail becomes fragile and nail loss, brown discoloration, depressions of the nail plate, inflammation of the proximal nail folds which becomes erythematous. The skin of the fingertips shows a honeycomb appearance due to multiple, small, punctuate and hyperkeratotic depressions (19).

There may be no symptoms at all or sometimes itching, stinging sensation, burning and pain in the fingertips. In severe cases, the nail may be temporarily or permanently destroyed. Lichen planus on the nails causes the nails to become extremely brittle and more prone to cracks and splits (20).

References


