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A tip to diagnosis of oral lichen planus: Clinical study

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Abstract

Objective: To evaluate the clinical characteristics, predisposing/aggravating factors and malignant potential of oral lichen planus (OLP).

Study design: Data was taken from the medical records of 116 consecutive patients referred to the Oral Medicine Department, and who were subsequently found to have clinical and usual histopathology consistent with features of OLP.

Results: Reticular form was the most common clinical type seen in 64 patients (54.7%), followed by erosive in 37 (32.6%) and erythematous types in 15 (12.6%) patients. The disease caused pain, burning and other symptoms in 72 (75.7%) patients. Buccal mucosa was the chief site of involvement (n=29). Other sites involved were tongue (n=8), lips (n=21), palate (n=3) and floor of mouth (n=0). Stress, spicy foods and poor oral hygiene aggravated disease in most (n=77) of the patients. A malignant transformation rate of 0.07% was observed.

Keywords: Lichen planus, oral lichen planus, malignant transformation, predisposing factors

Introduction

Oral lichen planus is a chronic autoimmune disease. It is a relatively common mucocutaneous disorder of middle aged and elderly persons, with clinical presentations ranging from mild painless white keratotic lesions to painful erosions and ulceration^[1]. Oral lichen planus (OLP) is reported to occur more frequently than the cutaneous form and tends to be more persistent and resistant to treatment. Andreassen classified it in six forms, which was later simplified by others into three types: reticular, atrophic and erosive^[2]. The buccal mucosa, dorsum of tongue and gingiva are commonly affected. Certain factors are known to aggravate the disease. These include stress, smoking and spicy foods^[3]. The reported prevalence rates of oral lichen planus (OLP) vary from 1% to 2% of the population^[4]. Most of these are addicted to habits of smoking and chewing betel nut, betel leaves and concocted tobacco leaves. There is also evidence of development of malignancy in lesions of OLP; especially in the erosive type^[5].

Materials and Methods

The aims of this study was to study clinical characteristics, predisposing/aggravating factors and malignant potential of oral lichen planus (OLP). A hospital based clinical study was conducted among patients reporting to department of Oral Medicine and Radiology with complain of white patch on their oral mucosal region. All consecutive patients of either gender aged above 15 years, fulfilling the diagnostic criteria for OLP were enrolled for study.

Study Design: Hospital based clinical study.

Study settings: Dept. of ODMR

Study Subjects: The study group comprised 116 patients referred to Oral Medicine and comprising a 1 year period from June 2014 to May 2015.

Age group 15-20: 18 patients

Age group 21-30: 42 patients

Age group 31-40: 36 patients

Age group 41-50: 22 patients

Age group 51-60: 4 patients

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Inclusion Criteria: All patients were subsequently found to have clinical and usually histopathological features, of OLP. The clinical criteria included presence of bilateral, mostly symmetrical lesions, presence of lace-like network of slightly raised grey white lines (reticular pattern), erosive, atrophic, bullous and plaque type lesions (accepted as a subtype only in the presence of reticular lesions elsewhere in the oral cavity). Histopathological criteria included hyper granulosis, par keratosis, acanthoses, ‘liquefaction degeneration’ of cells within basal layer and presence of lymphohistiocytic infiltrate in a band-like pattern at the level of papillary dermis and absence of epithelial dysplasia

Exclusion Criteria: We excluded the lichenoid reaction lesions from our research.

Data Collection Tool: All data were entered into a pre-

structured, close-ended proforma. The data were analyzed using SPSS software version 11.0 to calculate the mean age with standard deviation and frequencies of clinical types, sites affected and aggravating factors

Statistical Analysis: Descriptive statistical analysis was used to summarize the demographic and clinical features of the study group.

Results

Of the 116 patients seen, 69 (59.48%) were female and 47(40.5%) male; with a male to female ratio of 3:2. Clinical characteristics of OLP are shown in Table 1 Reticular form was the most common clinical type seen in 64 (54.7%) patients, followed by erosive 37 (32.6%) and erythematous in 15 (12.6%) patients

Table 1: Clinical characteristics of OLP

Clinical Form	Male n 47 (40.5%)	Female 69 (59.48%)	Total n 116
Reticular	28 (60.0)	36 (50.9)	64 (54.7)
Erosive	15 (32.5)	22 (32.7)	37 (32.6)
Erythematous	4 (7.5)	11 (16.4)	15 (12.6)

Buccal mucosa was the chief site of involvement seen in 39 (32.6%) patients. Multiple sites involvement was noted in 59% of patients. Details are shown in Table II.

Biopsy was required in 20 cases. The histopathological features present were typical of cutaneous LP, including prominent granular layer, acanthosis, liquefactive degeneration of basal cell layer, saw tooth appearance of rete ridges and band-like infiltrate of lymphocytes and histiocytes

along the papillary dermis. In atrophic/ erythematous form, epidermal atrophy was the additional feature. Similarly, ulcerative forms showed varying degree of epidermal necrosis. Eosinophilic colloid bodies representing degenerated keratinocytes were seen in half of the cases biopsied. Two patients depicted dysplastic changes superimposed on typical histological features.

Table 2: Sites involved by each type of OLP

Site	Reticular n= 64 (54.7)%	Erosive n=37 (32.6)%	Erythematous n =15 (12.6)%	Total n = 116
Buccal Mucosa	29 (44.2)	6 (16.1)	4 (25)	39 (32.6)
Dorsal Tongue	3 (5.8)	7 (19.4)	5 (33.3)	15 (13.6)
Ventral & Lateral Tongue	5 (7.7)	5(9.7)	0 (0)	12 (7.4)
Gingiva	3 (5.8)	1 (3.2)	0 (0)	4 (4.2)
Upper lip	7 (9.6)	2 (6.5)	0 (0)	9 (7.4)
Lower lip	14 (21.2)	10 (29.0)	1 (8.3)	25 (22.1)
Hard Palate	3 (5.8)	2 (6.5)	5 (33.3)	10 (9.47)
Floor of Mouth	0 (00)	4 (9.7)	0 (0)	4 (3.2)



Fig 1: Keratotic lichen planus with reticular pattern

Discussion

Although it seems that OLP is more prevalent in third to fourth decade of life in our study (The mean age was 41.6 years), which is lower than some of other reports⁶ and perhaps surprisingly could arise in adults as young as 13 years. The majority of our patients reported some degrees of oral discomfort, which was typically generalized, but as in other studies patients with non-erosive or non-ulcerative OLP often still complained of oral discomfort ^[7]. Patients usually had

oral discomfort several months prior to referral. Affirming other studies reticular and atrophic-erosive forms were the most common types of OLP in the present study ^[8]. The lesions of OLP were typically symmetrical and, in agreement with previous studies, the buccal mucosa and tongue were the most commonly affected sites. Patients often had lesions affecting several oral mucosal surfaces. Precipitating factors that resulted in an exacerbation of the disease were frequently noted in this study and included stress, foods, dental

procedures, systemic illness, and poor oral hygiene. The majority of individuals with OLP will continue to have signs of disease, and in view of the controversy of the associated malignant potential, will require careful monitoring by an appropriate trained clinician for very many years^[9].

In view of many patients with OLP having risk activities for potentially malignant and malignant disease of the mouth, it would seem essential that all patients with OLP be informed of the potential for a link between OLP and oral cancer. Nevertheless, none of three patients in this study had a history of tobacco or heavy alcohol use.

Duration between onsets of OLP to malignant transformation was 6 months, one year and 5 years. All of these 3 patients were under follow up and routine treatment and all had showed dysplasia in their histopathological examination. Bilateral lesions affecting the buccal mucosa, tongue and gingivae. The lesions are usually reticular plaque-like and/or atrophic erosive, although patients often have more than one type of OLP. Majority of patients having long-standing OLP, and perhaps a risk of malignant transformation, it is essential that such individuals be carefully monitored by a well experienced clinicians in long term^[10].

The risk of malignant transformation in OLP is controversial, some reporting low while others as high as 5.3%. Two patients were found to have dysplastic changes on biopsy. Both had erosive lesions on buccal mucosa, a finding consistent with a Chinese study^[11]. However, long-term follow-up of disease is needed for proper evaluation for malignant potential proper evaluation for malignant potential.

Conclusion

OLP is a chronic disease with diverse clinical manifestations. It runs a protracted course with unsatisfactory response to treatments available. Multiple site involvement is frequent. The pigmentation of surrounding mucosa was unique finding of this study.

Long-term follow-up is needed to assess the malignant potential. Stress is the most important factor aggravating the disease.

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