Original Article

Clinical and Histopathologic observations in a cohort of Libyan patients with Oral Lichen Planus

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ABSTRACT

This study describes the clinical and histological features in a cohort of 72 Libyans with a histologically confirmed oral lichen planus (OLP) seen in the academic department of Oral Medicine & Oral Pathology of dental faculty in Benghazi in the period between 1997 and 2015.

The cases were followed up clinically from the time of first visit up to periods extending from 4-14 years. In addition, serial biopsies were taken (whenever it deemed necessary) for those patients diagnosed with epithelial dysplasia to monitor its behaviour within the lesion. All the epithelial dysplastic changes were found in erosive, atrophic and bullous form, and none was detected in the white keratotic types. Only One case had undergone malignant transformation after 14 years of the first presentation. Most of the cases responded invariably to management by topical corticosteroids, however, systemic corticosteroids were used for short periods in 5 cases, while benzydamine hydrochloride proven to be beneficial for the relief of mild to moderate pain that sometimes associates with OLP.

Key words: dental erosion, children, gender, Libya

INTRODUCTION

Oral lichen planus (OLP) is a mucocu-tanous disease of unknown etiology but has a unique histopathological features [1]. Its worldwide prevalence of 1-2% in general population aged 15 years and above [2-4].

Oral lesions can occur in any site of the mouth, and invariably involve buccal mucosa and less frequently the tongue, gingiva, palate, labial mucosa and lips. The most common clinical forms include reticular, papular, atrophic, plaque-like, erosive and bullous varieties [1, 5, 6]. In most cases, the diagnosis of OLP can be made on clinical grounds only, however, it has long been pointed out that oral lichen planus does not always present the classic microscopical features of the disease and that a diagnosis must be made on the basis of correlation of clinical and microscopical evaluation [7]. Detection of epithelial dysplasia within the OLP lesions may predict higher chances for malignant transformation [8]. This study describes the clinical presentation of OLP in a cohort of Libyan patients with a histologically confirmed OLP, with a focus on epithelial dysplasia in such lesions.

METHODS

This study describes the clinical and histopathological features of those cases which have been confirmed by histopathological examination. All of these cases were seen in the period from 1997-2015 at the department oral Medicine and Oral Pathology of the faculty of dentistry, Benghazi University. The data regarding the demography of the included cases were retrospectively retrieved from the patients' records in the department; while the clinical presentation of the

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lesion and follow up were also recorded in the case sheet of the patient each visit. The retrieved slides were reexamined again for the purpose of this study especially to emphasize the evidence of epithelial dysplasia or any malignant transformation. The criteria for considering epithelial dysplasia included:

1. Significantly increased nuclear size (N/C ratio).
2. Cellular pleomorphism.
3. Altered or disturbed epithelial maturation .
4. Nuclear hyperchromasia (Beyond the ranges of normal).
5. More than sporadic foci of premature or abnormal keratinization.
6. Abnormal mitotic figures.
7. Notable intercellular fluid accumulation or edema that accompanies any of the six proceeding parameters.

All the collected data were tabulated and analyzed as shown in the results section.

RESULTS

Age groups

The study comprised 72 cases, 32 males (44.4%) and 40 (55.6%) females with a mean age of 46.1 years (47.6 years for males and 44.9 for females), their age ranged from 18 to 68 years, about 66.2% are aged between 30 to 59 years (Table 1).

Sex distribution of clinical types

The white keratotic types were evenly distributed between the two genders, whereas most of the red (atrophic, erosive and bullous) types were seen in female patients. Consequently, there has been a clear female preponderance for epithelial dysplasia (n=8 cases, 72.7%) in comparison with the males (n= 3 cases, 27.3%) (Table 2).

Site of occurrence of different types of OLP

In many cases, more than one type of OLP co-existed simultaneously at the same site or at different sites of oral mucosa with other forms of OLP. In this study (for clinical reasons) the erosive form was the most commonly biopsied type. 33 biopsies were taken from buccal mucosa, 5 from labial mucosa and 3 from the tongue. The white reticular lesions was the second mostly biospsied type (n= 16 cases), all of them from buccal mucosa.

The atrophic OLP was seen in only 5 cases, three of them were confined to the buccal mucosa and extended to labial mucosa in one case involving at the same time the lateral aspect of the tongue. 2 cases of bullous lichen planus affected buccal mucosa and labial mucosa while the gingival was involved in 2 cases (Table 3).

Clinical course

The white keratotic lesions are persistent, painless and seldom associate with complains, apart from mild degree of discomfort or roughness of the mucosal surface. In contrary, the red and erosive forms are usually associated with pain symptoms. There was no total resolution of any case in this study, most of them under follow up and few cases ceased to come for different reasons. Malignant transformation was recorded in only one case , which occurred after 14 years from the first presentation.

Dysplastic and malignant changes

None of the white types (reticular type and plaque types) of OLP (n=22 cases) had any dysplastic changes. Similarly, 43 cases of the erosive lesions (n=30 cases) were clear of any dysplastic changes.
In the erosive form of OLP, the epithelial dysplasia was detected in 12 cases, 10 of them were mild and in another 2 cases the dysplastic changes was moderate. In atrophic form of OLP there been has moderate epithelial dysplasia (Table 4).

Malignant transformation to squamous cell carcinoma was recorded in only one case (transformation rate= 1.38%) (Table 4).

Table 1: Distribution of different types of OLP according to age groups

Age groups	Reticular	Atrophic	Erosive	Plaque	Bullous	Total
Less than 20	1	0	1	0	0	2
20-29	0	0	4	1	1	6
30-39	5	0	4	0	0	9
40-49	5	2	12	0	0	19
50-59	6	3	9	0	0	18
60-69	3	0	12	1	1	17
More than 69	0	0	1	0	0	1
Total	20	5	43	2	2	72

Table 2: Distribution of different types of OLP according to the sex of the patient

Type	Sex		Total
	Male	*Female*	
Reticular	12	8	20
Plaque-like	1	1	2
Erosive	18	25	43
Atrophic	1	4	5
Bullous	0	2	2
Total	32	40	72

Table 3: Distribution of cases according to site and type of lichen planus

Site	Reticular	Plaque	Erosive	Atrophic	Bullous	Total
Buccal	16	0	33	3	1	53
Labial	1	0	5	1	1	8
Tongue	3	2	3	1	0	9
Palate	0	0	1	0	0	1
Floor of mouth	0	0	1	0	0	1
Total	20	2	43	5	2	72

Table 4: Distribution of cases according to type of OLP and degree of epithelial dysplasia (ED)

	Reticular	Erosive	Atrophic	Plaque	Bullous	Total
Mild epithelial dysplasia	0	10	0	0	1	11
Moderate epithelial dysplasia	0	2	1	0	0	3
Severe epithelial dysplasia	0	0	0	0	0	0
squamous cell carcinoma	0	1	0	0	0	1
Total	0	13	1	0	1	15

Table 5: Degree of epithelial dysplasia of OLP lesions from different sites of oral mucoa

Site	Mild	Moderate	Severe	Total
Buccal mucosa	8	2	0	10
Labial mucosa	1	0	0	1
Buccal and labial	0	1	0	1
Buccal, labial and tongue	1	0	0	1
Labial and gingiva	1	0	0	1
Palate	0	0	0	0
Tongue	0	0	0	0
Total	11	3	0	14

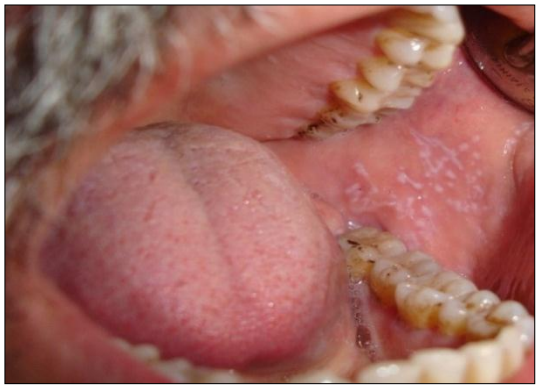

Figure 1: Reticular lichen planus of buccal mucosa

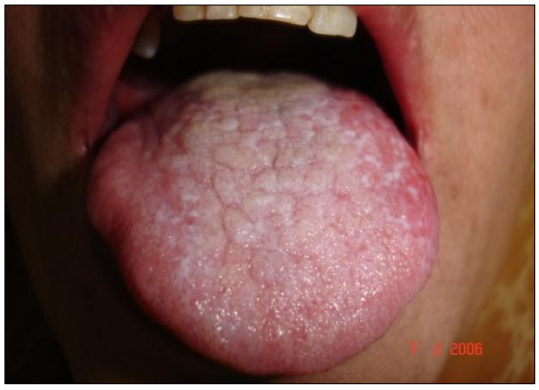

Figure 2: Plaque-like OLP of the tongue dorsum

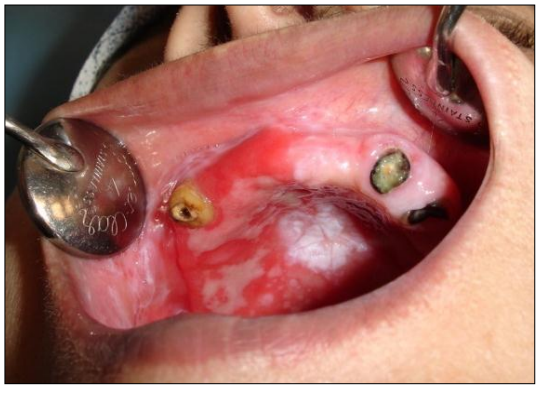

Figure 3: Severe erosive, plaque-like and reticular lichen planus

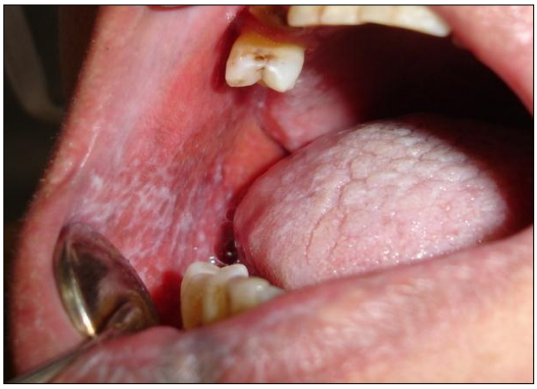

Figure 4: Plaque-like affictions of OLP of the palte

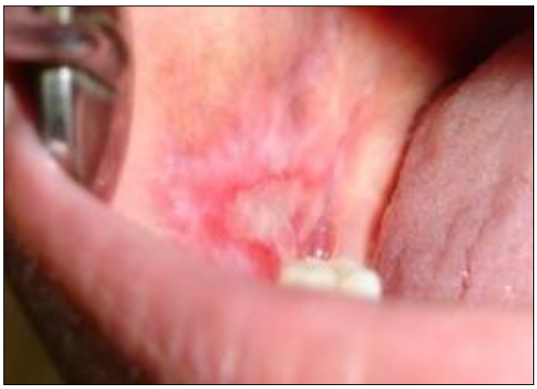

Figure 5: Erosive OLP lesion of the buccal mucosa

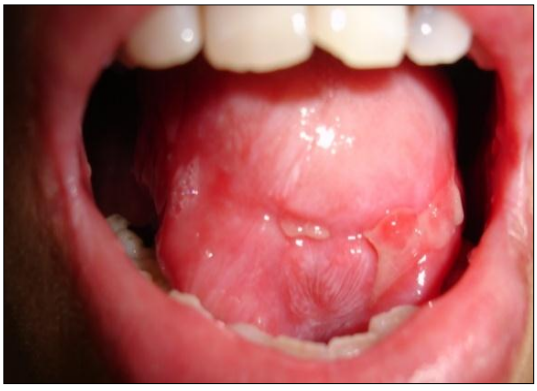

Figure 6: Severe erosive and atrophic OLP of the tongue

DISCUSSION

Oral lichen planus (OLP) is classified according to its clinical presentation into reticular, papular, plaque, bullous, atrophic, erosive, and ulcerative forms [9]. The reticular variety is considered by many studies as the most common form that predominantly affects the buccal mucosa in a network-like fashion composed of cress crossing white or gray lines (Wickham's striae) interspersed with papules or rings [5].

The diagnosis of reticular lichen planus is often feasible clinically for most of the experienced clinicians, as the distinct characteristic Wickham's striae are clinically evident in a lacework or annular pattern on an inflamed or non-inflamed background [10] and seldom biopsied. The erosive and plaque like forms in many instances require laboratory investigation including biopsy, because they can clinically resemble other oral mucosal conditions including malignancy [11].

In the present study (which included the histologically confirmed cases only), all the patients were adults which reflect the rarity of this disease in childhood and there had been slight female preponderance (n=40) than in males (n=32). This finding is consistent with many previous studies [6, 12].

It is well known that the clinical course of OLP differs from the cutaneous forms lichen planus [13]. Many investigators had already studied the histological aspects of the early cutaneous lesions versus late lichen planus [14-16], but no such studies has been done in the mouth mainly because of the difficulty of identification of the early lesion and the difficulties in estimating the exact duration of individual lesions of OLP due to the asymptomatic nature of the disease which often lead to a delayed diagnosis of the disease and also due to the variability of oral lesions when compared to cutaneous lesions [17] . However, many studies had attempted to explore the cellular subset shift in reticular versus erosive form of the disease [18-20].

Unlike the cutaneous lesions (which tend to fade away within 2-3 years, the white forms of oral lichen planus may persist for at least 5 years, furthermore, the erosive forms can persist for up to 15 to 20 years [6, 21, 22]. Oral lesions may be found in any location of the mouth but favored sites are the buccal mucosa, the tongue and the gingiva, whereas palatal lesions are uncommon. The buccal mucosa is the most frequent site in consistent with previous studies [10, 21-24]. The lesions are almost always bilateral [5, 9, 25].

In the present study, erosive lesions were the most widely biopsied (n=43) due to the fact that clinicians are always alert about erosive cases for the possibility of dysplastic or malignant changes and this fact is evident in our study where none of the reticular lichen planus cases have dysplastic or malignant changes.

Different degrees of epithelial dysplasia were reported by many studies in OLP lesions. However, mild epithelial dysplasia does not indicate that malignant transformation of the OLP is imminent [12, 26, 27].

For long time lichen planus of the oral mucosa has been considered a benign condition. In the seventies of the last century, however, the issue has been raised of a possible premalignant nature [9]. Ever since, the literature contains a growing number of papers that confirm the premalignant nature of oral lichen planus [28-34]. Barnard and co-associates examined retrospectively the records of 241 British patients with histologically confirmed lichen planus, and found that most carcinomas at presentation were in areas of erosive and atrophic lichen planus [35]. It is generally accepted that the malignant transformation or development of malignancy in the presence of oral lichen planus is more likely to occur in atrophic, erosive or ulcerative lesions. It have been suggested that these lesions predisposes to oral mucosal damage from carcinogenic agents [8, 10].

In conclusion this study of histopathological changes in OLP lesions indicates that biopsy can be invaluable in monitoring these lesions in regard to malignant transformation.

Conflict of Interest
The authors declare no conflict of interest.
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