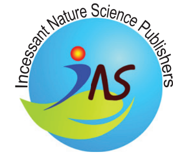
REVIEW ARTICLE



A universal diagnostic criteria for oral lichen planus: An exigency!

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Abstract

For years, dissentions and debates on the malignant transformation of oral lichen planus (OLP) have been sparked not only by a lack of accurate diagnostic criteria but also due to the failure on our part in not following single universal one. In this short communication, we try to reiterate its importance with the goal of making the clinicians and pathologists aware of its serious implications.

Keywords: Dysplasia, oral lichenoid lesion, oral lichen planus

Introduction

The lack of the universal diagnostic criteria for the diagnosis of oral lichen planus (OLP) can be made accountable for the current scepticism and controversies over its malignant transformation. Van der Meij *et al.* have stressed for the need of diagnostic criteria to be universally adopted for its firm diagnosis.[1,2] A clinical and a histopathological definition of OLP was formulated by the WHO in 1978[3] [Table 1]. Later, in 2003, van der Meij and van der Waal,[4] proposed a modification in the WHO criteria [Table 2], stating OLP diagnosis should be clinico-pathological. Results of Rad *et al.*'s[5] study in 2009 showed higher clinicopathologic correlation in the diagnosis of OLP based on the modified criteria of OLP (van der Meij 2003) compared with the 1978 criteria. Studies in the past, and present have substantiated the malignant potential of OLP.[6-9] So, now that we have evidence for its malignant transformation and a suitable criteria in hand, what could be the problem?

1978 WHO Criteria versus Modified 2003 Criteria

There have been studies related to the malignant nature of OLP since 1924 by Williger *et al.* to a recent meta-analysis by Fitzpatrick *et al.*[8] in 2014. It has to be noted, that, over the years, the diagnostic criteria of OLP has undergone a number of significant changes. A criterion was agreed by WHO in 1978[3] and again modified in 2003 by van der Meij and van der Waal.[4] There are pathologists who still favor the 1978 criteria and others who follow the 2003 modified criteria. This difference in opinion among pathologists has a very significant bearing on the data collected in the literature. What would have been an OLP to one pathologist following a particular criteria could seem to be an oral lichenoid lesion (OLL) to another following a different criteria. Let us consider the following hypothetical examples.

Hypothetical scenario 1

Let us consider an OLP lesion clinically manifesting with white radiating striae unilaterally in the buccal mucosa. If the oral medicine and pathology specialists agree to follow the 2003 modified criteria(clinico-pathologic), then, this lesion being clinically compatible(unilateral), will have to be diagnosed as OLL, though it could be histologically typical of OLP. However, the diagnosis would be OLP according to the 1978 criteria. One should make note of the lines quoted by van der Meij and van der Waal[4] (2003), in their paper, which says:

Table 1: WHO diagnostic criteria (1978) of oral lichen planus

Clinical criteria
- Presence of white papule, reticular, annular, plaque-type lesions, gray-white lines radiating from the papules
- Presence of a lace-like network of slightly raised gray-white lines (reticular pattern)
- Presence of atrophic lesions with or without erosion, may also bullae

Histopathologic criteria
- Presence of thickened ortho or parakeratinized layer in sites with normally keratinized, and if site normally nonkeratinized this layer may be very thin
- Presence of Civatte bodies in basal layer, epithelium and superficial part of the connective tissue
- Presence of a well-defined bandlike zone of cellular infiltration that is confined to the superficial part of the connective tissue, consisting mainly of lymphocytes
- Signs of 'liquefaction degeneration' in the basal cell layer

Table 2: Modified WHO diagnostic criteria of OLP and OLL (2003)

Clinical criteria
- Presence of bilateral, more or less symmetrical lesions
- Presence of a lacelike network of slightly raised gray-white lines (reticular pattern)
- Erosive, atrophic, bullous and plaque-type lesions are accepted only as a subtype in the presence of reticular lesions elsewhere in the oral mucosa. In all other lesions that resemble OLP but do not complete the aforementioned criteria, the term "clinically compatible with" should be used

Hisopathologic criteria
- Presence of a well-defined bandlike zone of cellular infiltration that is confined to the superficial part of the connective tissue, consisting mainly of lymphocytes
- Signs of liquefaction degeneration in the basal cell layer
- Absence of epithelial dysplasia

When the histopathologic features are less obvious, the term "histopathologically compatible with" should be used

Final diagnosis OLP or OLL

To achieve a final diagnosis, clinical as well as histopathologic criteria should be included:
- OLP - A diagnosis of OLP requires fulfillment of both clinical and histopathologic criteria
- OLL - The term OLL will be used under the following conditions:
  1. Clinically typical of OLP but histopathologically only compatible with OLP
  2. Histopathologically typical of OLP but clinically only compatible with OLP
  3. Clinically compatible with OLP and histopathologically compatible with OLP

OLP: Oral lichen planus, OLL: Oral lichenoid lesion

"We do realize that application of these criteria will exclude a number of patients who actually may have the disease but do not meet the strict criteria." This line has considerable relevance if we consider the above example.

Also, if this in turn progresses to carcinoma, a false record of malignant transformation of OLL is generated, when in reality the lesion could possibly have been a true OLP. This example quoted, cannot be rejected on the grounds of being hypothetical, as there is every possibility of OLP manifesting unilaterally though it often manifests bilaterally.

Absence of Dysplasia An Exclusion Criteria for OLP – is this Justified?

The heated debate of OLP and dysplasia started with Krutchkoff and Eisenberg's[10] paper in 1985, "Lichenoid dysplasia: A distinct histopathologic entity." While they could have been right about epithelial dysplasia with lichenoid features being misdiagnosed as OLP, the possibility of OLP showing dysplasia cannot be ruled out. The present 2003 modified criteria of OLP have dysplasia as exclusion criteria. Van der Meij and van der Waal[3] in their paper, in 2003, state that "To avoid confusion over the terminology- 'Lichenoid Dysplasia' we propose to regard the presence of epithelial dysplasia as an exclusion criterion for the histopathological diagnosis of OLP." This is not convincing enough to make "absence of dysplasia" as a criterion because, there is accumulating evidence of OLP's malignant potential, and it is rather logical to assume that it could manifest dysplastic features. In fact, exclusion of all lesions that resemble OLPs but exhibit epithelial dysplasia may lead to an underestimation of the rate of malignant transformation.[11] This fact was restated by Mignogna *et al*.[12] in 2007, where they reported severe epithelial dysplasia and carcinoma *in situ* in their series of OLP. Rejecting a diagnosis of OLP solely due to the presence of dysplasia, therefore, requires consideration.

Lichenoid Dysplasia

Krutchkoff and Eisenberg's conclusion of epithelial dysplasias manifesting with lichenoid features were substantiated in the recent papers published by Patil *et al*.[13] and Fitzpatrick *et al*.[14] Moreover, Patil *et al*.[13] observed features of dysplasia in OLP and OLL in their case series, further reiterating the malignant potential of these entities. These papers enlighten us about the co-existence of lichenoid features in OLP, OLL and epithelial dysplasia, further stamping the necessity for accurate and universal diagnostic criteria for the distinction of these lesions. Also, the lesion, lichenoid dysplasia deserves some consideration and requires further appraisal by a panel of experts.

Hypothetical scenario 2

Assuming there is a case of OLP manifesting bilaterally (clinically typical) and the histopathology, though being very typical, reveals dysplasia, what then, should it be diagnosed as? According to 2003 modified criteria, it should be branded as an OLL, since it is histologically compatible (shows dysplasia). But is this diagnosis justified?

Pathologists would also consider other different diagnoses like: OLP with dysplasia, lichenoid dysplasia or simply, epithelial dysplasia.

Hypothetical scenario 3

If a patient with a history of OLP consults another pathologist, unaware of the fact that it has become dysplastic, he/she would again be diagnosed with OLL if the 2003 diagnostic criteria are followed.

Significance of Diagnosing OLLs

van der Meij *et al.*[4] proposed the designation OLL for cases that are clinically typical and histologically compatible, clinically compatible and histologically typical, or clinically and histologically compatible with OLP. As already stated and explained in the first hypothetical scenario, not all patients with OLP manifest with the classical bilateral white striae. In such situations, clinicians and pathologists must exercise prudence in blindly branding the lesion as OLL by strict adherence to the 2003 modified criteria. Whether the lesion to be diagnosed represents an OLP like disease can be suspected by other clinical manifestations like:

Manifestation in cancer-prone areas (floor of the mouth, lateral border and ventral surface of the tongue, retromolar trigone and soft palate–uvula complex), lesions accompanied or preceded by skin manifestations suggestive of other diseases like lupus erythematosus, lesions that have a plaque-type keratosis or a verruco-papillary nature and lesions that may have a possible etiology like restorations(silver amalgam) or drugs.[10]

Differentiating between OLP and OLL is very significant as both the lesions are potentially malignant. It becomes all the more pertinent as two prospective studies by van der Meij *et al.*[15,16] one in 2003 and one in 2007 showed that only OLLs in their many cases turned malignant.

Diagnosis of Candidiasis in OLP Patients

Culture studies have demonstrated *Candida* infection in 37% to 50% of OLP cases.[17] There appears to be no differences in the frequency of *Candida* infection between ulcerated OLP and non-ulcerated OLP.[18]

Candida albicans produces nitrosamine that is harmful carcinogen. Thus, OLP and candidiasis together provide a fertile background for malignant transformation of oral epithelium. Moreover, *C. albicans* isolated from potentially malignant oral disorders are able to produce mutagenic amounts of carcinogenic acetaldehyde when exposed to substrates such as wine and ethanol.[19]

Thus, one cannot disregard oral candidiasis from OLP. Both the lesions together can act synergistically and/or additively in progression to oral squamous cell carcinoma. Hence, we believe that this association needs serious consideration in the revision of diagnostic criteria of OLP.

What if both the criteria are followed in different parts of the globe?

This could possibly be the situation today as there is no universal consensus on any specific criteria to be followed. This would be a serious issue as there would be a gross under or overestimation in the diagnosis of OLP or OLL, inadvertently leading to false data regarding its malignant potential. Studies done on the current topic by different institutions using different diagnostic criteria would generate contrasting data in literature precipitating confusion and controversies.

Universal Diagnostic Criteria – The Need of the Hour!

So, how then, do we undo the debates surrounding the current issue? The answer lies in not only formulating more accurate diagnostic criteria but also in universally following them. Of course, further molecular or immunological studies on OLP would throw further light. We, in this commentary, have tried to explain the possible demerits and confusions that could possibly arise if the current criteria are used and not universally followed. The 1978 WHO criteria may need more accuracy while the 2003 modified criteria could be rigid and strict. Devising an accurate criteria taking into consideration, the above-mentioned points, would go a long way in eliminating the confusion and disputes surrounding OLP.

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