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Lichen Planus Affecting the Lips

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Abstract

Lichen planus frequently compromises the skin, and the oral mucosa. There is plenty of medical and dental literature about the cutaneous and mucosal lesions of lichen planus, but, comparatively very little has been written specifically about lichen planus compromising the lip vermilion. This structure has a peculiar anatomical and histological architecture, and lichen planus lesions at this site may have some distinct features. This article reviews the recent literature about labial lichen planus in all of its presentations, highlighting some special clinical features that may enable a better diagnosis and differential diagnosis of lip diseases. Besides, personal experience by the authors is added.

Keywords: Lichen planus; Lip; Mucosal lesions; Cheilitis

Introduction

Lichen planus (LP) affects the skin, adnaexae (pilo sebaceous units, nail units), and mucosae (oral, genital, oesophagic). Oral lesions occur in 50% to 70% of patients with LP and may be an exclusive manifestation in 20% to 30% of them [1]. There is a large body of medical and dental literature covering the cutaneous and mucosal lesions of LP, but; comparatively very little has been written specifically about LP affecting the lips. Most aspects of such compromise are fully discussed herein, including clinical picture, differential diagnosis, and therapy.

General aspects

The lip comprises three regions: skin, mucosa, and vermilion. Labial skin and mucosa share histological characteristics identical respectively to facial skin and oral mucosa. The vermilion has special features: thick squamous epithelium, abundant capillary supply within interdigitating rete ridges and dermal papillae, besides absence of follicular and salivary structures [2]. These peculiarities may change the clinical aspect of labial lesions when compared to the skin, as well as predispose this particular area to many diseases (the many forms of cheilitis).

The incidence of labial LP is unknown. Compromise can be isolated or in association with lesions elsewhere. Diagnosis is easy if typical lesions at other sites are present. However, confusion with other types of cheilitis may arise, mainly if there is only labial compromise.

Very little has been published specifically about labial LP. A Pubmed search using the keywords "lichen planus lip", "lichen planus lips", or "lichen planus labial", leads us almost entirely into articles only briefly citing this particular presentation of LP, besides a few single case reports [3-10]. There is only one series reporting on ten patients [11].

Rare case series on oral mucosal LP (mostly from dental publications) refer specifically to labial lesions: Xue et al. found 34% among 674 patients, 8, 9% had isolated labial lesions [12]. Sharma and Maheshwari reported fifty children with LP; fifteen had oral LP: exclusive lesions on the lips occurred in four; two had labial lesions as well as on the buccal mucosa [13]. Nanda et al. observed only 3 patients with lip lesions among 23 children with LP [14]. Publications about "squamous cell carcinoma and oral lichen planus" abound on dental literature; nonetheless, very few deal with labial lesions.

The paucity of information leaded us to search for the most significant publications on labial LP in the last 20 years, and present this commented review, adding some topics of personal experience in a large University Hospital.

Clinical aspects

As previously, there are no large studies about labial LP; since little is known about age or gender prevalence.

Lesions commonly observed on the lower lip, followed by concomitant lesions on the upper and lower lips, and more rarely, only on the upper lip [12]. These presentations are mostly asymptomatic, except for erosive and scarring forms. Erosive LP of the lip leads to intense local pain; scarring LP of the lips may lead to lip atrophy and, in very chronic cases, miscrostomia.

One important feature of labial LP is that lesions almost always remain confined to the vermilion; they do not reach the labial skin by blurring the sharp line of the vermilion border. This can be a useful feature in differentiating LP from other types of cheilitis, mainly lupus erythematosus (see differential diagnosis).

It is not common to observe the typical flat-topped, violaceous lichenoid papules of LP (Figure 1a).

More commonly observed aspects include small erythematous patches surrounded by keratotic, white radiated streaks. These

peripheral streaks are very typical of labial LP, and are almost always found (Figure 1b).

Another characteristic aspect includes a diffuse, arboriform, lacelike pattern of distribution of the grayish-white papules along the vermilion (Figure 1c).

Ring-like lesions are more rare, but very suggestive of LP when present on the lips [10]. These annuli can occur isolated or can be confluent into polycyclic patches (Figure 1d).

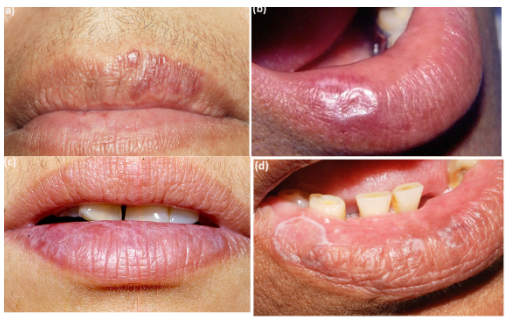

Figure 1: a: Flat-topped, polygonal violaceous papules are rare on the lip. b: Typical erythematous patch with radiated peripheral streaks. c: Lacelike pattern of papules. d: Rings of several sizes-an aspect highly suggestive of LP.

Very rarely, a single labial ring is the only presentation [9]. In dark-skinned patients the centre of these rings is usually hyperpigmented (Figure 2a).

The central portion of lesions in all the patterns discussed above may ulcerate, leading to erosive LP.

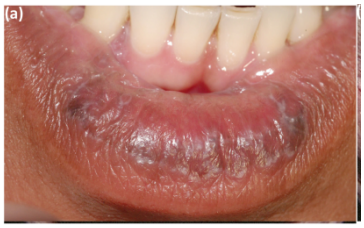

Figure 2a: Confluence of several rings forming a polycyclic patch with central hyperpigmentation.

Erosions are bright red, superficial, and very painful. They can converge forming irregular areas, and are almost always surrounded or intermingled by typical radiated streaks or lacelike papules (Figure 2b). Lesions are incapacitating and persist if not adequately treated.

Squamous cell carcinoma (SCC) might rarely appear on lip surfaces showing atrophy and scarring due to longstanding LP (Figure 2d) [16].

This phenomenon is more common in intra-oral sites: a series of twenty-four cases of SCC arising on oral LP lesions did not show any case of labial compromise [17]. Scarring is the main predisposing factor for SCC occurring secondary to inflammatory disorders. Since severe scarring due to LP is much less common on the skin and on the lip than on the oral mucosa, SCC due to LP most often appears at mucous sites. Lip cancer is believed to be UV-influenced, and oral cancer is believed to be tobbaco influenced in most cases. It is not known if the concomitant presence of LP might interact with these predisposing factors [17].

LP affecting labial skin is rare: compromise most usually occurs when lesions spread from patches in the vermilion (a very rare occurrence, as stated). Mucosal labial lesions may occur, but buccal mucosal, tongue, and gums are more commonly affected.

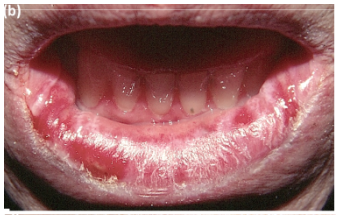

Figure 2b: Erosions intermingled with streaks.

Bullous LP is exceedingly rare on the lips [7]. At times, very severe and chronic forms of erosive LP can lead to atrophy and scarring, mainly on mucosal sites. If on the lips, this compromise can lead to functional disability and microstomia (Figure 2c). These presentations have been increasingly reported [15].

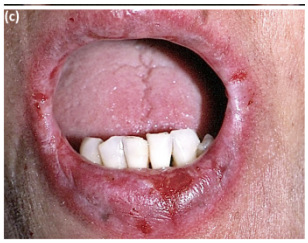

Figure 2c: A longstanding case showing erosions, atrophy on upper and lower lips, leading to microstomia. This patient also had scarring vulvar lesions.

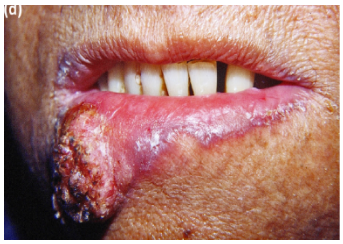

Figure 2d: Squamous cell carcinoma arising in an unusually chronic and atrophic patch. This phenomenon is very unusual on the lips; most cancers at lower lip are sun-induced.

Histopathology

Histopathological manifestations of LP of the lips are identical to those seen on cutaneous or mucosal LP. Changes include hyperkeratosis, hypergranulosis, acanthosis (keratotic lesions), atrophy (old lesions), or absent epithelium (erosive lesions). There is

liquefaction of the basal layer associated with superficial lymphocytic inflammatory infiltrate at the junction of the epithelium with lamina propria. Civatte bodies in the papillary dermis are a frequent finding, as well as melanophages [18]. A biopsy should be best obtained from a keratotic streaked site, or from the striated periphery of erosions.

Labial LP should be differentiated from all other types of cheilitis. Keratotic lesions can be confounded with exfoliative cheilitis, lichen simplex chronicus (persistent rubbing), actinic cheilitis, and discoid lupus erythematosus [2,19]. Erosive LP can simulate pemphigus vulgaris, acute lupus erythematosus, erythema multiforme 20, and herpes simplex. Findings of radiated streaks, lacelike lesions, or rings greatly favour LP (Figure 4).

Some practical clues to clinical differential diagnosis can be found on the legends to Figures 3 and 4. Histopathology is mandatory in doubtful cases, direct immunofluorescence can be useful in selected cases.

Differential diagnosis

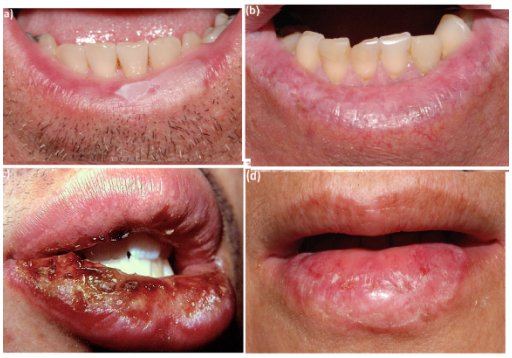

Figure 3: Differential diagnoses of labial LP. a: Lichen simplex chronicus (persistent rubbing): the patient persistently rubbed his upper teeth against the lower lip. Lesion is intensely keratotic. b: Actinic cheilitis: diffuse blurring of the vermilion border and keratosis. Biopsy revealed a very superficial squamous cell carcinoma. c: Erythema multiforme: more marked edema, congestion, haemorragic crusts, and necrosis than would be expected in LP. d: Lupus erythematosus: a well-demarcated erythemato keratotic plaque that, contrarily from LP, typically spreads from the vermilion to the adjacent skin [19].

Treatment

There are no controlled studies on the treatment of labial LP. What is known is based on reports of single cases and on the studies about cutaneous and mucosal LP.

Exclusive reticular papular lesions are mostly asymptomatic and usually respond poorly to treatments. Atrophic lesions (sequelae) do not respond to any treatment. Erosive lesions are those that require therapy because of severe pain; the inflammatory infiltrate is easily accessible by topical therapies in these, since epithelium is lacking [18]. This is also true for vermilion lesions.

Topical corticosteroids are the first line therapy for mucosal LP [21]. These should not be prescribed in orabase vehicle for lesions at the lip vermilion; orabase should be used only on moist intraoral sites. For labial lesions, oinments are better indicated than creams since these adhere less to the lips [18].

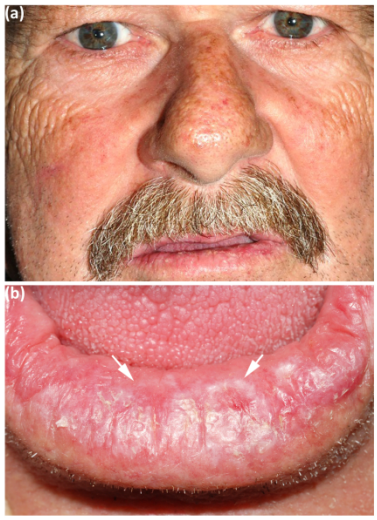

Figure 4: 4a and 4b: Diffuse keratotic lesion on the lower lip of a light skinned, blue eyed man with marked chronic photodamage. Initial clinical suspiction was actinic cheilitis. Close inspection revealed several subtle annular papules (arrows). Biopsy confirmed LP.

Potent topical corticosteroids are the first line therapy. Clobetasol propionate, betamethasone, or triamcinolone, are more commonly used [5,7,11]. A good approach is to decrease steroid potency as lesions improve. Care must be taken while prescribing topical fluorinated corticosteroids on the lips since perioral dermatitis might issue. This can be avoided by advising the patient to rub a very small amount of corticosteroid oinment at the vermilion, scrupulously avoiding perioral skin.

A good deal of experience has been achieved in the last decade in treating intra oral LP with the topical calcineurin inhibitors 0.1% tacrolimus and 1% pimecrolimus. These topical immunosuppressants have been used as steroid sparing agents, but some authors prefer simultaneous combined therapy [21]. The ointment must be applied twice daily, but use may be increased to four times daily until remission or symptomatic relief [21-26]. There are a few reports about these drugs on labial LP [10-27].

Our personal initial approach includes the use of potent topical steroids for erosive lesions (twice or thrice daily). After some improvement has been achieved (about four weeks), we ask the patient to decrease the frequency of application and then start with topical tacrolimus. After a few weeks, we ask the patient to use only the tacrolimus in a long-term basis as a maintenance therapy. The more potent steroid oinment can be used in limited courses if relapses occur.

A recent publication reported on the findings of four cases treated with 5% imiquimod cream, with good results [11].

Alternate topical or even systemic treatments (doxicicline 100 mg BID for 6 months, prednisolone 0.3-0.5 mg/kg BW, PUVA, acitretin 0.5-0.7 mg/kg methotrexate 7.5-20 mg/week, azathioprine 2 mg/kg Day, and mycophenolate mofetil 2 g) are anedoctal 4, these should be attempted only in severe and recalcitrant cases [21,28] Manousaridis et

al. have proposed an interesting evidence based therapeutic ladder in mucosal LP that can also be used on labial LP, although we belive that exclusive labial lesions only very rarely demand systemic medication [21].

Dermatologic surgery and oral surgery teams are of importance in treating SCC appearing on LP lesions.

Prognosis

In our experience, LP of the lips is a less chronic disease than intra oral LP. We also find it more easily treatable, since topically applied remedied stick better to the vermilion than to the wet mucosa. Refractory cases and cases leading to severe scarring are very rare and may demand more aggressive approaches.

Conclusion

Labial LP comprises an interesting subset of this common disease. Lesions can rarely occur isolated, but are more commonly observed in association with cutaneous and/or oral LP. When isolated, labial LP should be differentiated from other forms of cheilitis. Clinical picture includes radiated streaks, lacelike papules, and erosions. Labial LP is usually suitable to topical treatments.

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