ORAL LICHEN PLANUS LESION MIMICKING LINEAR GINGIVAL ERYTHEMA: A CASE REPORT

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Abstract

Oral lichen planus (OLP) is a chronic inflammatory disease that affects the mucous membrane of the oral cavity. It is a T-cell mediated autoimmune disease in which the cytotoxic CD8+ T cells trigger apoptosis of the basal cells of the oral epithelium. Linear Gingival Erythema (LGE) is a progressive disease described in HIV-positive patients and is considered to be an early stage of necrotizing periodontitis. Objective of this case report is to help clinicians to recognize and distinguish OLP lesions from other lesions that have similar appearance such as LGE and give a proper treatment for the oral lesions. We reported a case on a 49-year-old female that was referred to Oral Medicine Department from Periodontology Department with the diagnosis of ANUG and differential diagnosis of Linear Gingival Erythema. On clinical examination, we found Wickham’s striae on buccal mucosa and the edge of the lesion. The patients was then diagnosed with Oral Lichen Planus. The patient was treated with sistemic and topical corticosteroid. After 8 weeks of treatment the patient was fully recovered.

OLP is seen clinically as reticular, papular, plaque-like, erosive, atrophic or bullous types. Intraorally, the buccal mucosa, tongue and the gingiva are commonly involved although other sites may be rarely affected. Erosive or atrophic types that usually affect the gingiva usually show concomitant reticular form. LGE is limited to the soft tissue of periodontium and characteristically appears as an erythematos linear band that extends approximately 2 – 3mm from the free gingival margin. OLP lesions may have similarity with other oral lesions such as LGE. It is important for clinicians to recognize the lesions and choosing the proper treatment for the diseases

Keyword: Oral Lichen Planus, Linear Gingival Erythema, HIV, Corticosteroid

INTRODUCTION

Oral lichen planus (OLP) is a chronic mucosal condition commonly encountered in clinical dental practice. Lichen planus is believed to represent an abnormal immune respon in which epithelial cells are recognized as foreign, secondary to changes in the antigenicity of the cell surface. It has various oral manifestations, the reticular form being the most common. The erosive and atrophic forms of OLP are less common, yet are most likely to cause symptoms. The oral (OLP) eruptions usually have a distinct clinical
morphology and characteristic distribution, but OLP may also present a confusing array of patterns and forms, and other disorders may clinically simulate OLP. Lesions may affect other mucosae and/or skin.\(^3\)

The management of lichen planus is still not totally satisfactory, and there is as yet no definitive treatment, but there have been advances in the control of the condition. There is no curative treatment available.\(^1,3\)

Linear gingival erythema (LGE), formally referred as HIV-gingivitis, is the most common form of HIV-associated periodontal disease in HIV infection that appears as an erythematous linear band that extends approximately 2 mm to 3 mm from the free gingival margin.

These lesions were recently evaluated as a possible form of erythematous oral candidosis, mainly caused by Candida albicans. Unlike conventional gingivitis, the erythema often persists following simple dental prophylaxis. Oral rinsing with chlorhexidine gluconate 0.12% often reduces or eliminates the erythema and typically requires prophylactic use to avoid recurrence.\(^4\)

**CASE REPORT**

A 49-year-old female was referred to Oral Medicine Department from Periodontology Department with the diagnosis of ANUG and suspected for Linear Gingival Erythema. Patient’s chief complaint was sore on anterior upper gingiva, tongue, palatum, and buccal mucosa when she eats hot and spicy meals since 4 months before admitted. The patient was on periodontics treatment for scaling before referred to Oral Medicine Department. Patient has been menopause about 1 year and have no systemic conditions reported.

Extra oral examinations revealed no lymphadenopathy and slightly dry lips. Intra oral examination revealed a white interlacing keratotic lines known as Wickham striae on both buccal mucosa, white hyperkeratotic area on both ventral of the tongue, desquamative area on both upper and lower anterior jaws.

After clinical examination, the patient’s was diagnosed with Oral Lichen Planus. On the first visit, the patient was treated with dexamethasone ampule 5mg/ml dissolved in 500 ml of aquadest and hydrocortisone 2% paste for topical uses, Vitamin B12 tablet 50 mcg twice a day, Vitamin A 6000 IU once a day, and Folic acid tablet 1 mg once a day all in 1 week durations. The patient was instructed to avoid hot or spicy foods, drinks a lot of water, and change her tooth paste to a non-detergent tooth paste.

After a week, patient was recalled to reevaluate the treatment and showed a significant improvement on desquamative lesions at the anterior upper and lower jaws also on hyperkeratotic area at ventral of the tongue but no significant improvement on Wickham striae on both of the buccal mucosa. The patient then was given the same prescription and instructed to continue the previous treatment.
On the fourth visit, four weeks after first treatment, desquamative lesions on anterior upper and lower jaw were found to be worse than the third visit. After anamnesis, patient told that three days before the fourth visit, patient had eaten sunflower seeds and the lesions become sore again. The treatment was then changed to systemic and topical corticosteroid. Prednisone 5mg tablet was prescribed five tablets a day for a week in 3-0-2 order and Kenalog™ in Orabase was used as topical steroid three times a day. Vitamin B12 and Folic acid still be used for supportive therapy. The dosage for systemic steroid then tapered down until eight visit when the lesions at the anterior upper and lower jaws are regress and fully healed. The patient was asked to come again in 1 month for follow up.

**DISCUSSION**

Lichen planus is a chronic mucocutaneous disease characterized by nonspecific inflammation mediated by T lymphocytes that involves the stratified squamous epithelial tissue. It leads to the severe destruction of the epithelial basal layer. The prevalence of oral lichen planus (OLP) ranges from 0.5% to 2.2% of the population and it is considered the most common skin disease involving the oral mucosa. The typical age of onset ranges from 30-60 years, and it is more common in women.5,6

OLP usually presents bilaterally on the oral mucosa and has various patterns, with reticular, erythematous (erosive), plaque and ulcerative being the most common. These patterns may coexist in the same region or may alternate in time. The most commonly affected sites are the buccal mucosa, the tongue and the gingiva. Involvement of the palate and lips is rare, and even rarer is the involvement of the oral floor. Burning symptoms, itching and pain are particularly seen in the ulcerative and erythematous variants.5,6

On our patient, the oral lesion pattern that we found are the reticular and the erythematous (erosive) and the pain that the patient felt was associated with patient daily meals which was spicy or salty foods. When the patient was under treatment we also suggested her to stop consuming spicy or salted food to reduce the exposure of those ingredients to the lesion especially to the erosive area.

OLP is a T-cell mediated autoimmune disease in which the auto-cytotoxic CD8+ T cells trigger apoptosis of the basal cells of the oral epithelium. An early event in the disease mechanism involves keratinocyte antigen expression or unmasking of an antigen that may be a self-peptide or a heat shock protein. Following this, T cells (mostly CD8+, and some CD4+ cells) migrate into the epithelium either due to random encounter of antigen during routine surveillance or a chemokine-mediated migration toward basal keratinocytes. These migrated CD8+ cells are activated directly by antigen binding to major histocompatibility complex (MHC)-1 on keratinocyte or through activated CD4+ lymphocytes.

In addition, the number of Langerhan cells in OLP lesions are increased along with upregulation of MHC-II expression; subsequent antigen presentation to CD4+ cells and Interleukin (IL)-12 activates CD4 + T helper cells which activate CD8+ T cells through receptor interaction, interferon γ (INF – γ) and IL-2. The activated CD8+ T cells in turn kill the basal keratinocytes through tumor
necrosis factor (TNF)-α, Fas–FasL mediated or granzyme B activated apoptosis.\(^5\)

OLP has six classical clinical presentations which are: reticular, erosive, atrophic, plaque-like, papular and bullous. Reticular form is the most common clinical form of the disease and it presents with fine, intertangled white striae, called “Wickham striae”. Often, these lesions are not static, improving and worsening within weeks or months. Lesions are usually asymptomatic with a bilateral pattern, symmetrical, and involve the posterior mucosa of the cheek in most cases. Erosive form is the most significant form of the disease because it shows symptomatic lesions. Clinically, a central irregular ulceration covered or not by a fibrin plaque or pseudomembrane. The lesion is often surrounded by fine radiating keratinized striae with a network appearance. The gingivae are commonly the site of erythematous/erosive OLP. Involvement of the gingivae is described clinically as desquamative gingivitis, but is not unique to OLP and may feature in the presentation of other oral dermatoses, especially pemphigoid and pemphigus.\(^6\)\(^-\)\(^11\) In our case, the appearance of desquamative gingivitis on anterior upper and lower jaws is mistaken for the red band appearance of linear gingival erythema, but that was excluded because the patient did not have any history of using narcotics and the evidence of striae at the buccal mucosa.

Linear gingival erythema, or “red band gingivitis,” presents as a red band along the gingival margin and may or may not be accompanied by occasional bleeding and discomfort. It is seen most frequently in association with anterior teeth, but commonly extends to the posterior teeth. It can also present on attached and non-attached gingiva as petechialike patches. Some data indicate a relationship between sub-gingival colonization of Candida species and HIV-related periodontal conditions including linear gingival erythema. The most recent American Academy of Periodontology classification of periodontal diseases groups linear gingival erythema under “gingival disease of fungal origin.” However, antifungals typically are not needed for treatment. Treatment includes debridement by a dental professional, twice-daily rinses with a 0.12% chlorhexidine gluconate suspension for 2 weeks, and improved home oral hygiene.\(^4\)\(^,\)\(^13\)

The red erosive ulcer of OLP lesion that goes along anterior part of gingival margin was confused with red band appearance of LGE. At first glance, the lesions were similar with LGE lesion, but after a thorough intra oral examination, we found that the lesions were erosive in nature and have a fine, intertangled white striae at the edges of the lesion and on both buccal mucosa. Those findings were not a characteristic of an LGE lesion but consistent for OLP reticular and erosive type lesions. The patients also complained about mouth discomfort because of the erosive lesion while LGE lesions are rarely accompanied with any discomfort. It is important to distinguish these lesions because it has a very different approach in term of treatment.

The different etiological factors considered for LP are genetic background, dental materials, drugs, infectious agent, autoimmunity, immunodeficiency, food allergy, stress, habits, trauma, diabetes, hypertension, malignant neoplasm and bowel diseases.\(^12\) On our patient, we suspected that the emotional stress that the patient was having at the time were the trigger for these lesions to appeared. The diagnosis should be based on clinical and histopathological examination. In classical lesions, only clinical diagnosis is possible. In the absence of typical manifestations of the reticular pattern, other patterns may be difficult to diagnose. In these cases, a biopsy is indicated. The oral lesions that we found on our patient’s were Wickham’s striae which was the clinical base for us to diagnose this lesions as oral lichen planus.

The classic histopathologic features of OLP include liquefactive degeneration of the basal cell accompanied by apoptosis of the keratinocytes, a dense band-like lymphocytic infiltrate at the interface between the epithelium and the connective tissue, focal areas of hyperkeratinized epithelium (which give rise to the clinically apparent Wickam’s striae) and occasional areas of atrophic epithelium where the rete pegs may be
shortened and pointed (a characteristic known as saw tooth rete pegs). Eosinophilic colloid bodies (Civatte bodies), which represent degenerating keratinocytes, are often visible in the lower half of the surface epithelium. Degeneration of the basal keratinocytes and disruption of the anchoring elements of the epithelial basement membranes and basal keratinocytes (e.g. hemi desmosomes, filaments, fibrils) weaken the epithelial connective tissue interface. As a result, histologic clefts (Max–Joseph spaces) may form and blisters on the oral mucosa (bullous LP) may be seen at clinical examination. B cells and plasma cells are uncommon findings. 11

The principal aims of current OLP therapy are the resolution of painful symptoms, oral mucosal lesions, the reduction of the risk of oral cancer, and the maintenance of good oral hygiene. Eliminate the local exacerbating factors as preventive measures. Up to now different therapies are described for OLP including drug therapy, surgery, psoralen with ultraviolet light A (PUVA), and laser. Use of novel drug therapy is the most common method for treatment of OLP. Different drugs have been used in the form of topical and systemic application for the treatment of OLP. Drugs used in topical form are corticosteroids, immunosuppressives, retinoids, and immunomodulators. Drugs which are used systemically are thalidomide, metronidazole, griseofulvin, and hydroxychloroquine, some retinoids and corticosteroids. Small and accessible erosive lesions located on the gingiva and palate can be treated by the use of an adherent paste in the form of a custom tray, which allows for accurate control over the contact time and ensures that the entire lesional surface is exposed to the drugs.1,5,11

Local drug delivery can provide a more targeted and efficient drug-delivery option than systemic delivery for diseases of the oral mucosa. The main advantages of local drug delivery include reduced systemic side effects, more efficient delivery as a smaller amount of drug is wasted or lost elsewhere in the body, and targeted delivery as drugs can be targeted to the diseased site more easily when delivered locally, thereby reducing side effects. However, potential for novel drug delivery systems in dentistry has not yet been fully realized and further research is still needed in order to improve treatment outcomes.1,5,11 On our patient, at first visit we use dexametason 5ml which was dissolved with 500 ml of aquadest as squish and spit mouth wash and have a good response, but at the third visits when patient have had eaten sun flower seeds and the erosive lesion were worsen, we change the treatment to sistemic cortisteroid which was prednison 5mg 3-0-2 to fasten the healing of erosive lesions.

Surgical excision, cryotherapy, CO laser, and ND:YAG laser have all been used in the treatment of OLP. In general, surgery is reserved to remove high-risk dysplastic areas. Photo chemotherapy, a new method in which clinician uses ultraviolet A (UVA) with wavelengths ranging from the 320 to 400 nm, after the injection of psoralen is also used. Relaxation, meditation and hypnosis have positive impact on many cutaneous diseases and help to calm and rebalance the inflammatory response which can ameliorate inflammatory skin disorders.1,5,11

It is clear that OLP is an incurable disease. However, the disease has periods of exacerbation and remission. During exacerbation, both the erythematous / ulcerated areas and the pain increase. These periods may be related to stress, anxiety or mechanical trauma.1

On our patients, the erythematous and erosive lesions on the upper and lower anterior jaws were first suspected for Linear Gingival Erythema, but after a thorough anamnesis and clinical examination we found that these lesions were infact an oral lichen planus lesions because of the clinical feature of erosive lesions, wickham striae on buccal mucosa and patient complaint of sore on her gum. These lesions also have a good response on corticosteroid treatment.

CONCLUSION

The OLP may present a confusing array of patterns and forms, and other disorders may clinically simulate OLP so early recognition of oral lesions is important to distinguish the lesions with other diseases.
and choosing the proper treatment for the diseases.

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REFERENCES


