

# A case of oral lichen planus associated with desquamative gingivitis with periodontitis

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## KEYWORDS

Oral lichen planus; Desquamative gingivitis; Solo brushing technique, Regular recall

## ABSTRACT

Desquamative gingivitis (DG) is a manifestation of a number of mucocutaneous disorders, one of it being oral lichen planus (OLP). OLP is an autoimmune disease. The aetiology for this condition is unknown, but there are few factors associated with its occurrence, for example alcohol drinking, smoking, allergic reaction to certain medications or restorative material. DG lesions increase the long-term risk for plaque-induced periodontal disease. At the same time, dental plaque and calculus cause gingival OLP resulting in the erosive disease. This report presents the management of a case of oral lichen planus associated with desquamative gingivitis with periodontitis. The expertise involved are from the oral medicine, periodontic and prosthodontic clinics. The uniqueness of the case management was the introduction of single tufted brush, Tepe® compact tuft toothbrush, to perform “solo brushing technique”. It was able to remove plaque effectively and did not cause irritation to the gingivae. Patients presenting with mucocutaneous disorders which exacerbates other oral conditions requires multidisciplinary management. Proper treatment planning will significantly improve their oral health related quality of life.

## INTRODUCTION

Desquamative gingivitis (DG) is a manifestation of a number of mucocutaneous disorders, one of it being oral lichen planus (OLP) [1]. It is diagnosed based on clinical findings. As the name suggests, it is characterised by a desquamated and erosive gingival epithelial layer, and is painful to touch.

Oral lichen planus is an autoimmune disease. The aetiology for this condition is unknown, but there are few factors associated with its occurrence, for

example alcohol drinking, smoking, allergic reaction to certain medications or restorative material [2].

Desquamative gingivitis lesions increase the long-term risk for plaque-induced periodontal disease via plaque accumulation when symptoms associated with such lesions impede the performance of proper oral hygiene. At the same time, this perpetuates a vicious cycle as local factors such as dental plaque and calculus cause gingival OLP to worsen resulting in the erosive disease [3]. As plaque continues to accumulate, symptoms of DG are enhanced. If left untreated this will progress to chronic periodontitis and ultimately tooth loss. Losing teeth not only affects esthetics and phonetic efficiency, but it also leads to poor nutrient intake and jeopardises overall health [4].

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This case report presents a multidisciplinary management of a patient, who suffered from OLP related desquamative gingivitis with concurrent generalized chronic periodontitis. The management for this patient was provided by specialists from the oral medicine (OM), periodontic and prosthodontic clinics. By controlling the patient's periodontal condition, it alleviated symptoms of DG and allowed rehabilitation of his dentition.

## CASE REPORT

The patient seen in this case report was a 59-year-old male. He was initially referred to the Oral Medicine Clinic of Dental Faculty in University Malaya for a condition diagnosed as desquamative gingivitis associated with oral lichen planus. The patient complained of generalized bleeding and pain while brushing his teeth. He was generally fit, and consumed alcohol occasionally. Upon examination, he was found to have generalized fiery red gingiva with whitish striae and edematous gingiva (Figure 1).

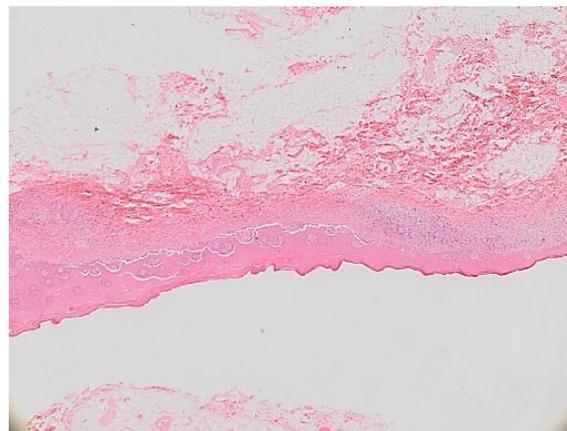


**Figure 1.** Generalized fiery red gingiva with whitish striae and oedematous gingiva.

His overall plaque control was poor (Plaque Index [PI], 100%) with bleeding score of 100%. His probing pocket depths ranged from 4mm-6mm. Generalized gingival recession was observed where half root length of teeth were exposed in the mandible. Radiographical findings showed generalized alveolar bone loss of 1/3 root length. He was given a provisional diagnosis of generalized moderate chronic periodontitis and DG.

An incisional biopsy on the left buccal mucosa was performed by the oral medicine specialist and sent for

histopathological examination (HPE) to confirm the diagnosis of the mucosal lesion [1]. The histopathological examination (HPE) findings (Figure 2) reported that the lesional area was composed of parakeratinized stratified squamous epithelium exhibiting basal cell liquefaction degeneration and sub-basilar clefting. This confirmed the diagnosis as oral lichen planus.



**Figure 2.** Incisional biopsy from (L) buccal mucosa showing lesional area composed of parakeratinized stratified squamous epithelium exhibiting basal cell liquefaction degeneration and sub-basilar clefting. (H&E, x20)

His treatment plan comprised of application of a topical steroid, Dexatin® for his lesion. He was reviewed monthly in the Oral Medicine Clinic to review the progress of his DG and OLP. At the same time, his periodontal management commenced. Oral hygiene instruction was initiated. To overcome the “pain” inflicted by regular toothbrushing, the patient was introduced to Tepe® compact tuft toothbrush to perform “solo brushing technique” especially around the gingival margins. He was instructed to clean tooth by tooth by focusing on the cervical region, following the contour of the gingival margin.

When he was recalled 2 weeks later, a reduction in plaque accumulation (plaque score of 45 %) was observed. The patient claimed that it was no longer painful to brush and was very compliant with his oral hygiene practice. Initial periodontal therapy was continued which consisted of full mouth scaling and root planning of teeth with pocket depths 5mm and above. The periodontal therapy provided was purely non-surgical. Throughout his periodontal treatment, the patient was very motivated in maintaining good oral hygiene practice (Figure 3).



**Figure 3.** Result of good oral hygiene practice.

Periodontal re-evaluation was carried out after 8 weeks, and revealed complete resolution of the inflammatory condition. Patient was then recalled at 2-3 monthly intervals for periodontal maintenance while OM follow-up was increased to 3 monthly instead of monthly. Subsequently this patient was seen by the prosthodontist for construction of an upper fixed-fixed bridge and lower Maryland bridge to replace the missing incisors (Figure 4).



**Figure 4.** Addition of Maryland bridge for the upper and lower missing incisors.

## DISCUSSION

In this case report, patient's DG condition had improved following completion of initial periodontal therapy. This was in line with the observation [5] which had shown that reduction in the overall inflammatory condition of the mucosa, including ordinary plaque-associated inflammation, was beneficial for controlling this group of immune disease.

Periodontal therapy for this patient was purely non-surgical, which consisted of only scaling and root planning and continuous reinforcement of oral

hygiene. This was due to the friability of the gingiva. [6] had suggested limiting invasive procedures and handling tissues very gently to minimize the Koebner phenomenon, which was the exacerbation of lesions due to mechanical or other trauma. Therefore, management for the residual pockets >5mm was periodical debridement. The authors found that single tufted toothbrush was a suitable tool for daily dental care in patients with painful mucosal lesion as reflected by the improved compliance from this patient. The single tufted brush was able to remove plaque effectively and did not cause irritation to the gingivae.

Studies have shown that sufficient numbers of teeth were required to enable efficient mastication and ensuring adequate nutritional intake [7]. The patient in this case report presented with missing teeth that required replacement. However due to his underlying oral mucosal condition, he would require appropriate considerations when deciding on the type of prosthesis to replace his missing teeth. Reviews showed that there was very limited evidence on the safety and benefits of implant placement in OLP patients. It was also shown that alternatives to dental implants may be preferable in patients with OLP as erosive OLP has been associated with dental implant loss, possibly because of the altered capacity of the oral epithelium to adhere to the titanium surface [8].

Thus discussions between all three specialists and the patient were done to agree on the type of prosthesis which would improve the patient's masticatory function, meet the dental aesthetics and at the same time was within the financial means of the patient. The patient was issued an upper fixed and lower Maryland bridges to replace the missing upper and lower incisors. The design of the prosthesis was aesthetically pleasing and at the same time presented with anatomically correct tissue contours to prevent inflammation and facilitate hygiene.

The patient was subsequently recalled regularly for periodontal maintenance. His periodontal condition continued to remain stable. Following the good periodontal management of this patients periodontal condition whereby there was generalised reduction of his plaque-induced inflammation, the patient reported to feel much better and was able to maintain his daily oral hygiene care. In addition, it also reduced the severity of oral mucosal condition [9], as seen in this case report where patient's follow up in

Oral Medicine clinic was now every 3 months instead of once a month.

significant improvements in their oral health related quality of life.

## CONCLUSIONS

Patients presenting with mucocutaneous disorders can present challenges to the clinician when their mucocutaneous disorder exacerbates other oral conditions. The multidisciplinary management approach should be used to approach these challenges. Patients can benefit in the long run with proper treatment planning and subsequently have

## DECLARATION OF INTEREST

The authors report no conflicts of interest. The authors alone are responsible with the content of this article.

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