

Challenging Treatment Of Oral Pemphigus Vulgaris; Case Of One Year Follow Up

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Abstract

Introduction: Pemphigus vulgaris is chronic autoimmune blistering disease affecting skin and mucous membranes, especially oral cavity. Early lesions can occur only in oral cavity. This article aims to report the challenges in treating oral pemphigus vulgaris.

Case Presentation: 70-year-old male patient with sore mouth accompanied by blister in chest. Intraoral examination showed sloughing with erosive lesions on almost the entire oral mucosa. Lesions also found in extraoral area. Biopsy from a perilesional lesion on chest showed pemphigus vulgaris. Treatment has been going on for 1 year follow up with an oral medicine specialist and dermatology-venerology specialist. He got corticosteroid topical and systemic, for the skin lesion were healed and never get flare up, in contrast with recalcitrant lesions in the oral cavity.

Conclusion: Treatment of pemphigus vulgaris in the oral cavity has its own challenges, this is associated with oral hygiene, bad habits such as smoking can complicate the treatment of lesions unlike the case with skin lesions that can be controlled using systemic corticosteroid therapy and other treatment for skin lesions. The treatment really must involve multi-specialistic to be able to help the patient with the pemphigus vulgaris

Keywords: Bullous Disease, Pemphigus Vulgaris, Oral Involvement, Corticosteroids

Date of Submission: 14-09-2023

Date of acceptance: 24-09-2023

I. Introduction

Pemphigus vulgaris is a chronic autoimmune disease characterized by the presence of lesions in the form of bullae that break easily resulting in erosion or ulceration. Pemphigus vulgaris can occur in the mucocutaneous area, it can affect 1-5 per 100000 world population with a predilection for adults and the elderly in the 4-5th decade. 1 Pemphigus vulgaris initial lesions may occur in the oral cavity, however, in some cases skin lesions may also occur first and then followed by lesions in the oral cavity. Pemphigus vulgaris initial lesion can occur in the oral cavity in more than 50% of cases. Lesions can occur on the gingivae, palate, floor of the mouth, buccal mucosa, labial mucosa, lips and also tongue. 2 Treatment of pemphigus vulgaris has its own challenges, especially in cases of pemphigus vulgaris involving the oral cavity. Oral lesions of pemphigus vulgaris are very recalcitrant the lesion can recur due to poor oral hygiene conditions, uncooperative patients, and habits such as smoking which also affect case treatment. This case report aims to discuss the challenges treatment oral pemphigus vulgaris case in one year follow up

II. Case Report

In September 2021, a 70-year-old male patient came to private oral medicine specialist clinic with chief complains of widespread canker sore in the oral cavity which have appeared for several months. He has difficulty eating and swallowing food. Previously he had gone to the dentist but there was no improvement of the chief complaint. On extraoral examination, we found erosive crust lesion were seen in the perioral area, similar lesions were also seen on the chest, ear, and arms. Intraoral examination revealed sloughing with erosive lesion extends to the right and left buccal mucosa, an erosive area on the soft palate extends to the oropharynx, and a thick white coating on dorsal of tongue. Erosive and sloughing were also seen on the gingival area, and both lateral edges of the tongue. Nikolsky's sign in positive in the gingival area. Poor oral hygiene, we found dental plaque, calculus, stains on the tooth surface (Figure 1). He also has a history of smoking and betel nut chewing since he was young.

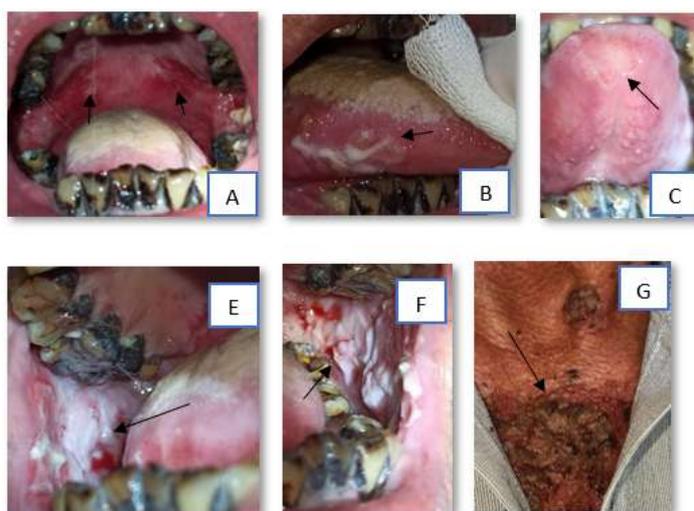


Figure 1. 1st case. Clinical pictures of lesions at 1st visit. Oral lesions showing sloughing and erosive(A-F) and Skin Lesion (G)

From the anamnesis and clinical appearance of the lesions, the patient was suspected with pemphigus vulgaris with oral lesion, then he was referred to the department of dermato-venerology Zainal Abidin General Hospital for further examination. The treatment of oral lesions was given topical corticosteroid mouthwash, patient was instructed to stop betel nut chewing, and smoking, and followed up after further examination at hospital.

The patient has obtained a biopsy procedure from the chest lesions, and based on histopathological result, it was diagnosed as pemphigus vulgaris (Figure 2). Then, he started received systemic treatment such as vitamin D, antihistamine 10 mg, topical ointment for skin lesion, corticosteroid systemic (methylprednisolone 16 mg) from dermato-venerologist. On October, 2021 he returned to control oral lesions. The oral lesions have improved, and he said that he has stopped betel nut chewing. At that time, scaling and root planning procedure was performed. Then, he also asked to continue the topical corticosteroid topical for oral lesions. Two months later, he reported than oral lesions had healed, and he was starting to be able to eat and drink. However, in July 2022, he returned to follow up with new lesion that was appeared in the oral cavity at left buccal vestibulum, but skin lesion was healed. August 2022, new lesion appears at left buccal mucosa but on October 2022, he complained of more severe lesions on buccal mucosa and lateral edges of tongue. Since the oral lesions was recalcitrant, he was referred again to dermato-venerologist, and he start to take methyl prednisolone 8 mg one day later, and he also get the cyclosporine 100 mg once a day. On December 2022 to February 2023 the oral lesion was in the worst phase, but on March, 2023 the oral lesion was healed (Figure 3).

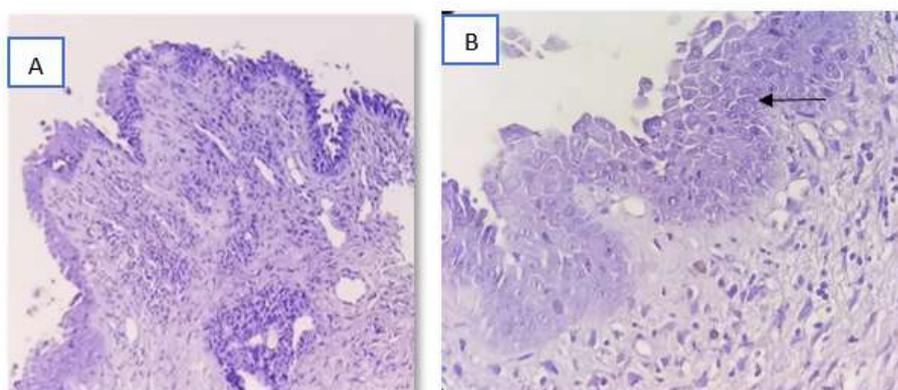


Figure 2. 1st Case. Histopathological pictures from a perilesional skin lesion (chest area) (A). Intraepidermal acantholysis showed with a black arrow (B)

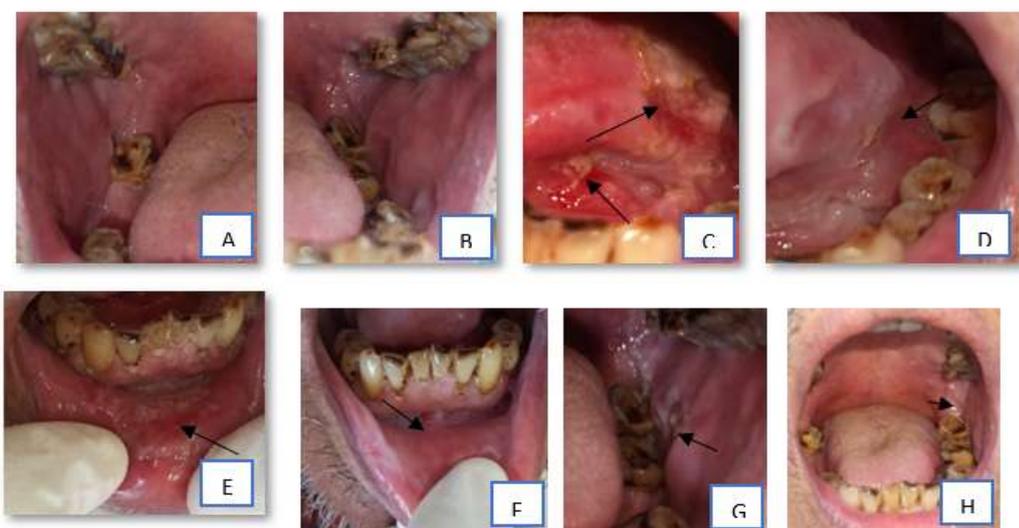


Figure 3. 1st case. The condition of the patient's oral cavity showed improvement (A & B), flare up lesions on the lateral edges of the tongue, labial mucosa, and buccal mucosa (C, E, & G) which then the lesions improved after being given corticosteroid topical and systemic

III. Discussion

Pemphigus vulgaris is divided into 2 subgroups, which is the dominant type of lesion only on the mucosa with minimal skin lesion involvement and the type of skin lesion characterized by the presence of blisters that break easily causing erosive and crusting on skin with an erythematous base.³ Mucosal involvement in pemphigus vulgaris lesions not only limited to the oral mucosa but also can involve other mucosa such as conjunctiva, nose, esophagus, vulva, vagina, cervix, and the anus. If erosive lesions occur on the oral mucosa, the patient may experience pain especially when speaking, eating, swallowing, thereby affecting the quality of life. This pain will get worse if the pemphigus lesion is experiencing a flare up, causing poor nutritional intake and the patient experiencing weight loss.^{4,5}

In this case report, the lesion involved the oral cavity and chest. The oral lesions are so extensive both the patients, so that, they have difficulty for eating and swallowing. Based on literature, it stated that more than half of the population with pemphigus vulgaris experience blister lesions that break easily to form erosive lesions accompanied by erythema on the skin. Skin lesions often occur in intertriginous areas (area of skin folds) and seborrheic areas. In skin lesions can occur superinfection from bacteria or viruses.⁶

Pemphigus vulgaris is caused by immunoglobulin (Ig) antibodies that attack proteins on the surface of keratinocyte cells. From literature study it was found that the antigenic target in pemphigus vulgaris desmoglein (dsg), a transmembrane glycoprotein associated with the most common desmosome in attachment between cell of the junction protein in stratified squamous epithelium.³ The antigens involved in pemphigus vulgaris are desmoglein 1 and 3. Ig G antibodies directly attack desmoglein, destroying the adhesive function of the desmosome thereby destroying the ability of the cell to cell attachment function and triggering epidermal acantholysis and formation of fragile bullous lesions.⁷

The location of blister formation and involvement of the mucosal surface in pemphigus vulgaris can be seen from desmoglein involvement. On the surface of the skin, desmoglein 1 is generally most abundant in almost all layers of the epidermis, while desmoglein 3 in the skin is present in the deeper layers. In the mucous membrane, desmoglein 3 predominates compared to desmoglein 1. Patient with antibodies against only desmoglein 3 have pemphigus lesions predominate on the mucosa because desmoglein 1 compensates for the loss of desmoglein 3 in the skin. Whereas, in the mucous membranes which generally express more desmoglein 3 than desmoglein 1 resulting in desmoglein 1 not being able to compensate for the loss of desmoglein 3, this cause epithelial cell acantholysis and erosive lesions occur in the mucosa. When antibodies attack desmoglein 1 and 3, epidermal acantholysis can occur in both the skin and mucous membranes.⁸

The diagnosis of pemphigus vulgaris can be made based on the clinical appearance of the lesions, Nikolsky's sign-positive, histopathological skin lesions, direct immunofluorescence microscopy (DIF) of perilesional skin, detection of serum autoantibodies through indirect immunofluorescence microscopy (IIF).^{6,9} Histopathological, pemphigus vulgaris is characterized by intraepidermal acantholysis with basal keratinocytes still attached to basement membrane zone which is assumed to be 'tombston-like'¹⁰ as seen on the histopathological picture.

Treatment of oral pemphigus vulgaris is very challenging, due to chronic nature of the disease and the condition of oral cavity which greatly affect the healing process. Condition of oral cavity which influence the success of treatment include poor oral hygiene (dental plaque, calculus, tooth decay, residual radix), use of denture, bad habits such smoking also influence the success of treating of oral lesion.¹¹ In this case lesions involving the skin and oral mucosa which oral lesion are difficult to heal when compared to skin lesions. Until several follow up, oral lesions had improved, but after several months it reappeared with new lesions (recalcitrant).

Treatment of oral pemphigus vulgaris in this case report were both given initial therapy of corticosteroid topical elixir and the patient instructed to swish and spit 2 times a day. The dose of corticosteroid then we tapering down when lesions had improved. When oral lesions experienced flare up, patient received systemic corticosteroid and steroid sparing agent (cyclosporine). Corticosteroid have anti-inflammatory and immunosuppressive effects. It has an immunosuppressive effect by inhibiting cytokine release thereby reducing the number of molecules produced. Besides, corticosteroid also induce temporary lymphocytopenia by changing lymphocyte recirculation and death of lymphocyte cell and reduce antibody production.^{12,13} Cyclosporine as steroid sparing agents aims to reduce the side effect of corticosteroid. It is a calcineurins inhibitor whit potent immunosuppressive capability in inhibiting B and T lymphocyte activity.¹⁴

Treatment of pemphigus vulgaris also required good cooperation between the patients and doctor. The communication and education provided must be understandable to the patients, so that, the patients become more cooperative during treatment and influences the success of the treatment. This was clearly seen in case, patient was cooperative, follow up routinely so that the lesions in oral cavity and skin could be treated.

IV. Conclusions

Pemphigus vulgaris is chronic autoimmune disease. Treatment of oral pemphigus lesions is more difficult when compared to skin lesions. This influenced by oral conditions such as poor oral hygiene, bad habits, and condition of oral cavity which always dynamic making oral lesions of pemphigus recalcitrant and affecting the success of treatment. In addition, patient cooperation also affects the successful treatment. Treatment of pemphigus vulgaris must involve the dermato-venerology and oral medicine specialist.

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