

## Case Report

### A Diagnostic Challenge : Oral Pemphigus

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## Abstract

Pemphigus is a group of autoimmune, life threatening diseases that causes blistering and erosion of the skin and mucous membranes. Pemphigus Vulgaris is the most common form of Pemphigus which shows development of intraoral lesions, latter on spread onto the mucous membrane and skin. The chances to develop autoantibodies that cause Pemphigus is genetically determined but the triggering mechanism that initiates immune response is unknown. The antibodies are targeted against the adhesion proteins of keratinocytes which leads to acantholysis and blister formation. The case report describes the case of a 59 years old male patient who complained of severe ulceration and bleeding of the mouth and has difficulty in swallowing since 7 days, who was diagnosed as having Pemphigus Vulgaris. Timely recognition and therapy of oral lesion is critical as it may prevent skin involvement.

**Keywords:** Autoantibodies, Pemphigus,

ulceration, Pemphigus Vulgaris, mucous membrane.

## Introduction

The word Pemphigus originates from Greek *pemphix*, which means as blister or bubble.<sup>1</sup> Pemphigus is a chronic inflammatory autoimmune, mucocutaneous disease that causes blisters and erosion of the skin, 0.5 to 3.2 cases reported each year per 100,000 populations, with the prevalence in the 5<sup>th</sup> and 6<sup>th</sup> decade of life, with male to female ratio of 1:2.<sup>1</sup> In Pemphigus the keratinocytes antigens are the target of the auto antibodies, leading to acantholysis and blister formation.<sup>2</sup> Pemphigus can be of various types like Pemphigus Vulgaris, Pemphigus vegetans, Pemphigus foliaceus, Pemphigus erythematosus, paraneoplastic Pemphigus (PNP) and drug related Pemphigus. Pemphigus Vulgaris is the most common form of all accounting for over 80% of cases.<sup>3</sup> It is difficult to diagnose when only mucosal involvement is present.

The theory out forth is that there is loss of cell adhesion caused by the loss of desmoglein ;IgG autoantibodies target the one of the cell adhesion molecules, causing acantholysis. All layers of the epidermis consist of Dsg-1, with a higher concentration in the more superficial layers, whereas in the parabasal and basal layers Dsg-3 is present. The presence of a suprabasilar split reflects the expression of Dsg-3 and relative lack of Dsg-1 in the oral mucosa. There is presence of antibodies to, Dsg-1 and Dsg-3, is seen in patients who develop skin lesions.

Lesions can occur anywhere in the oral cavity, but the buccal mucosa is the most commonly affected site followed by involvement of the palatal, lingual and labial mucosa. The least commonly affected site is Gingiva and desquamative gingivitis is the commonest manifestation of the disease when gingiva is involved.<sup>3</sup> In many cases, oral lesions appear first followed by development of skin lesions.<sup>4,5</sup> If oral Pemphigus Vulgaris is detected in its early stages, treatment may be initiated to prevent the progression of the disease to skin involvement. Diagnostic delays in patients with oral Pemphigus Vulgaris can be upto 6 months.<sup>6</sup> This case report describes the case of 59 year old male patient complaining of severe ulcers and bleeding in the mouth and also difficulty in swallowing since 7 days, who was diagnosed as having Pemphigus Vulgaris.

### **Case Report**

A 59-year-old male named Kuldeep Singh reported to the Department of Oral Medicine with a history that he underwent a surgical treatment for gum

problem 1 week ago and he was advised the “diclofenac” medication after the surgery to which the patient was allergic. Within a day, the ulcers start appearing in whole mouth. Ulcerations involving the Ulcer on gingiva and lower lip bled frequently and patient had difficulty in eating and swallowing food. The patient rendered the observation that at least some the ulcers, started initially as flaccid blood filled blisters and were associated with pain that was aggravated on chewing food. Further history revealed that 3-4 times earlier too he had such ulcers, last time 9 months ago. They won't heal by themselves and he had to take medication for the ulcers. The ulcerations caused considerable discomfort, affecting his normal oral functions.

Past medical history of the patient revealed that Patient is taking one “ecosprin” tablet daily since eight years for the heart problem. Also, the patient is allergic to drugs like pencillins, amoxicillin, cloxacillin, ciprofloxacin, norfloxacin, ofloxacin, diclofenac and certain foodstuffs like dal, rajma, lemon, ladyfinger, carrot, cheese, curd, and groundnut.

On clinical examination the patient face was bilaterally symmetrical; On intraoral examination, several red colored superficial erosions on the mucosal side of patient's lower lip were seen. There were multiple small, irregular, fibrin-covered erosions and areas of intense erythema involving particularly the Gingiva. Irregular whitish yellow ulcerative lesions surrounded by erythema were seen in right and left posterior buccal mucosa. Reddish erosive lesions with certain bleeding areas were seen in right mandibular buccal vestibule and

Gingiva wrt 44, 45, 46 and 47. Ulcerative lesions were seen wrt lingual attached Gingiva of 33 till 43. Nikolsky's sign showed a positive reaction. On palpation, the lesions were tender. The lesions in right buccal vestibule and labial mucosa bled profusely. Surface of buccal lesions was smooth while labial and vestibular lesions were rough on palpation. Differential diagnosis of Erythema multiforme, Allergic stomatitis, Pemphigoid and Erosive lichen planus were made.

Histopathology revealed distinctive suprabasilar 'SPLIT' associated with extensive acantholysis of keratinocytes. The superficial parts of the connective tissue were characterized by edema, small blood vessels, loose fibers arrangements and

both interstitial and perivascular inflammatory infiltrates along with mononuclear cells and few neutrophils and eosinophils.

Hemogram revealed no significant findings. A definitive diagnosis of PV was made based on patient's history clinical and Histopathological findings.

#### **Treatment Plan**

Patient was advised to maintain his oral hygiene; Tab. Defcort (defalzacort) 6mg thrice daily for days was prescribed to the patient along with Chlorhexidine mouth rinses thrice daily.



**INTRAORAL PICTURES (INITIAL VISIT)**



**INTRAORAL PICTURES (AFTER 15 DAYS)**



**INTRAORAL PICTURES (AFTER 45 DAYS)**

### Prognosis and Follow up

After 5 days, lesions on right and left buccal mucosa still persisted; however, they regressed in severity. No bleeding was evident. Erosive lesions on labial mucosa were healed. Patient was advised to maintain oral hygiene along with application of topical steroids (tenovate-clobetasol propionate 0.5%) tds for 7days. Dosage of Defcort was tapered. Patient was advised to take Defcortbd for 3 days, followed by od dose for 3 days.

After 15 days, significant improvement was seen in signs and symptoms. Lesions were reduced in size. Inflammatory component was reduced all around the lesions. Lesion could be easily palpated without bleeding on provocation. Patient as asked to continue treatment.

After 30 days, lesions decreased in size. No inflammation could be seen surrounding the lesions. Whitish ulcerative lesions surrounded by erythematous halo still persisted in posterior regions of right and left buccal mucosa. Patient was advised to continue same medication.

After 45 days, Lesions further decreased in size, significant improvement was seen. Gingival erythema was no longer seen. Small whitish patches still persisted in left and right posterior buccal mucosa. Patient was advised to continue topical application of steroids for 3 months and was advised to be on regular follow up.

### Discussion

Pemphigus is defined as a group of life threatening blistering disorder of skin and mucous membrane characterized by acantholysis . The process of acantholysis is induced by circulatory

autoantibodies to the intercellular adhesion molecules.<sup>6</sup> In most cases the first sign of the disease appears on the oral mucosa. Lesions can be located anywhere in the oral cavity, but most commonly seen in the cheek mucosa, pharynx, larynx, esophagus, genital mucosa as well as the skin where blisters are commonly seen<sup>7</sup>.

Mechanism responsible for causing the lesions of Pemphigus Vulgaris is the binding of IgG autoantibodies to desmoglein 3. These antibody activates protease on binding, or the antibodies directly block the adhesion function of the desmoglein.<sup>9,10,11</sup> The classical lesion of Pemphigus is a thin walled bulla arising on normal skin or oral mucosa. Characteristic sign of the disease is the pressure to apparently normal area resulting in the formation of a new lesion. This phenomenon, called Nikolytsky sign, results from the upper layer of the skin pulling away from the basal layer.

The different types of Pemphigus are Pemphigus Vulgaris, Pemphigus vegetans, Pemphigus foliaceus, Pemphigus erythematous, paraneoplastic Pemphigus and drug related Pemphigus. Antibodies are directed against different target cell surface antigen, resulting in a forming of lesion in different layers of the epithelium.<sup>8</sup> The most common form of Pemphigus is Pemphigus Vulgaris, accounting for over 80% of cases,<sup>5</sup> however Pemphigus vegetans is uncommon type of Pemphigus Vulgaris. It occurs in 1-2% of Pemphigus Vulgaris cases. 40-50 years is the age group most commonly affected. A characteristic feature of Pemphigus vegetans is the cerebriform tongue.<sup>16</sup> Two types of Pemphigus vegetans, initially by flaccid bullae and erosions or pustules. Both latter develop into hypertrophic granulation tissue. Oral lesions is present in nearly all Pemphigus vegetans cases.

Biopsies are best done on intact vesicles and bullae, Characteristic suprabasilar acantholysis can be observed by the pathologist. Supra basilar split seen in Pemphigus Vulgaris helps distinguish this condition from sub-epithelial blistering diseases such as Pemphigoid, bullous lichen planus and chronic ulcerative stomatitis. On histopathological investigations in the present case led to the differential diagnosis of paraneoplastic pemphigus.

Dental practitioners must be familiar with clinical signs of Pemphigus Vulgaris to ensure early diagnosis and treatment, since this helps in determining the prognosis and course of the disease. Early treatment could prevent serious involvement of other mucosa and fatal complications. Lower doses of medication can be used for shorter periods of time to control the disease. Treatment is done in 2 phases: a loading phase for controlling the disease, and a maintenance phase, which is further subdivided into consolidation and treatment tapering. Local treatment consists of a paste, an ointment or a mouthwash administered alone or in conjunction with systemic treatment. Intralesional injections of corticosteroids are used for the management of persistent lesions.<sup>13</sup> The initial of prednisone 0.5–2 mg/kg is recommended.<sup>14</sup> Depending on the response; the dose is gradually decreased, taken once a day in the morning to minimize side effects. When steroids are used for longer periods of time, adjuvants such as Azathioprine or Cyclophosphamide are added to reduce the complications of long term corticosteroid therapy. Pemphigus was fatal before the advent of corticosteroid therapy, with a mortality rate of up to 75% in the first year. It is still a serious disorder, but

the 5% to 10% mortality rate is now primarily due to the side effects of therapy.<sup>15</sup>

### **Conclusion**

Pemphigus Vulgaris is a serious disease, and if left untreated, it could lead to patient's death. Often the oral mucosa is the first involved site even before the skin and other mucosal sites are affected, so dental professionals must be sufficiently familiar with the clinical manifestations of Pemphigus Vulgaris to ensure early diagnosis and treatment which in turn determines the prognosis and course of the disease. With early detection, PV is more easily managed.

**Keywords:** Pemphigus, oral lesions, mucous membrane, chronic oral ulcers, Pemphigus Vulgaris

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### **Conflicts of interest**

There are no conflicts of interest.

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