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Dr. A Marbon Joevitson
Senior Lecturer, Department of Oral and Maxillofacial Surgery, Sree Mookambika Institute of Dental Sciences, Kulasekaram, Kanya Kumari, Tamil Nadu, India

Dr. A Thangavelu
Professor, Department of Oral and Maxillofacial Surgery, Annamalai University, Rajah Muthiah Dental College and Hospital, Annamalai University, Chidambaram, Tamil Nadu, India

Dr. Eshona Pearl
Senior Lecturer, Department of Prosthodontics, Sree Mookambika Institute of Dental Sciences, Kulasekaram, Kanyakumari, Tamil Nadu, India

Dr. Janarthanan
Professor, Department of Oral and Maxillofacial Surgery, Annamalai University, Rajah Muthiah Dental College and Hospital, Annamalai University, Chidambaram, Tamil Nadu, India

Dr. Thiruneelakandan
Professor, Department of Oral and Maxillofacial Surgery, Annamalai University, Rajah Muthiah Dental College and Hospital, Annamalai University, Chidambaram, Tamil Nadu, India

Corresponding Author:
Dr. A Marbon Joevitson
Senior Lecturer, Department of Oral and Maxillofacial Surgery, Sree Mookambika Institute of Dental Sciences, Kulasekaram, Kanya Kumari, Tamil Nadu, India

Pemphigus vulgaris: A case report

Dr. A Marbon Joevitson, Dr. A Thangavelu, Dr. Eshona Pearl, Dr. Janarthanan and Dr. Thiruneelakandan

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Abstract

Autoimmune blistering diseases are a rare group of mucocutaneous disorders that can result in irreversible sequelae and death if accurate diagnosis and treatment are not rendered promptly [1, 2]. Pemphigus vulgaris and bullous pemphigoid, are the two most common diseases in this group, which are disorders characterized by the production of autoantibodies that target structural proteins important to the maintenance of intercellular and cell-to-basement membrane adhesion [3, 4]. Before the advent of corticosteroid therapy, pemphigus was fatal, with a mortality rate of upto 75% in the first year. It is still a serious disorder, but the 5% to 10% mortality rate is due to the side effects of the therapy. In 75% to 80% of cases, PV lesions first appear in the oral cavity. Dentists are therefore in a unique position to recognize the oral manifestations of the disease, allowing early diagnosis and initiation of treatment. The diagnosis is based on clinicopathological examination and immunofluorescence testing. Systemic corticosteroids and steroid-sparing agents are the mainstays of treatment. Topical corticosteroids may also be used to accelerate healing of persistent oral lesions. This article describes a 55-year-old woman with multiple chronic ulcers in the oral cavity, in which pemphigus vulgaris was diagnosed 2 months after the symptoms first appeared. This article also reviews the current literature on diagnosis and treatment of the condition.

Keywords: Elastic modulus, flexural strength, provisional restorative materials

Introduction

The autoimmune bullous dermatoses fall into 2 main groups: diseases of the dermo-epidermal junction, which are due to abnormalities at the interface between the dermis and the epidermis (of which pemphigoid is one example) and intraepithelial dermatoses, which include the various forms of pemphigus. Pemphigus is a group of potentially life threatening autoimmune diseases characterized by cutaneous and or mucosal blistering. Pemphigus can be classified into 6 types: pemphigus vulgaris, pemphigus vegetans, pemphigus erythematosus, pemphigus foliaceus, paraneoplastic pemphigus and IgA pemphigus. Pemphigus vulgaris is the most common subtype of the pemphigus group of disorders, which presents as flaccid mucocutaneous blisters that have a tendency to rupture easily [5, 6].

Keratinocytes are firmly adhered by desmosomes. Transmembrane adhesion molecules in the cadherin superfamily, such as desmoglein 1 (Dsg1), desmoglein 3 (Dsg3), and desmocollin cadherin (DC), are important to intercellular adhesion. Pemphigus results from circulating immunoglobulin G (IgG) antibodies directed against desmosomes; these antibodies interfere with keratinocyte adhesion. Acantholysis occurs, resulting in the formation of bullae. In pemphigus vulgaris, autoantibodies against desmoglein 3 are produced. Because the basal cell layer is rich in desmoglein3, the action of autoantibodies against desmoglein 3 causes break down the bonds between the cells causes acantholysis, and fluid collects between the layers of the skin. This leads to blisters and erosions on the skin. When there is the involvement of autoantibodies against desmoglein 1, pemphigus vulgaris becomes systemic.

Before the advent of corticosteroid therapy, pemphigus was fatal, 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 [7]. The prognostic factors are age, time between onset of symptoms and initiation of treatment, extent of the lesions and the dose of corticosteroids required to initially control the disease.

This article describes a patient with multiple chronic ulcers in the oral cavity, in whom pemphigus vulgaris was diagnosed 2 months after the symptoms first appeared. The case study is followed by a review of the literature on the clinical diagnosis and differential diagnosis of pemphigus vulgaris, as well as the laboratory tests used to confirm the diagnosis and the therapeutic options.

Case Report

A 55-year-old woman presented with a complaint of pain and swelling in the right side of the cheek for the past 10 days and was diagnosed as buccal space infection. For which incision and drainage was done. And on clinical examination, she presented with debilitating pain in the mouth as well as mouth ulcers that had appeared 6 months previously. She had initially seen her general practitioner for throat irritation, for which bacitracin and then azithromycin were prescribed. The symptoms worsened, and she consulted several other practitioners, who prescribed antibiotics, antifungals and topical inflammatory agents. However, she experienced no improvement and no diagnosis was ever made. The lesions caused odynophagia. Her medical and surgical history was apparently normal. The patient's outward appearance was normal, but she was depressed because the pain in her mouth had not subsided despite the various treatments. She had no fever, and her blood pressure was normal. An oral examination revealed large aphthoid lesions, with erosions and abrasions. The lesions affected the attached gingiva, buccal and labial mucosa, linea alba of both cheeks, and the ventral surface of the tongue. There were crusted erosive lesions on the face and shoulders and on the lower limb



Fig 3: Vesiculo Bullous Lesion on the Palate



Fig 4: Vesiculo Bullous Lesion on Gingiva



Fig 1: Profile



Fig 5: Healed Cutaneous Lesion on the Anterior Thigh



Fig 1: Intra oral lesion

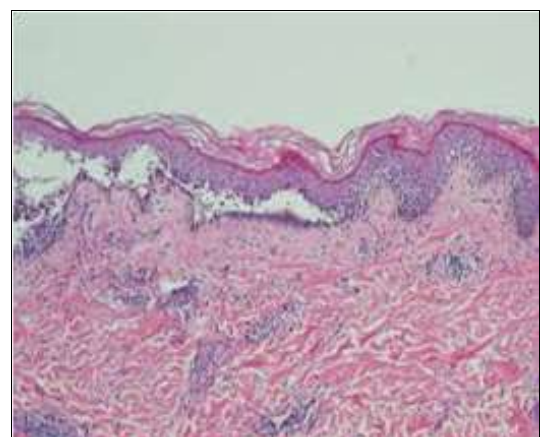


Fig 6: Acantholysis of basal cells

A provisional diagnosis of pemphigus vulgaris was made, and the patient was referred to an internal medicine specialist because of the extent of the lesions and the presence of cutaneous lesions. The results of blood tests and hepatic and lipid screening tests were normal. Histopathologic report was suggestive of pemphigus vulgaris. Initial treatment consisted 0.5 mg/kg prednisone daily (i.e., 40 mg/day for this patient) and 15 mg methotrexate weekly. After 2 months of treatment, the cutaneous lesions had almost vanished, but the oral lesions had not changed much. Then methotrexate was increased to 20 mg/week and local corticosteroid therapy with beclomethasone was prescribed. By 6 months after the initial diagnosis, the corticosteroid therapy had been reduced to 30 mg/day and the methotrexate to 10 mg/week, and all lesions had disappeared. After 6 months of treatment, the corticosteroid therapy was further reduced, first to 20 mg/day and then to 10 mg/day; the dose of methotrexate was maintained at 10 mg/week.

Discussion

This case report describes a patient who presented with oral and cutaneous lesions of PV, which was not diagnosed until later in the course of the disease. In 75% to 80% of cases, pemphigus vulgaris lesions appear first in the oral cavity. Cutaneous lesions are diagnosed within 6 months in 99% of the cases, whereas for oral lesions, diagnosis within the first 6 months occurs in only 57% of cases. Furthermore, 70% of patients see more than 4 practitioners before the diagnosis is confirmed.

The etiology of pemphigus vulgaris is still unknown although the disease has raised much concern. The pemphigus group diseases are characterized by the production of autoantibodies against intercellular substances and, therefore, classified as autoimmune diseases. The presence of a viral infection may also be involved in autoantibody production. Pemphigus vulgaris is caused by autoantibodies against epithelial intercellular components, especially cadherins, and particularly desmogleins (Dsg 3 mainly but also Dsg1 in PV, Dsg 1 in PF), and, though the precise initiating environmental or lifestyle factor is usually unclear, there is a genetic basis to many cases [8, 11, 13]. When the disease is initiated by exogenous substances, such as medication, it is called induced pemphigus.

Acantholysis, the loss of coherence of epidermal cells and their subsequent detachment, is the main histological finding.⁹ Light microscopy observations show that this process starts by the development of oedema among keratinocytes situated above the stratum basale. In the next stage, a suprabasal crevice develops that widens to give rise to a bulla. In cellular material scraped from the base and sides of a bulla, typical acantholytic cells can be found by cytological examination (Tzanck test). Immunofluorescence methods are used to detect IgG antibodies in the intercellular space of the epidermis or epithelium and circulating antibodies in serum [9, 10].

In differential diagnosis of pemphigus vulgaris, other dermatological diseases associated with large bullae on the oral mucosa should be discriminated. One of them is dermatitis herpetiformis, in which lesions are occasional and not too prominent and are manifested as erythemas, 1 to 3 cm in size, that infiltrate the palate and buccal mucosa. Aphthae-like lesions occur on the lip mucosa. However, these oral signs develop at a later stage of the disease, usually several months or years after the appearance of dermatological lesions. Pemphigoid, a bullous dermatosis of autoimmune origin which does not occur so often, should be differentiated

from pemphigus vulgaris. It may accompany, as a facultative paraneoplastic dermatosis, an underlying malignant disease. The oral mucosa is affected in about every fifth patient. Oral lesions do not precede dermatological symptoms. The bullae on the mucosa are smaller, their duration is short and remaining erosions heal relatively fast without scars. Oral signs are nearly always missing in other bullous diseases such as pemphigus erythematosus, pemphigus foliaceus or pemphigus benignus familiaris chronicus, which is important for differential diagnosis.

The therapy of pemphigus vulgaris is based on systemic corticosteroids. The starting dose is high; a total oral dose of 100–200 mg Prednisone is administered daily until subsidence of clinical signs. This dose can gradually be decreased to a maintenance level of 40 to 50 mg daily. Topical application of corticoids is effective if small, isolated areas of the oral mucosa are involved. The acute phase of pemphigus is associated with changes in gastric mucosa and this condition is further aggravated by ingestion of corticosteroids. At present, administration of azathioprin, which is added to achieve a decrease in antibody production, permits a lower dose of corticosteroids. The combined use of these drugs has recently improved the prognosis of pemphigus; in some patients it may even be possible to discontinue corticosteroid therapy.

Conclusion

Pemphigus vulgaris is still a life-threatening disease. Although corticosteroids dramatically improved the mortality and are considered the first-choice therapy, there exists a significant morbidity of the disease and the corticosteroid treatment. The combination of corticosteroid treatment with corticosteroid-sparing agents enables a delay of adverse events. Early diagnosis as well as appropriate initial and maintenance therapeutic doses allow better prognosis with lower mortality rates. A regular follow-up, decrease of adverse effects, proper modification of treatment and elimination of triggering factors are inevitable for the long-term remission.

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