

Dental Extraction of a Pemphigus vulgaris patient: A short note¹Mahalakshmi Marudai, Department of Oral and Maxillofacial Surgery, AIMST University, Bedong 08100, Malaysia²Krishna Priya Balachandran, Department of Periodontology, AIMST University, Bedong 08100, Malaysia:³Sivakumar Pendyala, Department of Oral and Maxillofacial Surgery, AIMST University, Bedong 08100, Malaysia**Corresponding Author:** Krishna Priya Balachandran, Department of Periodontology, AIMST University, Bedong 08100, Malaysia:**Citation of this Article:** Mahalakshmi Marudai, Krishna Priya Balachandran, Sivakumar Pendyala, "Dental Extraction of a Pemphigus vulgaris patient: A short note", IJDSIR- December - 2023, Volume – 6, Issue - 6, P. No. 44 – 47.**Copyright:** © 2023, Krishna Priya Balachandran, et al. This is an open access journal and article distributed under the terms of the creative common's attribution non-commercial License. Which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given, and the new creations are licensed under the identical terms.**Type of Publication:** Case Report**Conflicts of Interest:** Nil

Abstract: Pemphigus encompasses four related diseases with autoimmune etiopathogeneses: Pemphigus vulgaris, vegetans, erythematosus, and foliaceus. Pemphigus is a rare group of life-threatening vesiculobullous diseases affecting the skin and mucous membrane¹ the term "pemphix" is derived from the Greek root word "blister or pustule" and "vulgaris" from the Latin word "common." ²The most common variant of this condition is pemphigus vulgaris (PV), accounting for 80% of the cases. ³

It is characterized by the development of flaccid intraepithelial bullae that easily rupture, creating areas of painful erosions and ulcerations. In many patients, PV manifests first in the oral cavity, followed by skin lesions.⁴

The dentists are able to recognize this condition and refer appropriately. Untreated generalized PV can be fatal; therefore, early diagnosis and treatment of oral lesions could ultimately improve the prognostic

outcome⁵ Our case is like that one that started in the oral cavity and talks about the importance of dental treatment for autoimmune diseases or people taking steroids.

Keywords: pemphigus, extraction, acute adrenal insufficiency.

Case Report

A 50-year-old Chinese male attended our dental office for pain in his upper and lower teeth. While taking a history, the patient noticed an intraoral ulcer or blister in his oral cavity 10 years ago. Then later, he was diagnosed as Pemphigus vulgaris by a general physician. He has cutaneous blisters on his face, chest, and back. Exacerbations and remissions of lesions occur in his body intermittently. According to the patient, stress is the aggravating factor. On intraoral examination, multiple root stumps, calculus, and chronic periodontitis are seen. During our visit, the patient did not have any intraoral ulcers or blisters. Only the history-taking and cutaneous examination of the patient reveal information

about the patient's condition. So, it's always the prime duty of a dentist to take a proper systemic or medical history. The patient has been taking prednisolone (10–15 g) since 2012.



Treatment

After a diagnosis is made in the oral medicine department, the remaining root stumps are planned for extraction at a proper interval. Prednisolone is an intermediate-acting systemic steroid used for diseases like pemphigus vulgaris.

As the patient is taking prednisolone, we follow the rule of two theories.

Rule of two theory

Adrenocortical suppression should be suspected if a patient has received glucocorticosteroid therapy through two of the following methods:

1. in a dose of 20 mg or more of cortisone or its equivalent

2. Via the oral or parenteral route for a continuous period of 2 weeks or longer
3. Within 2 years of dental therapy

Glucosteroid coverage

The patient's usual dosage is doubled two days prior to the extraction and also on the day of extraction. Based on the institution protocol, all the stress reduction methods are followed. The extraction of 45, 46, and 47 was done in one dental sitting. post-extraction wound management done. Tab. mefenamic acid 500 mg is given three times daily for three days. in the same manner, consecutive dental visits 2, 3, and 4 are done favoring the patient's availability. In the 2nd visit, extraction was done under LA. In the third visit, 12–13 extractions were done. in 4th visit

25,27,33 extraction done. In his last visit, 36 were done under LA. There is no postoperative complaint reported by the patient.

Discussion

Pemphigus is defined as a group of life-threatening, autoimmune blistering diseases of the skin and mucous membrane. It is characterized by acantholysis (loss of keratinocyte cell adhesion) and bullous formation. There are five major variants of this condition: PV, pemphigus foliaceus, pemphigus vegetans, paraneoplastic pemphigus, and drug-induced pemphigus. Pemphigus vulgaris is the most common type, contributing to more than 80% of the cases. This condition almost always affects the oral cavity, and it is the first sign of presentation in 70% of the cases before spreading to the skin and other mucosal surfaces.⁶

The patient with Addison's disease or a patient receiving long-term pharmacologic doses of glucocorticosteroid therapy is usually classified as an American Society of Anaesthesiologists (ASA) 2 or 3 risk.⁷

Dental procedures may sometimes be stressful for these patients.

Stress can be either physiologic or psychologic.

Physiologic stress may happen in surgery, including oral, periodontal, endodontic, extensive dental procedures, and infection.

Psychological stress, such as that seen in the fearful dental patient, may also precipitate an adrenal crisis.

Acute adrenal insufficiency in the dental office occurs mainly through stress.

Acute adrenal insufficiency is a true medical emergency in which the victim is in immediate danger because of a glucocorticoid (cortisol) deficit. Peripheral vascular collapse (shock) and ventricular asystole (cardiac arrest) are the usual causes of death^{8,9}.

Pathophysiology

In stressful situations, there is normally an increased release of glucocorticoids from the adrenal cortex. The hypothalamic-pituitary-adrenocortical axis mediates this increase, which normally results in a rapid elevation of glucocorticosteroid blood levels. If the adrenal gland cannot meet this increased demand, clinical signs and symptoms of adrenal insufficiency develop.

Clinical symptoms

severe mental confusion

intense pain in the abdomen, lower back, and legs

Loss of consciousness

Onset of coma

If not managed properly, acute adrenal insufficiency may result in death. Mortality is usually secondary to hypoglycaemia or hypotension. Most individuals do not lose consciousness immediately.

Progressive mental confusion and other clinical symptoms usually permit prompt recognition of the problem and the immediate initiation of proper management.⁷

Multiple studies have shown that if a person receives an exogenous steroid (Cortisone: synthetic cortisol is cortisone) at a dosage of 20 mg/day or more for a period of more than 2 weeks, it leads to disuse and atrophy of the adrenal glands.

So, if the exogenous steroid administration is to be ceased, it should not be done suddenly. Rather, it should be done in a tapering fashion. If a patient consumed 20 mg/day or more of Cortisone or its equivalent for a duration of 2 weeks or more within 2 years, then the dosage of the steroid medication should be doubled preoperatively. Doubling the steroid dosage is to ensure that the body has sufficient blood levels of steroids in the body so as to deal with the physical and psychological stress.¹⁰

Prevention of acute adrenal insufficiency

Stress Reduction Protocol

Premedication

Achieving an Adequate Level of Local Anaesthesia and Post-Surgical Pain and Stress Management Using Analgesics and Benzodiazepines

Conclusion

When dental practitioners/dental specialist deal with Pemphigus patient, they should discuss about oral health problems related to the disease. This includes maintaining strict oral hygiene, periodontal treatment, dietary advice, close inspection of prosthetic restorations, and application of anti-candida medications for patients on long-term steroids.^{3,12} Along with this, knowledge of the management of acute adrenal crises is important for dental practitioners. They should get trained in basic life support (BLS) to handle this kind of situation. Dentists make sure to have emergency drugs like hydrocortisone 50/100 mg and other drugs available to treat such medically compromised patients in their office.

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Data availability statement

Data sharing is not applicable to this article as no datasets were generated or analysed during the current study.

References

1. Yeh SW, Ahmed B, Sami N, and Ahmed AR. Blistering disorders: diagnosis and treatment. *Dermatol Ther*. 2003;16(3):214-223.
2. Korman, Neil. Pemphigus. *J Am Acad Dermatol*. 1988;18(6):1219–1238.
3. Scully C, Paes De Almeida O, Porter SR, Gilkes JJ. Pemphigus vulgaris: the manifestations and long-term management of 55 patients with oral lesions. *Br J Dermatol*. 1999;140(1):84–89.
4. Kavusi S., Daneshpazhooh M., Farahani F., Abedini R., Lajevardi V., and Chams-Davatchi C. outcome of Pemphigus vulgaris *J Eur Acad Dermatol Venereol JEADV*. 2008;22(5):580-584.
5. Al-Harbauer A, Kassam K, Patel AN, Cottom H, Cheng L. Oral pemphigus vulgaris: dentists' take-home message. *Clin Case Rep*. 2021;9: e04494. <https://doi.org/10.1002/ccr3.4494>
6. Dagistan S, Goregen M, Miloglu O, Çakur B. Oral pemphigus vulgaris: a case report with review of the literature. *J Oral Sci*. 2008;50(3):359–362.
7. Malamed, S.F. (2015). *Medical Emergencies in the Dental Office* (7th ed.). St. Louis, Missouri: Mosby Elsevier.
8. O'Donnell M: Emergency! Addisonian crisis, *Am J Nurs* 97:41, 1997
9. Bruton-Maree N, Maree SM: Acute adrenal insufficiency: a case report, *CRNA*4:128–132, 1993
10. Dental Management of Patients on Steroid Therapy, Dr. Zibran Khan
11. CDA OASIS: What are the dental considerations for treating patients suffering from acute adrenal insufficiency?
12. Bystry J-C, Rudolph JL. Pemphigus. *Lancet Lond Engl*. 2005;366(9479):61-73.
13. dentistry: Progeroid syndrome. A case of dental management and oral rehabilitation. *Pediatric Reports*. 2019 May 23;11(2):7951.
14. Maloney WJ. The Dental and Oral Significance of Hutchinson-Gilford Progeria Syndrome. *Archives of Dentistry*. 2018 Feb 11;1(1):4-6.