

## Drug induced stomatitis medicamentosa: Report of a rare case

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### Abstract

Oral medicine is a specialty that deals with the diagnosis and treatment of complex medical diseases of the oral mucosa. Successful treatment depends on a proper and accurate diagnosis. A successful diagnostician must possess qualities such as knowledge, interest, intuition, curiosity, and perseverance. His 99.9% of systemic illnesses have one or more of his oral symptoms diagnosed by an oral health professional before a general practitioner. Early detection and diagnosis are critical for early treatment, improved survival, and limited treatment complications. We present the case of a 14-year-old female who had an acute oral allergic reaction to an over-the-counter drug.

**Keywords:** Stomatitis medicamentosa; IgE reaction; Eosinophils; Drugs; Oral erythema multiforme; Ulceration

### 1. Introduction

Many contributing factors like systemic conditions or consumption of medications are attributed causing oral diseases or conditions. According to World Health Organization,<sup>7</sup> an adverse drug reaction is defined as a response to a drug that is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis, therapy of diseases, or for the <sup>1</sup>modification of physiological function.<sup>9</sup> When an allergen (defined as an antigen that reacts specifically with a specific type of IgE reagin antibody) enters the body, an allergen-reagin reaction takes place and a subsequent allergic reaction occurs resulting in <sup>2</sup> clinical symptoms (allergy). Allergy can occur when allergen locally contacts the sensitive area or when an allergen is introduced systemically. We present herein the case of a 14-year-old female with acute allergic reaction in the oral cavity due to an over-the-counter drug.

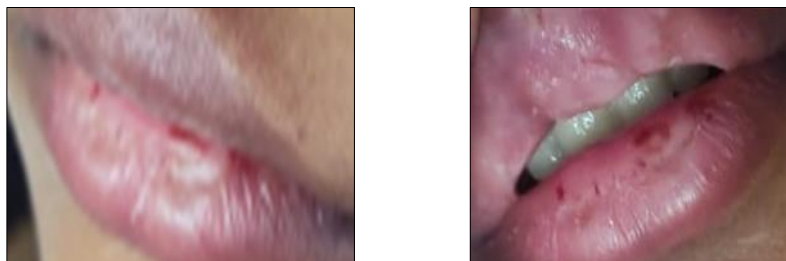
### 2. Case report

A 14-year-old teenage girl reported to the Department of Oral Medicine Radiology at M.A R.D.C, Pune, Maharashtra, India, with a complaint of pain, swelling, ulceration on her upper and lower lip for the past one month. The patient further stated that she had an episode of diarrhea for which she visited an Ayurvedic practitioner (local physician) where she was prescribed an antihistamine (Tab Montaril –L Kid once daily), an analgesic (Tab Tmol,1/2 tab twice daily), an antibiotic (Tab Ralure Ro once daily), an antiseptic mouth wash (Borax Glycerin Mouth+ Throat Lotion twice daily) course for 2 days, which aggravated the present condition. History of presenting illness revealed that the patient developed small fluid- filled boils on her lips. These blisters reportedly ruptured soon, followed by ulcerations and crusting on her lips. The patient also complained of stiffness and drying of her lips with occasional bleeding and fluid discharge. She further complained of an inability to open her mouth and discomfort while chewing and swallowing food due to the presence of bumpy lips. The patient had visited a dermatologist for the same problem two weeks ago and antibiotics were prescribed for two weeks of duration. As there was no further improvement noted, the patient reported to the Department of Oral Medicine Radiology at M.A R D.C Pune, Maharashtra, India, for further treatment.

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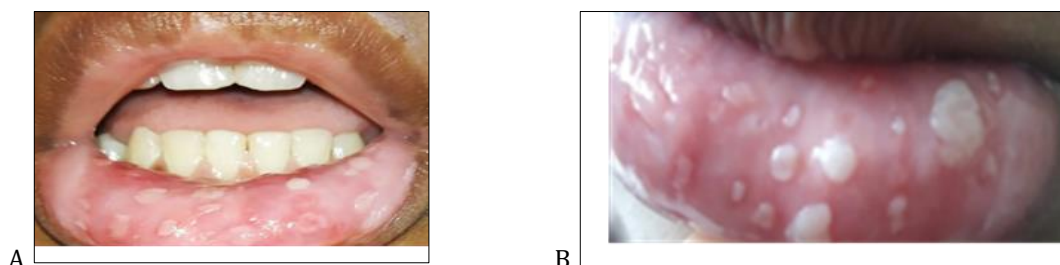
The gross examination of the patient was unremarkable. The patient denied any history of systemic illness, no history of hospitalization or, blood transfusion. The patient denied any history of prodromal symptoms or similar episodes of dermatological lesions or allergic reactions in the past. The family history, personal history or, systemic manifestations of the patient was non-contributory.

Extraoral examination revealed that the patient was well nourished, of moderate build, and with no signs of anemia or icterus. On examination, a diffused swelling was evident on the upper lip and philtrum along with swelling and eversion of the lower lip with extensive ulceration and sloughing. (Fig 1).



**Figure 1** a-b Extraoral examination of the lesion during the initial visit

Intraoral examination revealed multiple (10-12) ulcers at the vermilion border of the lower lip and the angle of the mouth. The presence of whitish sluff with crusting and a few erythematous areas were also noted. On palpation, the lip was tender, and rough with slight bleeding, pus, and fluid discharge. The upper lip also revealed less extensive, but similar lesions in its vermilion border that were tender, rough, and stiff on palpation. (Fig 2). The Visual Analogue Scale (VAS) was noted as 8 by the patient.



**Figure 2** a-b Intraoral Examination of the lesion during the initial visit

Based on the patient's complaint, drug history, and clinical appearance of the lesion, a provisional diagnosis of stomatitis medicamentosa, (an allergic drug reaction to systemic administration of drugs) was considered. Erythema multiforme mild, and Angioedema (peripheral upper and lower lip) were considered differential diagnosis (Fig3). The patient was instructed to discontinue the previous medications and systemic steroid prednisolone 20mg /d for 1 week with a tapering dose of 10mg/ d for the second week, kenacort oral paste twice daily for 1 week, and once daily for the second week was administered.



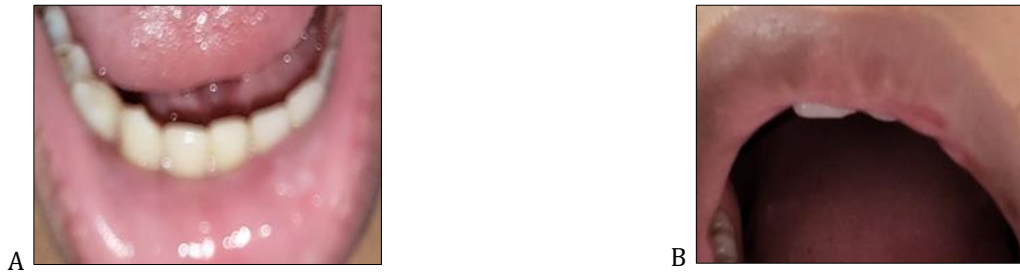
a-Angioedema of the lower lip

b- Reduced number of ulcers

**Figure 3** a- Angioedema of the lower lip, b-Reduced number of ulcerations on the lower lips

The investigation's suggested were complete blood count, and allergy/sensitivity test. However, due to financial issues the patient couldn't afford allergy/sensitivity tests.

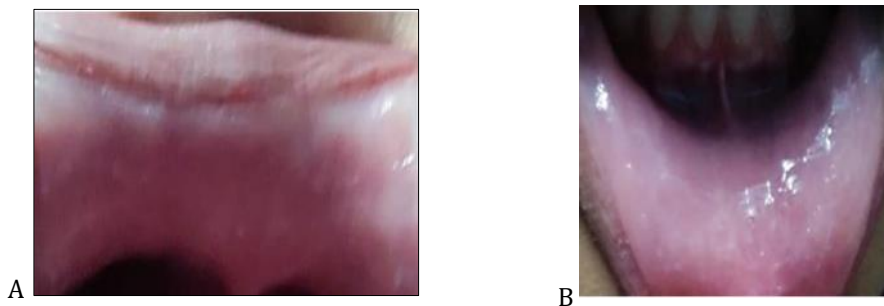
After one-week, the patient reported to the Department of Oral Medicine Radiology with a subsequent reduction in the swelling and reduced number of ulcers one on the upper left side and one on the lower lip. The Visual Analogue Scale (VAS) was stated by the patient to be 6. There was a considerable improvement with a reduction in swelling associated with the lips and the number of ulcers present (Fig 4). The blood investigation suggested that the patient had a lower hemoglobin count. Dexorange syrup 5ml syrup once daily was prescribed for a month, after looking at her blood investigation report. The patient was advised to have a healthy and balanced diet comprising green leafy vegetables, seedless fruits, etc.



**Figure 4** a-b Reduction in the number of ulcerations of the upper and lower lips was observed at the second visit

### 2.1. Follow-up

Healing of the lesions was evident on the third week of follow up (Fig 5).



**Figure 5** a-b Complete healing of the lesion was observed at the third week follow- up.

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## 3. Discussion

Drugs are often a double-edged sword. A drug that is safe for one person can be life-threatening to others because of its adverse reactions. The adverse drug reactions form a spectrum that ranges from mild erythema, and rashes to more life-threatening anaphylactic reactions like bronchospasm or bronchial asthma. The oral reactions to systemic administration of drugs can be broadly classified as non-immunogenic reactions such as gingival hyperplasia due to Dilantin sodium, heavy metal poisoning, oral ulcerations due to chemotherapeutic drugs, and immunogenic reactions, also referred to as stomatitis medicamentosa.

The oral mucosa is exposed to a wide range of ingested medications. The list of offending medications and their resultant side effects appears endless. In a short and highly beneficial article, Matthews listed more than 150 frequently prescribed medications and related them to 46 oral and perioral side effects.<sup>6</sup> Diagnosis of stomatitis medicamentosa is often difficult. It frequently rests on the suspicion of a reaction to a drug and, where possible, the effect of withdrawal of the suspected agent.<sup>1</sup> Difficulties arise from exposure to unsuspected sources of drugs or chemicals, for example, quinine in soft drinks or phenolphthalein in laxatives. Furthermore, drugs may have been taken for years and may appear innocuous but eventually cause a pathological response. The mere fact that a medication has been taken for some time without untoward effect does not necessarily exclude it as a causative agent.<sup>1</sup> Another problem is that similar lesions may be produced by a variety of drugs. While there are no histologic changes of absolute diagnostic of drug

reaction, the biopsy is valuable in excluding other diseases such as pemphigus or pemphigoid and in demonstrating features consistent with a drug reaction. Typical changes seen in the lamina propria are dilatation of the blood vessels and an inflammatory infiltrate. Immunofluorescence, both direct using fresh, unfixated biopsy tissue, and indirectly with the patient's serum, may assist in diagnosis. The finding of complement in vessel walls is consistent with a diagnosis of stomatitis medicamentosa.<sup>1</sup>

**Table 1** Various patterns of oral drug reactions

Reaction	Drug
Gingival hyperplasia	Phenytoin, Nifedipine
Lichenoid reaction	Gold, D-penicillamine
Black hairy tongue	Antibiotics, griseofulvin
Thrush	Antibiotics, corticosteroids
Oral ulcerations	Aspirin, NSAIDS, antimetabolites
Enamel staining	Iron, fluoride, tetracycline
Metallic taste	Metronidazole, griseofulvin
Xerostomia	Antihistamines, anticholinergics, tranquilizers, antidepressants

(Reference: Alan Tack D, Roy S (2002) Oral drug reactions, Dermatological Therapy 15: 236-250.)

Prognosis is usually excellent following withdrawal of the offending drug, although widespread skin involves the risk of far more serious consequences. The only way to confirm a drug's capability is to again challenge the patient with a test dose. Where a diagnosis of drug sensitivity is established, it is important that the patient be fully informed in writing of the name of the drug, given an appropriate warning, and advised to avoid strictly its future use.<sup>1</sup>

### 3.1. Management

Discontinuation of the offending agent is the definitive treatment of oral drug reaction. General prophylactic measures such as meticulous daily dental hygiene and regular dental visits may be helpful.<sup>10</sup>

## 4. Conclusion

Almost all over-the-counter drugs are capable of causing adverse reactions. The oral manifestations of pharmacotherapy are often non-specific and vary in significance. These undesirable effects can mimic many disease processes. To avoid unnecessary diagnostic procedures and treatments, clinicians need to recognize the disorder to allow quick and accurate diagnosis.

## Compliance with ethical standards

### *Disclosure of conflict of interest*

The authors declare no conflict of interest

### *Statement of informed consent*

Informed consent was obtained from the patient.

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