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Contact hypersensitivity stomatitis in response to Suboxone use: A case report

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ABSTRACT

Contact hypersensitivity stomatitis is a type-4 hypersensitivity reaction of the oral mucosa. Suboxone is a sublingual film that combines buprenorphine and naloxone. In this report, we document the first case of contact hypersensitivity stomatitis in response to Suboxone, which led to a hospital admission. The patient was noted to have painful floor of mouth swelling and red-and-white lesions. Symptoms resolved after removal of the offending agent and treatment with IV and PO steroids. When patients present with floor of mouth edema, potentially concerning for an underlying sublingual space infection, it is important to perform a thorough review of potential medication side effects.

1. Introduction

Contact hypersensitivity stomatitis (CHS) is a T-cell mediated immunoinflammatory reaction of the oral mucosa, characterized by pain, burning sensations, and mixed red/white plaques, vesicles, and ulcers [1,2]. This delayed, type-4 hypersensitivity immune response (also known as allergic contact stomatitis) is triggered by an allergen that is exposed directly to the oral mucosa. It is typically treated with topical or systemic steroids in addition to removal of the allergen [1]. CHS can commonly be induced by mouthwashes such as Listerine, foods to include cinnamon and hard candies, as well as various dental restorative materials [2]. We present a case of a patient who presented with CHS in response to Suboxone use. To date, no such case has been documented in the literature. Given the recent rise of the opioid use crisis in the United States and the increasing number of patients on medication assisted treatments for opioid use disorder, raising awareness of this and other adverse effects will help to shape future treatment [3].

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Fig. 1. CT, Neck with Contrast. Generalized edema of the floor of mouth and ventral tongue, with superior displacement of the tongue noted. No suspicious mass, lesion, or lymphadenopathy appreciated. **Left:** Coronal View, **Middle:** Sagittal View, **Right:** Axial View.



Fig. 2. Clinical photographs. Ulcerated red-and-white plaques of the floor of mouth and ventral tongue mucosa.

2. Presentation of case

A 38-year-old man with a history of complex regional pain syndrome and opioid use disorder on Suboxone therapy for one month, presented with a four day history of pain, edema, and red-and-white lesions of the floor of mouth and ventral tongue mucosa. The floor of his mouth was elevated and his tongue displaced superiorly. On admission he was afebrile, hemodynamically stable, without systemic symptoms, and did not have a leukocytosis. Blood cultures were negative and contrasted CT imaging of the neck was negative for acute findings, with no suspicious mass, orofacial space infection, or lymphadenopathy found. The patient was started on viscous lidocaine, magic mouthwash (bemylid), Peridex (chlorhexidine), and nystatin oral solutions, which provided temporary relief. The patient clearly described increased pain with salivation. Following his negative infectious evaluation, he was started on one dose of IV prednisolone which was then transitioned to oral prednisone. Following consultation with otolaryngology and pain management he was transitioned from sublingual Suboxone to a buprenorphine transdermal patch out of concern for a contact hypersensitivity to Suboxone. By the morning of hospital day 2, the patient's swelling and pain had improved, and he was discharged home in stable condition (see [Figs. 1 and 2](#)).

3. Discussion and conclusions

Medication assisted treatment is the standard therapy for opioid use disorder. The opioid use epidemic in America is on the forefront of many policy initiatives to include decreasing our dependence on opioids for pain relief [4]. Opioid use disorder can be treated effectively with either an opioid agonist, like methadone or buprenorphine, or an opioid antagonist like naltrexone [5]. Buprenorphine is classified as a schedule III controlled substance by the Drug Enforcement Agency (DEA). The Food and Drug Administration (FDA) approved the use of buprenorphine for medication assisted treatments in 2002. Suboxone is a sublingual film that combines buprenorphine, a partial mu-opioid agonist, with naloxone, an opioid antagonist. Use of Suboxone has been shown to increase the incidence of dental caries. Studies have also shown that sublingual Suboxone lowers the buffering capacity of saliva. This

may be the mechanism behind its adverse effects on the dentition [6]. This work documents the first reported case of CHS in response to sublingual Suboxone. Additional oral buprenorphine formulations include a buccal film (Bunavail) and sublingual tablets (Zubsolv). For patients that experience negative side effects to the dentition, it is important to be aware of alternative mechanisms of delivery, which include transdermal patches (Butrans), extended release subcutaneous injections (Indivior), and subdermal implants (Braeburn) [5]. Adverse drug reactions may contribute to early discontinuation of buprenorphine therapy, which has been seen in younger patients and those with recent opioid use [7]. This case is also of interest because it demonstrates how sublingual CHS can elevate the floor of mouth, causing superior displacement of the tongue. The emergency department staff involved in this case were initially concerned for sublingual space involvement, as floor of mouth elevation and protrusion of the tongue were noted [8]. When patients present with floor of mouth edema, suggestive of an underlying sublingual space infection, it is important to keep a broad differential and to perform a thorough review of potential medication side effects.

Conflicts of interest

The views expressed in this article are those of the authors and do not reflect the official policy of the Department of the Army/Navy/Air Force, Department of Defense, or the U.S. Government. None of the authors has a financial or non-financial interest in the pharmaceutical drugs or other topics discussed in this work.

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