Levofloxacin Induced Stomatitis: A Case Report

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Abstract

This case report presents a 77-year-old female who developed painful oral swelling and ulceration after taking levofloxacin for a respiratory infection. The patient exhibited grade 1 stomatitis, characterized by ulcerative and erythematous lesions in the buccal and gingival mucosa, tongue, and lips. Upon discontinuation of levofloxacin and initiation of topical clotrimazole, mupirocin, and nystatin, the patient's condition improved within five days. This report highlights levofloxacin-induced stomatitis, an adverse drug reaction not previously documented. It underscores the need for careful monitoring of fluoroquinolone side effects and prompt discontinuation in suspected cases to prevent complications.

Keywords: Stomatitis, Stoma, erythematous lesions, Levofloxacin, Herpes simplex virus, Enterovirus, Ulceration, anterior tonsillar pillars, Inflammation, Adverse drug reaction.

Introduction

Stomatitis refers to swelling of the mouth or stoma, which is anatomically located between the anterior tonsillar pillars and the anterior lips. The floor of the mouth is made up of mucosa covering the sublingual and submandibular glands, both of which have orifices that exit into the anterior floor. The parotid glands' opening, known as Stenson's duct, is located across from the upper second molars on the buccal mucosa-covered lateral walls of the mouth. The involvement of some or all of these anatomic areas may vary depending on the cause of the stomatitis. Stomatitis most frequently affects the gingiva, which envelops the dentition. Distinct papulovesicular or ulcerative lesions, as well as generalized erythema and edema, might be symptoms of stomatitis.

The herpes simplex virus (HSV) is the most frequent infectious agent that causes stomatitis. Direct contact with infected oral secretions or lesions is typically the cause of HSV-1 (and less frequently, HSV-2) infection. Over 70% of people in the US had contracted HSV by the time they were 12 years old. Due to the practice of hand-to-mouth exploration and the absence of passively acquired maternal antibodies,

children between the ages of two and four are particularly vulnerable to HSV infections. Due to the possibility of coming into contact with mouth secretions, it is more prevalent in kids who attend daycare. Between two days and two weeks is the incubation period for HSV infection.

Another prevalent viral cause of stomatitis is enterovirus (coxsackie A and B, and echovirus). Children are the primary victims of enterovirus disease, particularly those from lower socioeconomic backgrounds. Healthy children from the southern states are colonized at a higher rate (7% to 14%) than those from the northern states (0% to 2%) in the United States. It is more likely to spread to nonimmune people in settings with close contact or crowding, like homes, summer camps, and closed institutions. It is possible for viral shedding to happen without any clinical symptoms. Fecal shedding can continue for several weeks following the start of an infection, but respiratory shedding often lasts for a week or less. Three to six days are needed for incubation.

Causes

Nutritional deficiencies, aphthousstomatistis, angular stomatitis, denture related stomatitis, allergic contact stomatitis, migratory stomatitis, herpetic gingivostomatitis, irradiation and chemotherapy, necrotising ulcerative gingivostomatitis, stomatitis nicotina, chronic ulcerative stomatitis, plasma cell gingivostomatitis.

Case Report

A 77-year-old female was referred to the hospital for 'painful oral swelling and ulceration'. Before the admission due to fever and productive cough, 500 mg levofloxacin prescribed for her. After 2 days of consumption, the patient experienced painful ulcerative and erythema lesions in the buccal and gingival mucosa, tongue and lip that consistent with grade 1 stomatitis . Upon hospitalization, the patient's temperature was 38°c, and other vital signs were stable. His medical history was negative and he doesn't take any other medicine. He didn't report any drug or food allergies. Due to the possibility of a drug reaction, levofloxacin was discontinued and no other antibiotic was used. According to the advice of the dermatologist for the patient's lesions clotrimazole, and mupirocin combination in a topical ointment were used to alleviate lip's ulcer and drop of nystatin administrated as a conservative treatment for oral lesions. After 5 days, lesions recover. In the findings of the study, nothing was found for infectious disease.

Discussion

This case report highlights the stomatitis adverse effect of levofloxacin and its management strategies in a patient without any prior allergy and medical history. Patient with stomatitis can experience pain, inflammation, erythema, swelling and ulceration in any structure of the mouth. For the treatment of stomatitis, a stepwise approach to symptom is following: using from coating agents such as bismuth

salicylate, sucralfate, or other antacids, water-soluble lubricants for mouth and lips, topical analgesics, such as benzydamine hydrochloride, topical anesthetics, such as lidocaine viscous oral or parenteral analgesics, including opioids if needed, for pain not controlled with other mentioned therapy. Many pharmacies have formulary mouthwashes, which can be very effective for sore mouth due to stomatitis, include various combinations of antifungals, antibacterial, steroids, and local anesthetics. It is important to encourage patients to hydrate regularly and instruct them on different recommendations for general mouth care (1).

The fluoroquinolones can cause many adverse reactions that involve the gastrointestinal tract and the central nervous system, acute renal failure, phototoxicity, QTc interval prolongation, and dermal toxicity (6). Most studies reporting dermatologic adverse reactions of the fluoroquinolones have focused on the more common phototoxic reactions.(4) However, four studies reported TEN (5, 7-10) and no study report stomatitis with fluoroquinolones.

To our knowledge, this case presents the first case of a patient experiences stomatitis after levofloxacin administration and successfully treated with mouthwash. In this case, patient had improved gradually after offending drug were withdrawn and topical therapy was prescribed. Hence, caution is advised while administering these drugs.

Figure: 1

figure :2

Conclusion

In this case report levofloxacin induced ADR is common.so take precaution while administering levofloxacin, if any ADR is seen contact the prescriber as soon as possible.

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Conflict of Interest

The author declare that there is no conflict of interest regarding the publication of this case report.

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Ethical Statements

Ethical approval was deemed unnecessarily for the study as it used anonymised / de identified as per institutional guidelines

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