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Case Report

Azithromycin Induced Stevens Johnson Syndrome – A Rarity

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Abstract

Sulfonamides, oxicam NSAIDs, allopurinol, aromatic anticonvulsants and anti-HIV drugs like nevirapine are all known to cause Stevens Johnson Syndrome. The severity of condition is determined by the amount of bodily surface area it affect and is called Stevens Johnson Syndrome(SJS)/Toxic Epidermal NecrolysisTEN or TEN in the appropriate case. SJS is treated by discontinuation of the causative medication, systemic steroids and supportive care. SJS as a result of azithromycin is a very uncommon event thus, we report on one such case which was successfully managed at our hospital.

Keywords: Stevens Johnson Syndrome(SJS); Toxic Epidermal NecrolysisTEN; Azithromycin

Introduction

Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are rare immune-mediated severe cutaneous adverse reactions [1]. The incidence rate is approximately 0.05 to 2 persons per million populations per year. Drugs are the most commonly implicated in 95% of cases [1]. In a multicentric study conducted at Government Medical College, Bhavnagar, Gujarat, antimicrobials (50%), NSAIDs (22.41%), and antiepileptics (18.96%) were the most commonly associated groups. Nevirapine (28.12%) was the most common drug [2]. The incidence is higher in HIV positive individuals [3]. Clinically, SJS and TEN are two conditions that have been linked. Both have a propensity of polymorphic lesions as erythematous macules, papules, plaques, vesicles, and bullae with predilection to proximal extremities and a positive Nikolsky's sign. "Target" lesion with bull's eye appearance is seen in SJS and TEN. The mucosa of oral, vaginal and conjunctiva is frequently affected by erosions or ulcerations [4]. Azithromycin is a commonly prescribed antibiotic that is generally regarded as safe. The most prevalent side effects gastrointestinal problems and reversible hearing loss. Angioedema and cholestatic jaundice are potentially significant ADRs that affect roughly about 1% of patients. SJS/TEN and other Serious Fixed Drug Eruptions are extremely rare [5]. We describe a case of SJS caused by azithromycin in a middle aged previously healthy male who was successfully treated at our hospital.

Case report

A 43 year old male presented our hospital with swollen and cracked lips, redness of both eyes with profuse lacrimation and difficult vision and numerous skin rashes of 2 days duration. A medical officer in a clinic prescribed azithromycin for his sore throat. Numerous ulcerative lesions covered the buccal mucosa and lips on clinical examination with the most prominent lesions in the anterior parts of the mouth (Figure 1). Skin showed erythematous maculopapular lesions with evidence of blistering and ulceration with a positive Nikolsky's sign. Classic target or iris lesions were seen in a symmetrical pattern (Figure 2) along with corneal sparing chemosis on both

conjunctiva (Figure 3). Based on his clinical symptoms he was diagnosed SJS and his azithromycin treatment was promptly terminated. For 7 days, Oral prednisolone 1.0 mg/kg/day was given followed by 21-day taper. Three times a day, tetracycline and chlorhexidine mouth washes were provided and topical lignocaine was utilized for pain relief. Topical steroids and cyclosporine were for conjunctival involvement necessary. Ryle's Tube feeds were administered until he was able to tolerate oral feeding, the patient made significant improvement with rash completely gone.

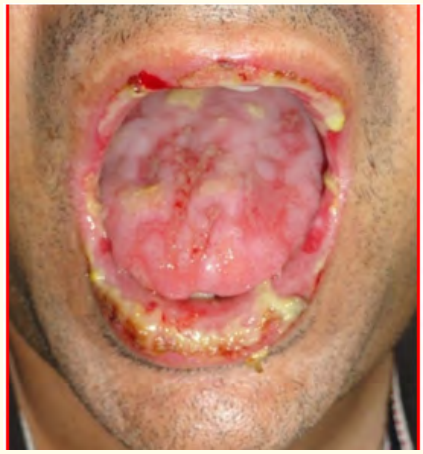


Figure 1: Ulcerative lesions over tongue and lips.

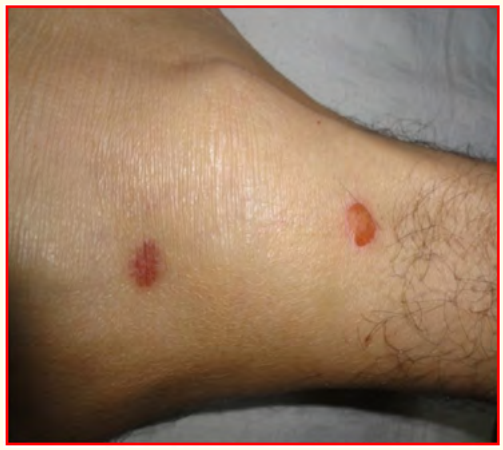
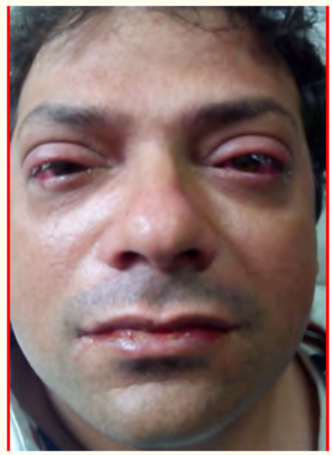


Figure 2: Classic target lesions.



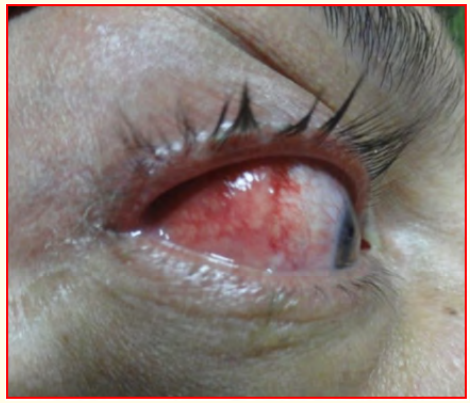


Figure 3: (a) and (b)Conjunctival chemosis.

Discussion

Stevens Johnson Syndrome is a rare FDE (Foreign Drug Allergy) with a safe drug like antibiotic azithromycin [5]. It forms a component of severe cutaneous reactions (SCAR) that affect mucous membrane and the skin with SJS at one end to SGS/TEN overlap and TEN at the other end. The type of lesions and the amount of the body surface area involved are used to differentiate SJS, SJS/TEN overlap, and TEN. In SJS Blisters and erosions cover between 3% and 10% of the body, 11–30% in SJS/TEN overlap, and over 30% in TEN. The clinical pattern and etiology of Erythema multiforme, which is also part of the SCAR spectrum, are different. Although infections can induce SJS and TEN, they are frequently side effects of drugs [4]. Drugs that are commonly associated are sulfonamides, betalactams, sedatives like barbiturates, anticonvulsants (phenytoin and lamotrigine), allopurinol and ART drugs (Nevirapine) [2]. SJS is the cytolytic protein granulysin, a cytolytic protein by granulocytes and an immunologically induced disease produced by drug-specific concentration of $CD8^+$ T cells and natural killer (NK) cells. Concentration of $CD8^+$ T cells and natural killer (NK) cells, has been identified as the most essential determinant for epidermal degradation [6], the concentration of which in blisters correlates directly with prognosis [7]. It usually starts with fever, sore throat, and exhaustion and progresses to skin and mucosal involvement with classic erythematous maculopapular vesicles, and bullae and predilection for distal extremities as well as a positive Nikolsky's sign and "target" lesions with bull's eye appearance [4]. In roughly 5% of patients, the course can be fulminant with multi organ failure and death. Corneal scarring and staphylococcal septicemia are both well-known complications [8]. Treatment is primarily symptomatic and supportive with a focus on respiratory and hemodynamic stability, hydration status, wound/burn care, and pain control. Immunomodulation with cor-

ticosteroids, Cyclophosphamide and immunoglobulin have been suggested but their use is debatable. Mouthwashes are used to treat oral sores. Topical anesthetics can help relieve discomfort while also allowing the patient to drink water [9].

Conclusion

SJS is a rare side effect of azithromycin treatment. If not detected early, the syndrome is generally accompanied with considerable morbidity and is deadly in around 5% of patients, necessitating supportive measures as well as immunomodulatory medication. Diagnosis is clinical and hence a high index of suspicion is required to identify SJS due to drugs that seldom lead to such severe response on the skin.

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