



**OFLOXACIN INDUCED TEN - A CASE REPORT**

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**ABSTRACT**

Toxic epidermal necrolysis (TEN) is a potentially life-threatening dermatologic disorder characterized by widespread erythema, necrosis, and bullous detachment of the epidermis and mucous membranes, resulting in exfoliation and possible sepsis and/or death. The development of TEN in this patient has been initiated by the intake of oral ofloxacin, and the subsequent treatment with oral diclofenac may have increased his adverse reactions. Practitioners should be aware of this rare serious adverse event, especially ofloxacin is commonly used for Pneumonia, skin and soft tissue infections and genitourinary infections. Close follow-up with patients to evaluate these adverse reactions, especially in case of quinolones. Cutaneous drug eruptions are one of the most frequent manifestations of adverse drug reactions, seen in 2-3% of hospitalised patients.

**KEYWORDS:** Cutaneous drug eruptions, Toxic epidermal necrolysis (TEN), Ofloxacin.

**INTRODUCTION**

An adverse cutaneous reaction caused by a drug is any undesirable change in the structure or function of the skin, its appendages or mucous membranes, and it encompasses all adverse events related to drug eruption, regardless of the etiology.<sup>[1]</sup> Cutaneous drug eruptions are one of the most frequent manifestations of adverse drug reactions, seen in 2-3% of hospitalised patients.<sup>[2]</sup> TEN, also called Lyell's syndrome was first described by the scottish dermatologist Alan Lyell in 1956. He reported four patients with an eruption resembling scalding of the skin objectively and subjectively<sup>3</sup>, which he called toxic epidermal necrolysis or TEN.<sup>[3]</sup>

Toxic epidermal necrolysis (TEN) is a potentially life-threatening dermatologic disorder characterized by widespread erythema, necrosis, and bullous detachment of the epidermis and mucous membranes, resulting in exfoliation and possible sepsis and/or death.<sup>[4]</sup> Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) considered being clinical entities within a spectrum differing only by their extent of body surface areainvolvement which is less than 10% with SJS, more than 30% with TEN and between 10% and 30% with "SJS-TEN overlap syndrome."<sup>[5]</sup>

Mortality rate of TEN is 30–35%. The most commonly implicated drugs are sulphonamides, chlormezanone, non-steroidal anti-inflammatory drugs, imidazole antifungals, cephalosporins, anticonvulsants, and allopurinol.<sup>[6]</sup> Ofloxacin, a second generation FQs has

been prescribed mostly because of its wide antimicrobial spectrum. FQs represent approximately 11% of antibiotics prescribed worldwide to treat gastrointestinal, genitourinary and lower respiratory tract infections. Globally, the reported cases of FQ induced SJS/TEN are in the rise the last decade.<sup>[7-8]</sup>

**CASE PRESENTATION**

68 yr old male was admitted in Dermatology Department presented with chief complaints of skin lesion since 2 days.

History of fever associated with chills and rigors 5 days back and it was subsided by taking medication Tab. Ofloxacin and Tab. Diclofenac. After 2 days of drug administration he developed fluid filled blisters leaving raw areas (skin erosion) over the upper limbs, back of the body over the back. Past medical history: known case of epilepsy since 10years. History of similar complaints was present about 2 episodes 3 years back with 1 year gap. Past medication history: Tab. Ofloxacin 200mg BD taken 5days back. Tab. Diclofenac BD taken 5days back.

**General examination**

On Cutaneous examination: one Multiple blisters and bulla present over lower limbs and around ankle joint. Multiple skin exfoliations present over the upper limbs and lower limbs, back of the body and over chest. Oral mucosal erosions present over the hard palate and lips. Genitalia erosions present over scrotum and over the penile region.

**Laboratory investigations**

General Random Blood Sugar: 198gm/dl (80-120 mg/dl)  
 Blood Urea (BU): 80 (7- 20mg/dl). Serum creatinine: 1.3mg % (0.6-1.2mg %). Serum electrolytes: Sodium-140mEq/L (135-145), Potassium-3.7 mEq/L (3.5-5.5), Chloride 96mEq/L (95-105). RBC: 3.2Cells/ $\mu$ mm (4.2-5.4) WBC: 6,200Cells/ $\mu$ mm (5000-10000 Polymorphs: 68% (40-75), Lymphocytes: 28% (20-40), Eosinophils: 02% (1-4), Monocytes: 02% (2-10).

**Treatment**

Inj. Piperacilin+ Tazobactam 4.5g IV BD, Inj. Decadron 8mg IV BD, Inj. Metronidazole 400mg IV TID. Inj. Pantoprazole 40mg IV OD, Tab. B complex, Calcium, Iron & Folic acid, Vitamin C. Soframycin cream E/A.. Mucopain ointment E/A, Orapaste ointment, Tab. Limcee OD, Syp. Potassium chloride 5ml TID continued for 10 days. Then followed by a discharge medication of Tab.B.complex, Calcium, Iron folic acid, Soframycin cream E/A, Mucopain ointment E/A, Orapaste ointment, Tab. Limcee OD, Syp. Potassium chloride 5ml TID and Tab. Prednisolone 10mg OD; Then finally advised to refer after 15 days.



**Pic 1: Multiple blisters and bulla present around ankle joint.**



**Pic 2: Multiple skin exfoliations present over Chest.**

**DISCUSSION**

The development of TEN in this patient have been initiated by the intake of oral ofloxacin, and the subsequent treatment with oral diclofenac may have increased his adverse reactions.

The risk of death for patients with TEN can be accurately predicted by the TEN-specific severity-of-illness score. Dermatologist calculated that the patient had a final score of 3 and a mortality risk of 35.5%.

As a clinical pharmacist, we have assessed the TEN with Naranjo scale which revealed Probable Adverse drug reaction and adapted Hartwig severity scale, severity was found to be Severe ADR.<sup>[9]</sup>

**CONCLUSION**

This is a rational way to manage the hospitalized TEN patient as the treatment undergone in this case. Physicians prescribing fluoroquinolones should consider the possibility of SCAR and explain to their patients, about the risks of hypersensitivity to these agents. Though hypersensitivity reaction to ofloxacin is rare, proper history should be taken before prescribing ofloxacin.

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