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Case Study



A Case report on Toxic Epidermal Necrolysis

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	Abstract
Published on: 11 Jan 2024	<p>Toxic epidermal necrolysis (TEN) is a group of severe forms of several life-threatening conditions. As a co-infection of this group, Stevens-Johnson syndrome (SJS) is a rare though severe disease of the skin and mucous membranes. Intake of some drugs could cause reactions such as SJS and TEN. A form of severe connective tissue disorder, TEN is also known as Lyell's syndrome and is a common cause of significant skin and mucous membrane disintegration in the majority of cases, the administration of pharmaceutical drugs is thought to be the primary cause of SJS/TEN. In this article, we report a case of a 60-year-old Female patient who presented with complaints of multiple fluid filled blisters and raw surfaces on the body which was developed after administration of Aceclofenac, cefixime and gentamycin. Proper counselling to the patient regarding the use of medications is very important in such life-threatening condition's where treatment guidelines remain hazy.</p>
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	Keywords: Toxic epidermal necrolysis, Stevens-Johnson syndrome, Epidermis, Blisters.

INTRODUCTION

Toxic epidermal necrolysis (TEN) is a group of severe forms of several life-threatening conditions. As a co-infection of this group, Stevens-Johnson syndrome (SJS) is a rare though severe disease of the skin and mucous membranes. Intake of some drugs could cause reactions such as SJS and TEN.¹ it is primarily a cutaneous reaction to various precipitating agents, characterized by wide spread erythema and detachment of the epidermis from the dermis. Toxic epidermal necrolysis occurs sporadically, more commonly in adults, with a mean age of 46.8 years. There is no sexual or racial predilection.² The incidence of TEN worldwide is 1-2 cases per million per year. The drug known to cause adverse cutaneous re-actions such as TEN are allopurinol, carbamazepine, lamotrigine, nevirapine, oxycam, NSAIDs, phenobarbital, phenytoin, sulfamethoxazole and other sulfur anti-biotics, and sulfasalazine. It is a life-threatening condition, which commonly begins with prodromal flu-like symptoms, followed by the appearance of a muco-cutaneous morbilliform rash, initially located at acral areas, but spreading quickly over the body. Flaccid blisters may occur as the condition progresses, bursting quickly, causing large

areas of denudation. The skin is extremely fragile, with denudation or blister formation at pressure sites (Nikolsky sign).³

CASE

A 60 years old female patient was admitted in the department of dermatology with chief complaints of multiple fluid filled blisters and raw surfaces on the body along with burning sensation over the raw surfaces from past two days. Her past medical history includes that patient sustained injury to right leg for which she took treatment with tablet Aceclofenac, Cefixime and Gentamycin. After taking treatment she started developing burning sensation over entire body at night. At first the blisters started at back which then progressed to thighs, upper chest, legs some of the blisters burst out to form raw surfaces, patient had similar complaints six months back after taking NSAID'S for knee pain which eventually resolved after treatment. On general examination the patient was conscious and coherent and her physical examination includes PR-76bpm, BP-110/80 mm/Hg, SPO2-98% RA. on systemic examination CVS-S₁S₂+, RR-20CPM, RS- clear. On examination there were multiple bullae present over thighs, legs, axilla, back. Oral mucosa involvement: erosions& crusting was present over lips. Patient laboratory parameters shows as follows Liver function test: Total bilirubin 0.8mg/dl. Complete blood picture (CBP): Hb: 7.5gm%, Total count: 6,700 cells/cumm, Differential count: Neutrophils:53%, lymphocytes: 41%, Eosinophils: 04%, Monocytes: 02%, E.S.R: 20mm/1, Platelets: 1.8 lakhs/cumm. SCORTEN Scale was used for evaluation of severity of illness and number of risk factors found was 3 which shows the mortality rate of 35.3%. Causality assessment of the event with Naranjo' scale suggest probable. Based on the subjective and objective evaluation the patient was diagnosed with severe Toxic epidermal Necrolysis which was shown in figure [1].



Fig 1: Peeling of sheets of skin over the body

The treatment was given as follows inj. Decadron 2cc-IV-BD, inj. Augmentin 625mg -BD, inj. Immunoglobulin 4 vials, Inj. Avil 2cc- IM -OD, Ointment Fusidic acid, Dentocaine gel, inj. Ringer lactate- OD, Lacrigel eye ointment -TID, chlorhexidine mouth wash TID, inj. Pantop -40mg- IV-OD, T. Levomont- OD, T. Diazepam- 5mg- OD.

DISCUSSION

TEN is a severe life-threatening pathological syndrome with a high mortality rate. Half of the deaths occur due to the secondary infection and subsequent sepsis and multi-organ system failure.⁴ Medications are the leading trigger of SJS and TEN in adults. Infections are responsible for a relatively higher percentage of cases in children. In addition to medications, conditions such as malignancies, systemic lupus erythematosus, viral infections, exposure to ultraviolet rays may trigger SJS/TEN. Among the drugs, more often implicated are allopurinol, antibiotics, anticonvulsants, and nonsteroidal anti-inflammatories. Newer drugs that have been associated with SJS and TEN include nevirapine, lamotrigine, sertraline, pantoprazole, and tramadol.⁵ Bastuji-Garin et al. (2000), developed the SCORTEN score, a recognized and validated measure of disease severity, with the following seven clinical criteria (Table 1). In our patient the SCORTEN was 3, indicating a high risk of mortality (35.3%) (Table 2). General management of TEN includes the early withdrawal of any potentially

offending drug and the surveillance of the patient in an intensive care unit. Because of the immunological basis of TEN three important drugs are used in the systemic treatment of the acute phase, systemic corticosteroids, intravenous immunoglobulin (IVIg) and cyclosporine.⁶ The main treatment of TEN is the immediate discontinuation of the offending drug and supportive care, including skin care, fluid and electrolyte management, nutrition, pain management and temperature control. In our case we have immediately withdrawn the drugs after performing causality assessment and provided appropriate treatment.

Table 1: SCORTEN score: clinical criteria

Risk factor	0	1
Age	<40 Years	>40 Years
Associated malignancy	No	Yes
Heart rate(beats/min)	<120	>120
Serum BUN (mg/dl)	<28	>28
Detached body surface	<10%	>10%
Serum bicarbonate(mEq/L)	>20	<20
Serum glucose(mg/dL)	<252	>252

Table 2: The mortality rate correlated with SCORTEN score

No of risk factors	Mortality rate
0 or 1	3.2%
2	12.1%
3	35.3%
5	58.3%
5 or more	>90%

SCORTEN Score 3 risk factors, Mortality rate: 35.3%

Toxic epidermal necrolysis is a rare and serious disease, which is almost always drug-induced.

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CONCLUSION

Toxic epidermal necrolysis is a rare and severe life-threatening complication, which is almost always drug induced. The cessation of the causative drug is the most important step in the treatment of the disease. Moreover, Proper counselling to the patient regarding the use of medications is very important in such life-threatening condition's where treatment guidelines remain hazy.

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