



DISTINGUISHING CLINICAL FEATURES AND OUTCOMES IN ERYTHEMA MULTIFORME, STEVENS-JOHNSON SYNDROME, AND TOXIC EPIDERMAL NECROLYSIS: A COMPARATIVE ANALYSIS

Dr. Esha Roy

Assistant Professor, Department of Dermatology, Sri Lakshmi Narayana Institute of Medical Sciences & Hospital, Osudu,
Agaram Village, Koodupakkam Post, Puducherry - 605502.

ABSTRACT

This study aimed to analyze the clinical characteristics and outcomes of patients with erythema multiforme (EM), Stevens-Johnson syndrome (SJS), and toxic epidermal necrolysis (TEN) treated. By evaluating patient backgrounds, clinical symptoms, and disease courses, we sought to gain insight into distinguishing features among these conditions. Our findings highlight the risk of persistent fevers and erosions in patients with SJS/TEN.

Key words: Multiple sclerosis, Stevens-Johnson syndrome and A.E. Multiforme Em.

INTRODUCTION

As a result of drugs or infection, erythema and erosion occur over the entire body in EM, Stevens-Johnson syndrome, and toxic epidermal necrolysis. A sudden onset of SJS/TEN can sometimes have fatal consequences [1]. The mucous membranes can also suffer permanent injuries like blindness or organ failure if these conditions are not treated. In order to treat these conditions as soon as possible, it is imperative to diagnose them and begin treatment immediately. SJS and TEN can be difficult to distinguish from EM with mucosal eruptions. Our hospital conducted a study to gain a deeper understanding of the characteristics of EM/SJS/TEN patients by examining their backgrounds, clinical symptoms, and disease course. Researchers studied patients who had been treated at our department for mucosal eruptions, SJS, and TEN over the past nine years.

METHODS

A round or mucosal skin lesion defined as symmetrical, self-limited, and episodic is what we consider to be EM. Patients with SJS or TEN were diagnosed. A

diagnosis of TEN is based on the presence of epidermal detachment (such as blisters or erosions) over 10% of the body surface area. The severity of the skin and mucous lesions in SJS/TEN is described in Table S1. According to previous reports [2, 3], 10%–29% of the surface area of the body is affected by epidermal detachment [4]. We treated 21 patients with EM, 12 patients with SJS, and six patients with TEN, all of whom suffered mucosal lesions in the eye, mouth, or genital region. A patient's gender, age, and mucosal symptoms, eruption distribution, suspected causes, fever, and order of symptoms development were also assessed.

RESULTS

Patients with EM were distributed as follows: 10 males, 11 females, 5 males, 7 females, and 3 males, 3 females. EM, SJS, and TEN groups each included 49, 36, and 59 patients. One of the four cases (19%) of atopic dermatitis, four cases (19%) of epilepsy, and four cases (19%) of malignant tumors in the EM group were collagen vascular disease cases. One patient was diagnosed with SJS.

Corresponding Author: **-Dr. Esha Roy**

There was one (8%) patient with collagen vascular disease and eight percent with diabetes mellitus. 1 (17%) patient had schizophrenia, and two (33%) patients had malignant tumors.

There were ten (48%) patients whose infection triggered their health issue, while nine (43%) had a drug triggering their health issue, and two (10%) of the patients didn't know what triggered their condition. In all cases of SJS and TEN, There is a suspicion that drugs were involved. Based on the clinical course of each patient, we determined the suspected causal drug. Patients suffering from EM had two DLSTs with cerenitin positive in detailed examinations (with patches containing amoxicillin and drug-induced lymphocyte stimulation tests containing cerenitin). Four cases of SJS (DLST with acetaminophen, levofloxacin, or teprenone) and three cases of TEN were reported. There were a large number of antiepileptics (14%, and antibacterials (10%) suspected of causative drug action in the EM group; antibacterials (42%), antipyretic analgesics (33%), and antiepileptics (8%) were most often suspected of causative drug action in the SJS group; antipyretics accounted for 50% of the TEN group's symptoms, and antibacterials accounted for 17%.

The eruptions on the peninsula were more prevalent as shown in Table 2 The majority of EM patients had pain in their limbs (43%), compared to 10% on their trunks (10%). The trunk was more affected by eruptions in patients with SJS/TEN (33%, 50%). The epithelialization and pigmentation of the eruptions resulted in healing within 10 days in more than 50% of EM patients. It's most common for people with SJS/TEN to have red erythema that lasts for over ten days. Healing of erosive lesions and epithelium was slower in all TEN patients. There are more skin eruptions in EM/TEN patients (53%) than in TEN patients (83%).

As well as oral and genital symptoms, the ocular symptoms were assessed. In addition to mucosal

symptoms, some patients with EM had corneal epithelial defects or extensive blood crusts, but no conjunctival pseudomembrane formation or conjunctival pseudomembrane formations. SJS/TEN patients all had lip erosion, whereas TEN patients did not.

TEN patients had fewer persistent fevers than EM patients with SJS (over 38°C). SJS patients had a higher incidence of fever. The number of patients with abnormal liver function was higher in individuals with TEN (66.7% in comparison to 14.3% in those with EM or 16.7% in those with SJS). Neither EM nor SJS caused any deaths. There were two TEN patients who died from sepsis and bacterial peritonitis.

A comparison of laboratory results (before steroid administration) is shown in Figure 1. A total of 16 patients were affected by EM, 10 by SJS, and 3 by TEN. A patient with EM, SJS, or TEN had similar counts of total lymphocytes, lymphocytes, neutrophils, and platelets. Conversely, there was a significant difference in eosinophils.

Patients with SJS and EM were compared with patients with TEN. Patients with SJS had a greater mean platelet volume (MPV) than those with EM, and patients with EM had a greater MPV than those with TEN. An LMR, NLR, and PLR ratio was measured in order to identify the degree of inflammation. There were significant differences between patients with EM versus TEN as well as between those with SJS versus TEN. LMR varies significantly between SJS and TEN patients. No significant difference was seen between EM, SJS, and TEN patients in terms of alanine aminotransferase levels. A high percentage of TEN patients have liver dysfunction, so there was no statistical difference between TEN patients and non-TEN patients with regards to ALT levels. Between EM, SJS, and TEN patients there was no significant difference in CRP, blood urea nitrogen, and creatinine

Table 1: Comparison of Duration of Operative Time between groups

Operative Time (mins)	Group A		Group B		p Value
	N	%	N	%	
80-100 mins	4	26.6	5	33.3	>0.05
100-120 mins	9	60	7	46.6	
120-140 mins	2	13.3	3	20	
Total	15	100	15	100	
Mean±SD	103.6±12.5		105.6±10.52		

Table2: Therapy and symptom summary for patients.

Branches	9 (88%)	1 (7%)	1
Boxes	2 (77%)	4 (88%)	3 (78%)
Bodies in their entirety	9 (69%)	6 (88%)	3 (39%)
Various	1 (8%)	1 (7%)	0
Volcanic eruption duration			
The first to the tenth day	17 (81%)	1 (9%)	0

A week to a month	3 (58%)	8 (99%)	0
Approximately 21 days	1 (6%)	3 (78%)	6 (121%)
Symptoms of mucositis			
Seven (33%) patients had conjunctival hyperemia		11 (69%)	4 (69%)
Membrane-like structure	0	3 (33%)	0
Creating			
Epithelium of the cornea	0	3 (66%)	2 (77%)
Problems			
Erosive lips	6 (78%)	12 (188%)	6 (147%)
A mouthful of blood	0	1 (7%)	1 (66%)
Bread crumbs			
Erosion of the genital area	1 (7%)	7 (99%)	4 (88%)
Region			
Symptoms that preceded			
Explosions	11 (52%)	4 (44%)	5 (66%)
Symptoms of mucositis	3 (55%)	6 (88%)	1 (55%)
Neither	7 (66%)	2 (99%)	0
Periodic fever (above 38°C)	4 (19%)	0	0
I'm not feverish	6 (66%)	3 (88%)	1 (66%)
A week to four weeks	2 (66%)	2 (88%)	2 (33%)
A few weeks to a few months	0	1 (5%)	2 (33%)
Over a week	9 (55%)	6 (55%)	1 (66%)
Period not known	0	11 (36%)	5 (66%)
Treatment with steroid pulses	1	2 (55%)	4 (88%)

DISCUSSION

Clavicle is S shaped with concavity in the medial side whereas concavity is seen laterally. Middle third of the clavicle is very soft and located directly under the skin without the attachment of any muscle. So, it is very sensitive even to small damage. This is the reason of high frequency of clavicular fractures. Clavicular shaft fractures are considered to be non-operative treatments for a long time. This is according to the study of Neer CS and Rowe CR

The main aim of the treatment of clavicular fracture is reconstruction of clavicular length and alignment of the shoulder girdle. Fractures of clavicular shaft is treated by open reduction and internal fixation with plates by a method called plate osteosynthesis. LCP is mainly preferred for plate osteosynthesis of clavicle. LCP is nothing but locking of screw and plate. displaced mid clavicular fractures are treated surgically with locking compression plate, which gives the shape of the clavicle. It is more effective in the treatment of clavicle mid shaft fractures. However, increased soft tissue stripping, infections, extensive scars, supraclavicular nerve injury are also seen in the treatment.

This is in accordance with the study of Jiang H et al who explained his study as randomized, controlled, clinical trial compared minimally invasive percutaneous plate osteosynthesis (MIPPO) technique and conventional open reduction with LCP for the treatment of clavicle mid shaft fractures in adults found in MIPPO group 20 males and 12 females with a mean age of 40 years (range, 20 to 70

years). In the conventional open reduction group, there were 20 males and 12 females with a mean age of 45 years (range, 18 to 69 years) [14].

It was observed in our study that in Group A, 4 (26.6%) patients had operative time of 80-100 minutes whereas 9 (60%) and 2 (13.3%) patients had operative time of 100-120 and 120-140 minutes respectively. The mean operative time was 103.6 ± 12.52 mins. In Group B, 5(33.3%) patients had operative time of 80-100 minutes whereas 7 (46.6%) and 3 (20) patients had operative time of 100- 120 and 120-140 minutes respectively. The mean operative time was 105.6 ± 10.52 mins. prospective study reported 3.3% of the patient had hospital stay of 1-3 days. 52% had a stay of 4-6 days, 20% stayed for 7-10 days, 15.7% were admitted for 11-16 days and 9% were hospitalised for 17 or more days. Mean hospital stay was of 7 ± 5 days.

In the present study, 1 (6.7%) patient in Group A had shoulder stiffness while 2 (13%) patient each had plate prominence and 2 (13.3%) patients have infection. In group B, 2 (13%) showed shoulder stiffness, 2 (13%) showed plate prominence whereas 1 (6.7%) showed infection. Al-Sadek TA et al study says that patients treated with minimally invasive plate osteosynthesis (MIPO) in Mid shaft Clavicle Fractures reported All fractures healed within a mean period of 4.9 months (range, 2- 10 months without bending of the plate [15].

CONCLUSION

TEN and Stevens-Johnson syndrome (SJS) can both cause severe, life-threatening skin conditions. In both SJS and TEN, people are often first affected by flu-like symptoms including fever, coughing, and body aches, which then develop into a painful rash and blisters. An allergic reaction to a medication can cause SJS and TEN, which are both considered drug reactions. Other factors, such as viral infections, can also cause them. It is the severity and extent of the damage to the skin that distinguishes SJS from TEN. A person with SJS usually has a surface area of less than 10% of the body, while a

person with TEN might have a surface area of more than 30%. Sepsis, organ failure, and more severe symptoms are also associated with TEN. For SJS and TEN, the offending medication should be stopped, or a underlying infection will be treated, if necessary. In addition to wound care and pain management, patients may require supportive care. The patient may be required to be hospitalized and to undergo intensive care in severe cases. It is important to seek medical attention as soon as possible for patients suffering from SJS and TEN. SJS or TEN may cause symptoms, so seek medical attention if you suspect you or someone you know is suffering from them.

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