

## Stevens Johnsons Syndrome following Intravenous Vancomycin use: A Case Report

Ali Adil Mahmud<sup>1</sup>, Azam Haseen<sup>2</sup>, M.H.Beg<sup>3</sup>, Shankar Prasad Sinha<sup>4</sup>, S.C. Sharma<sup>5</sup>

<sup>1</sup>Senior Resident, Department of Surgery, Teerthankar Medical College and Hospital, Moradabad, India.

<sup>2</sup>Associate Professor, Department of Cardiothoracic Surgery, Jawaharlal Nehru Medical College and Hospital, Aligarh, India.

<sup>3</sup>Professor, Department of Cardiothoracic Surgery, Jawaharlal Nehru Medical College and Hospital, Aligarh, India.

<sup>4</sup>Professor, Department of Surgery, Teerthankar Medical College and Hospital, Moradabad, India.

<sup>5</sup>Associate Professor, Department of Surgery, Teerthankar Medical College and Hospital, Moradabad, India.

### ABSTRACT

Stevens –Johnsons Syndrome (SJS) is a rare autoimmune condition usually affecting the skin and mucus membranes. Stevens-Johnson syndrome is a minor form of toxic epidermal necrosis, with less than 10% body surface area (BSA) detachment. Various factors are notoriously known to cause this serious condition like medications, infectious and immune-compromised states, etc. We report the case of a 3 year girl with right sided pyothorax developing SJS during the course of her treatment and our subsequent management.

**Keywords:** Autoimmune, Steven Johnsons Syndrome, Vancomycin.

### INTRODUCTION

Stevens Johnsons Syndrome (SJS) is a rare autoimmune condition usually affecting the skin and mucus membranes. Although several classification schemes have been reported, the simplest classification breaks the disease down as follows.<sup>[1]</sup>

Stevens-Johnson syndrome: A minor form of toxic epidermal necrolysis, with less than 10% body surface area (BSA) detachment, Overlapping Stevens-Johnson syndrome/toxic epidermal necrolysis: Detachment of 10-30% of the BSA, Toxic epidermal necrolysis: Detachment of more than 30% of the BSA.

Typical prodromal symptoms of Stevens-Johnson syndrome are as follows: Productive cough with thick, purulent sputum, Headache, Malaise, Arthralgia. Various pharmacological agents like Allopurinol<sup>[2]</sup>, Acetaminophen<sup>[3]</sup>, cyclophosphamide<sup>[4]</sup>, Ibuprofen and Naproxen sodium and other NSAIDS, Antibiotics like penicillin, Vancomycin, Anticonvulsants and Antipsychotics, Radiation therapy along with Infectious and Immuno-compromised states like Herpes (herpes simplex or herpes zoster), Pneumonia, HIV, Hepatitis, are implicated in causing this serious and potentially fatal condition.

#### **Name & Address of Corresponding Author**

Dr. Ali Adil Mahmud,  
Senior Resident,  
Department of Surgery,  
TMMC&RC,  
Moradabad, India.  
Email. adilgoa1985@gmail.com.

### CASE REPORT

A 3 year old girl presented with a history of fever and difficulty in breathing for 1month. She was diagnosed as a case of right sided pyothorax on chest X ray, and an ICTD was placed, she was started on intravenous vancomycin and blood and pus cultures were sent. Initially she showed improvement but 4 days after starting the therapy she started developing rash around the oral cavity with swollen lips [Figure 1] with dysphagia and neutropenia. Her fever returned and intravenous linezolid was started, her oral ulcers [Figure 2] and fever continued. On doing a skin reference she was diagnosed as a case of Steven Johnson's syndrome most probably secondary to i.v vancomycin. All intravenous antibiotics were stopped and she was given topical corticosteroids. Within 24 hours her fever subsided and within 4-5 days her mucosal ulcers started healing. On repeat CXR her lung was expanded and the ICTD was removed and she was discharged on satisfactory condition and showed satisfactory improvement on follow up.

### DISCUSSION

Stevens-Johnson syndrome is a rare immunologic reaction that may involve skin or various mucosal surfaces. The etiology may range from multiple pharmacologic agents to viral infections. Associated findings can range from minimal skin and mucosal involvement to extensive dermal exfoliation, nephritis, lymphadenopathy, hepatitis, keratitis and multiple serologic abnormalities.

Stevens–Johnson syndrome (SJS) is a milder form of toxic epidermal necrolysis (TEN).<sup>[1]</sup> These conditions were first recognized in 1922.<sup>[5]</sup> A classification first published in 1993 that has been adopted as a consensus definition identifies Stevens–Johnson syndrome, toxic epidermal necrolysis, and SJS/TEN overlap. All three are part of a spectrum of severe cutaneous reactions (SCAR) which affect skin and mucous membranes.<sup>[6]</sup>



**Figure 1:** Rashes around oral cavity & swollen lips.



**Figure 2:** Oral ulcers.

Vancomycin is derived from the bacterium - *Streptomyces (Norcadia) orientalis* it is mainly used in the treatment of Severe Gram-positive bacterial infections MRSA & coagulase-negative staphylococci and as an alternative for the treatment of bacterial endocarditis in penicillin-allergic patients. Vancomycin can have various side effects like: Rash (most common), Neutropenia, Fever, Phlebitis, Nephrotoxicity, Ototoxicity, Linear IgA Bullous Dermatitis, Necrotizing Cutaneous Vasculitis, Toxic Epidermal-necrolysis, “Red Man Syndrome (a condition causing cutaneous flushing due to release of histamine following Intravenous Vancomycin injection).

Although Vancomycin is a known cause of causing SJS very few cases have been reported in literature<sup>[7,8]</sup> and allopurinol is thought to be one of the most common offending agents causing SJS<sup>[2]</sup> at least in Europe and Israel.

Patients with SJS may complain of a burning rash that begins symmetrically on the face and the upper part of the torso. The cutaneous lesions are characterized as follows: a) The rash beginning as macules that develop into papules, vesicles, bullae, urticarial plaques, or confluent erythema, b) The typical lesion has the appearance of a target; this is considered pathognomonic. In contrast to the typical lesions of erythema multiforme, these lesions have only 2 zones of color. c) The lesion’s core may be vesicular, purpuric, or necrotic; that zone is surrounded by macular erythema, d) Lesions may become bullous and later rupture, leaving denuded skin; the skin becomes susceptible to secondary infection. Urticarial lesions typically are not pruritic. Infection may be responsible for the scarring associated with morbidity

Although lesions may occur anywhere, the palms, soles, dorsum of the hands, and extensor surfaces are most commonly affected. The rash may be confined to any one area of the body, most often the trunk Minimal dermal inflammatory cell infiltrate and full-thickness necrosis of the epidermis are typical histopathologic findings in patients with Stevens-Johnson syndrome.

Management of SJS mainly involves maintaining the airway and providing adequate fluid intake, remove the offending agent, although the use of corticosteroids is controversial<sup>[9]</sup> high dose corticosteroids can be administered in the initial period. Oral ulcerations and lesions in the oral cavity are mainly treated with iodine mouthwash and topical analgesics.

Steven Johnsons Syndrome although a milder form of toxic Epidermo-necrolysis has got a varied etiology and its pathology is still not fully understood, but every treating clinician should have a high degree of suspicion for this condition in order to give timely and adequate treatment to the patient.

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**How to cite this article:** Mahmud AA, Haseen A, Beg MH, Sinha SP, Sharma SC. Stevens Johnsons Syndrome following Intravenous Vancomycin use: A Case Report. *Ann. Int. Med. Den. Res.* 2015;1(3):331-33.

**Source of Support:** Nil, **Conflict of Interest:** None declared