CASE REPORT

FUTURE JOURNAL OF PHARMACEUTICALS AND HEALTH SCIENCES
Published by Pharma Springs Publication Journal Home Page: https://pharmasprings.com/fjphs

A Case Report: Lamotrigine Induced Steven Johnson Syndrome

Bushra Unisa*

Department of Clinical Pharmacy Practice, MRM College of Pharmacy, Ibrahimpatnam – 501510, Ranga Reddy district, Telangana, India

Article History:

Received on: 07 Oct 2021
Revised on: 20 Oct 2021
Accepted on: 22 Oct 2021

Keywords:

Erythematous Lesions, Erosive Mucosal Lesions, Corticosteroid, Steven-Johnson Syndrome, Anti-Depressant, Anti-Histamines

ABSTRACT

A 21 years old male with complaints of erythematous erosive lesions, itchy and burning sensation all over the body for 5 days and multiple erythematous maculopapular lesions on palms and soles, erosive mucosal lesions in oral mucosa, erosive erythematous lesions on the scrotum, discharge from the eye, blurring of vision and redness in both the eyes. The patient was evaluated by three local doctors but not fully diagnosed. The lesions started after taking antidepressant selective serotonin reuptake inhibitor (SSRI'S) which was Lamotrigine, along with this Aripiprazole-Atypical antidepressant and Desfenlafaxine-a serotonin and norepinephrine reuptake inhibitor (SNRI'S) was taken, it was prescribed by a psychologist who thought the patient is depressed, but the patient was inactive due to anemia. The initial dose of Lamotrigine is 25mg per day which can be managed further based on symptoms, but the patient was directly started with 100mg half tablet for 8days along with one 200mg of lamotrigine at night. The patient was not made aware of drug-related information like it's side effects, improper drug usage and what if dose is missed. After taking patient history and examination the diagnosis was made to be Lamotrigine induced Steven Johnson syndrome (SJS). The patient was not depressed and he was not active as he was anemic. After correct diagnosis, the management was done with a corticosteroid, antihistamines, Pantoprazole, and antibiotic along with mouthwash and eye drops. The recovery period was of 40 days.

*Corresponding Author

Name: Bushra Unisa
Phone: +91 9398347312
Email: meher3579@gmail.com

eISSN: 2583-116X pISSN:

DOI: https://doi.org/10.26452/fjphs.v1i4.203

Production and Hosted by

Pharmasprings.com

INTRODUCTION

Steven Johnson Syndrome (SJS) / Toxic Epidermal Necrolysis (TEN) is a severe skin reaction that is caused by a particular medication. Previously SJS and TEN were considered to be different disorders, but now it is concluded that they are part of a continuum. SJS represents the acute condition and TEN the more severe [1]. The two begin with fever and flu-like symptoms, followed by blistering, peeling of skin with erosions that look like a severe hot water burn. Skin lesions begin with a face to the chest following to the body. The more the reaction to the skin the more damage to mucous membranes, including the lining of the mouth and airways which results in inconvenience in swallowing and breathing. The blisters affect the urinary tract and genitals as well. The eyes are also affected, causing irritation, redness of the conjunctiva, and damage to the corner as seen well. Serious complications include pneumonia, bacterial infections (Sepsis), shock, multiple organ failure, and even death [2]. About 10 percent of individuals die from SJS, while the fatal condition is seen in 50 percent of individuals with TEN. The survival persons also suffer from long term effects

like skin coloration, skin dryness, xerosis, hyperhidrosis, alopecia, and abnormal growth or loss of fingernails and toenails.

Case Presentation

A 21-year-old male patient consulted the physician with chief complaints of erythematous erosive lesions, itchy and burning sensation on body and mouth since 5days. At the presentation, there were multiple erythematous maculopapular and papular lesions on palms and soles. There are erosive mucosal lesions in the mouth and erosive erythematous lesions on the scrotum [3]. The medical history of medications includes- Lamotrigine- 100mg half tablet at night for 8 days followed by 200mg (SSRI), Desvenlafaxine-100mg at night (SNRI), and Ariprapazole- 2.5 mg (Atypical antidepressant) half tablet for 4 days at night followed by 2.5mg from 6^{th} day to continue till 1 month. The symptoms started in the patient after 5-6 days of treatment. The physical examination discloses the patient is anemic along with fever, body pains, erythematous erosive lesions on palms and soles, erosive mucosal lesions in the mouth with difficulty in swallowing, erosive erythematous lesions on the scrotum which was causing difficulty in walking, and redness of eyes with creamy discharge [4]. The lesions were reddish, painful, and were spreading in nature. All vital signs were completely normal. On examination of social history, the patient was on liquids, bowel and bladder habits were normal, sleep duration and appetite seemed to be normal. Three local doctors examined the patient previously but haven't diagnosed the condition as Steven Johnson Syndrome but treated it as a skin disorder this has continued for 2-3 days and later on the final diagnosis was made correct at Princess Esra hospital at Shah Ali banda after taking complete drug history, physical examination and evaluation of vitals [5].

The standard treatment started with tablet Prednisolone-20mg twice daily for 5days, tablet Pan-40mg twice daily for 1 week, Tablet fexofenadine hydrochloride- 180mg in the morning for 1 week, tablet levocetirizine dihydrochloride-5mg at night for 1 week, CHLORHEX mouthwash thrice a day, fudic cream twice a day for local application on the scrotum, Tess oral gel twice a day for local application in mouth and on lips, clop cream for application on lesions around fingernails, tablet Azithromycin-500mg twice a day for 5days, lacryl gel every 2hours for eyes and FML eye drop thrice for 1 week followed by twice for 2^{nd} week and once daily for 3^{rd} week. After 5days of treatment continuation the symptoms gradually lowered down and the patient seemed to be improved as the drug-induced effect was getting controlled [Figure 1 and Figure 2]. The lesions were dried up and peeled off slowly, the discoloration of skin was also improved [6]. There is no intervention in this case and the progression of the lesion happened due to lack of drug dose usage and also improper guidance to the therapy. The best instruction to every physician is proper guidance of dose according to the patient situation. The complete recovery took 45 days with gradual recovery from all symptoms and the recovery was fully reclaimed. Lifestyle modification, in this case, includes proper hydration to the body, a healthy diet including iron-rich foods, and protein intake as the patient was underweight [7].

DISCUSSION

Steven Johnson Syndrome is a serious and life-threatening cutaneous drug allergy although early correct diagnosis and proper management help in ruling out in saving the life of patients and the best can be done by cessation of the offending drug [Table 1]. SJS is characterized by the onset of fever, sore throat, chills, headaches, malaise rapid onset of mucocutaneous lesions [Figure 2 and Figure 3] they may affect lips, oral cavity [Figure 4], conjunctiva [Figure 1], nasal cavity, urethra, vaginal gastrointestinal tract, and respiratory tract during 9-11 days on the initial onset. 90% of the affected patients suffer from mucous membrane lesions and the symptoms vary from individuals to individuals based on the usage of the offending drug, the onset of symptoms, and immunity of the patient.

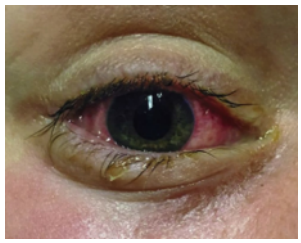

Figure 1: Effected eye due to SJS

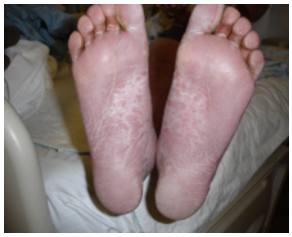

Figure 2: Effected limbs due to SJS

The correct pathophysiological mechanism of SJS is still unknown but the theories imply both immunological and non-immunological mechanisms. Although it was classified as a type IV

Table 1: Drugs Causing Steven Johnson syndrome

More Frequently	Less Frequently
Sulphadoxine	Cephalosporins
Sulphadiazine	Fluoroquinolones
Sulphasalazine	Vancomycin
Cotrimoxazole	Ethambutol
Hydantoins	Rifampin
Carbamazepine	Fenbufen
Barbiturates	Tenoxicam
Phenylbutazone	Tiaprofenic acid
Piroxicam	Diclofenac
Chlomezone	Sulindac
Allupurinol	Ibuprofen
Amithiozone	Ketoprofen
Aminopenicillins	Naproxen

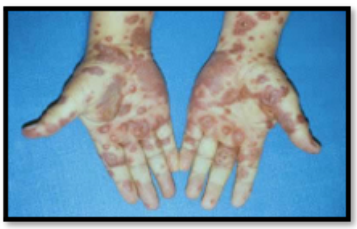

Figure 3: SJS Lesions on Palms

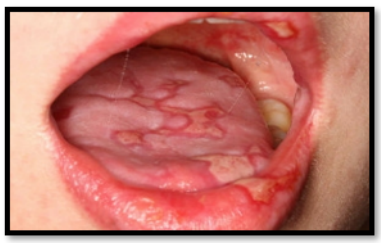

Figure 4: Mucosal mouth lesions affecting mouth and lips

delayed hypersensitivity reaction. Current studies have also linked to perforin, a pore monomeric granule released from natural killer T-lymphocyte in the development of SJS, which is believed to initiate keratolysis during the early onset of symptoms. Some evidence also exists linking IgE-mediated mechanisms and mast cell activation contributing to SJS.

CONCLUSION

SJS is a serious skin hypersensitivity reaction. The care should be taken by the physician before the prescription of medications and the dose of every drug should be carefully known and implemented. The on time diagnosis and proper management by withdrawing the offending drug and standard symptomatic treatment help in saving the patient's life. The management and recovery rate depends on the severity of the disease reaction.

Funding Support

The author declares that no funding was supported for this study.

Conflict of Interest

The author declares there was no conflict of interest for this study.

Contribution of Authors

Authors declare that, the Case Report by the names mentioned in the article and all the liabilities and claims related to the content of the article will be borne by the authors.

REFERENCES

[1] Ribhi Hazin, Omar A. Ibrahimi, Moustafa I. Hazin, and Arash Kimyai-Asadi. Stevens-Johnson syndrome: Pathogenesis, diagnosis, and management. *Annals of Medicine*, 40(2):129–138, 2008.

[2] P D Ghislain and J C Roujeau. Treatment of severe drug reactions: Stevens-Johnson Syndrome, Toxic Epidermal Necrolysis and Hypersensitivity syndrome. *Dermatology Online Journal*, 8(1):5, 2002.

[3] Kakushi Matsushita, Atsuo Ozaki, Hirosaka Inoue, Tomoe Kaieda, Masaki Akimoto, and Atsushi Satomura. Stevens-Johnson syndrome induced by mizoribine in a patient with systemic lupus erythematosus. *Modern Rheumatology*, 16(2):113–116, 2006.

[4] William J. Power, Susan L. Saidman, Daun S.

Zhang, Eleftherios C. Vamvakas, Jesus M. Merayo-Lloves, Adam H. Kaufman, and C. Stephen Foster. HLA Typing in Patients with Ocular Manifestations of Stevens-Johnson Syndrome. *Ophthalmology*, 103(9):1406–1409, 1996.

[5] M Mockenhaupt and J Norgauer. Cutaneous adverse drug reactions-Stevens-Johnson syndrome and toxic epidermal necrolysis. *Allergy-Clinical Immunology International*, 14(4):143–150, 2002.

[6] G F L Hofbauer, G Burg, and F O Nestle. Cocaine-Related Stevens-Johnson Syndrome. *Dermatology*, 201(3):258–260, 2000.

[7] Sylvie Bastuji-Garin, Berthold Rzany, Robert S. Stern, Neil H. Shear, Luigi Naldi, and Jean-Claude Roujeau. Clinical Classification of Cases of Toxic Epidermal Necrolysis, Stevens-Johnson Syndrome, and Erythema Multiforme. *Archives of Dermatology*, 129(1):92–96, 1993.

Cite this article: Bushra Unisa. A Case Report: Lamotrigine Induced Steven Johnson Syndrome. Future J. Pharm. Health. Sci. 2021; 1(4): 215-218.