(International Print/Online Journal)

SJIF IMPACT FACTOR: 4.617
PUBMED-National Library of Medicine ID-101739732

ISSN (Print): 2209-2870
ISSN (Online): 2209-2862

International Journal of Medical Science and Current Research (IJMSCR)
Available online at: www.ijmscr.com
Volume2, Issue 6, Page No: 337-340
November-December 2019

# A Case Report on Phenytoin Induced Steven Johnson Syndrome in Generalised Tonic Clonic Seizures

**Geetha Alekhya.K [1], Mohsina Banu.K[*1], Dr. Bassy K Alias[2], Mansura Begum[1], Niharika[1]**
[1]Student, Pharm.D, [2]Assistant Professor
Department of pharmacy practice, TVM College of pharmacy, Ballari

***Corresponding Author:**
**Mohsina Banu.K**
Department of pharmacy practice, TVM College of pharmacy, Ballari

Type of Publication: A Case Report
Conflicts of Interest: Nil

**ABSTRACT**
Stevens Johnson syndrome (SJS) is a rare consequence of hypersensitivity reaction precipitated by certain drugs and viral infections. It is an idiosyncratic drug reaction usually associated with drugs like anti-epileptics, non-steroidal anti-inflammatory compounds and antibiotics. The overall incidence of this entity is very low and life threatening if undiagnosed and untreated. The syndrome is characterized by purpuric macules and bullous eruptions involving the mucous membrane which may be followed by systemic manifestations. The mechanism of SJS is not fully defined. Immune dysfunction mediated by T lymphocytes in response to phenytoin and oxidative stress generated by phenytoin are thought to be responsible. Here we present a case of SJS induced by phenytoin in an adult female. The case warrants the need of adopting a meticulous approach while prescribing phenytoin. The case is being reported to make the Adverse drug reaction (ADR) more prominent and to emphasize the importance of reporting such reactions ensuring efficient pharmacovigilance..

**Keywords:** Phenytoin, Stevens Johnson Syndrome (SJS), Adverse Drug Reaction (ADR).

## INTRODUCTION

Phenytoin is a first line anti Epileptic drug for generalized tonic clonic and partial seizures. It is a barbiturate analogue, but shelved due to poor sedative property. Phenytoin is not a CNS depressant.[3] Phenytoin is one of the most commonly prescribed antiepileptic and is known to cause a plethora of ADR's [6] like rare hypersensitivity or idiosyncratic reactions resulting skin rashes, Stevens-Johnson

syndrome, pseudolymphoma, bone marrow suppression, lupus like reactions, hepatitis, and toxic epidermal necrolysis (TEN).[2]

SJS and TEN are terms that, describe the same usually drug induced disorders, which is characterized by blisters and epidermal detachment resulting from epidermal necrosis in the absence of substantial dermal inflammation.[1]

Its characteristic time lags between 7-14 days after drug exposure. In SJS usually 10-30% body surface area detachment is seen in TEN > 30 % detachment is seen.[1]

Mechanism of SJS is not fully defined. Immune dysfunction mediated by T lymphocytes in response to phenytoin and oxidative stress generated by phenytoin are thought to be responsible.[5]

Here we report a case of 25 years female after she was put on treatment on phenytoin.

## CASE PRESENTATION:

A 25 years female patient was presented with complaints of itchy skin lesions with branding positive, fever intermittent, chills and rigors, headache, cold and cough, vomiting, diarrhea, burning micturation. Itching was sudden in onset progressive and continous present throughout the day, photosensitivity was also positive. She is known case of generalised tonic clonic seizures admitted in VIMS hospital 12 days back with the complaints of uprolling of eyes, secretion of foam from mouth, Involuntary jerky movements, history of trauma prior to seizure episode, patient was recovered and she was advised to take tab. Phenytoin 100mg 1-0-2 hence, on 7$^{th}$ day she developed SJS.

**PAST MEDICATION:**

- Tab. Phenytoin 100mg 1-1-1
- Inj. Lorazepam sos
- Inj. Mannitol 100mg 1-1-1
- Inj. Ceftriaxone 250mg
- Inj. Metronidazole 100mg 1-1-1
- Tab. Amoxiclav 625mg 1-0-1

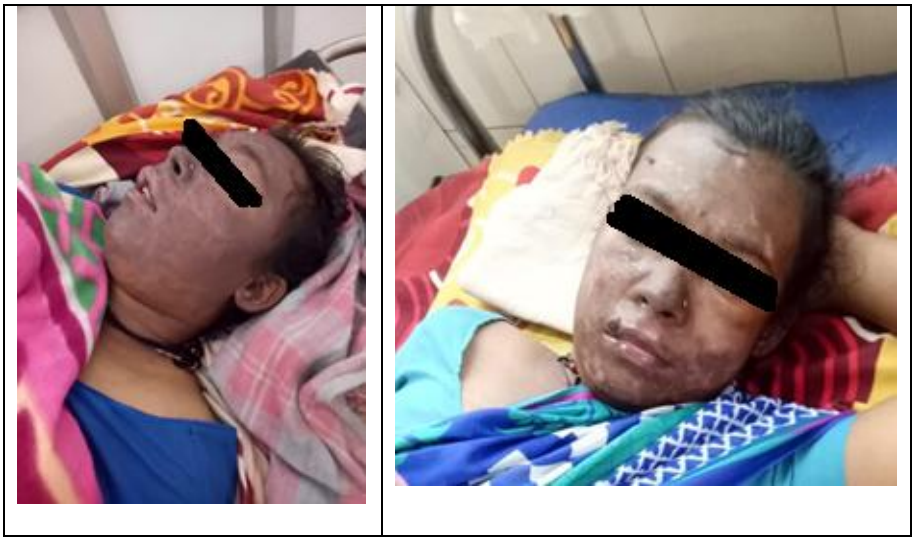
**LOCAL EXAMINATION:**

SKIN: She was effected by diffuse blanchable erythema over entire face including forehead, chin, cheek, upper and lower lips, diffuse facial edema, hyperpigmentation, solitary hypopigmented patch over left cheek, generalized xerosis. Slight desquamation over bilateral forearm.

ORAL: Oral candidiasis, diffuse oral thrush over dorsum of tongue.

INVESTIGATION: All the routine investigations were performed.

- HB 7.5
- RBC 2.48
- PCV 20.1
- Serum creatinine 1.6
- SGOT 121.8
- SGPT 82.4
- ALP 239.7
- Total bilirubin 1.1
- Indirect bilirubin 0.5
- WBC 1,000
- CONFORMATORY TEST: Direct coombs test: weekly positive, Abdomen pelvic record, CST, CBC, RFT.



**TREATMENT:**

- Inj. Ceftriaxone 1g iv 1-0-1 is an antibiotic used to treat skin structure infections.
- Tab. Pantoprozole 40mg po 1-0-0-1 it is a proton pump inhibitor that decreases amount of acid produced in the stomach.
- Inj. Dexamethasone 2cc im 1-0-0 is used to treat allergic reaction, certain skin and eye conditions.
- Silver sulfadiazine cream topical 1-0-1 is antibiotic works by killing bacteria or by preventing its growth. It is used to prevent and treat wound infections.



Volume 2, Issue 6; November-December 2019; Page No.337-340

- Clotrimazole mouth paint po 1-0-1 it is an azole antifungal agent, lozenge is only approved for the treatment of fungal infections of the mouth or throat.
- Glycerine to lips 1-0-1 it is used to prevent itchy skin.
- Tab. Paracetamol 500mgpo 1-0-1 used to treat fever.
- Tab. Leveteracetam 500mg po 1-0-1 it is an anticonvulsant which is used to treat seizures.
- Carboxymethylcellulose 1-1-1-1 is used for the relief of burning itching and discomfort of eyes.
- Tab. Acyclovir 400mg po 1-1-1 is used to treat infections caused by virus.
- Inj. Noradrenaline 2ampules in 1 pint it is used to treat low bp.
- Tab. Hydroxychloroquine 200mgpo 1-0-1 is used to treat SLE.
- Tab. Prednisolone 10mg po 1-0-0 it is used to treat immune system disorders and skin problems.
- Tab. Calcium 500mg po 0-1-0 which is used to prevent low calcium levels
- Tab. Sodium chloride which is used to treat and prevent sodium loss.
- Tab. Folic acid 5mg po 1-0-0 used to prevent low folate levels or anemia.
- Tab. Ferrous fumarate 210mg po 1-0-1

**DISCHARGE MEDICATIONS:**

- ✓ Tab. Omnacortel 10mg 1-0-0
- ✓ Tab. Hydroxychloroquine 200mg 1-0-1
- ✓ Tab. Calcium carbonate 500mg 0-1-0
- ✓ Tab. Acyclovir 200mg 1-0-1
- ✓ Tab. Folic acid 5mg 1-0-0
- ✓ Tab. Ferrous fumarate 210mg 1-0-1
- ✓ Tab. Sodium bicarbonate 250mg 1-0-1

**DISCUSSION:**

TEN and SJS are severe adverse cutaneous drug reactions that predominantly involve the skin and mucous membranes. They are initially present with acute symptoms, painful skin lesions, fever $>39^0$c($102.2^0$F), sore throat, and visual impairment resulting from mucous membrane and ocular lesions. Intestinal and pulmonary involvements are associated with a poor prognosis, as are a greater extent of epidermal detachment and older age.

Drugs that most commonly cause SJS or TEN are anti-infectious, sulphonamides, neuirapine, allopurinol, lamotrigine, aromatic anti-convulsants, and oxicamNSAID's. Diagnosis relies mainly on clinical signs together with the histological analysis of a skin biopsy showing typical full thickness epidermal necrolysis due to extensive keratinocytes apoptosis. Genetic susceptibility to SJS and TEN is likely the risk of developing SJS/TEN in patients who carry HLA-B* 1502.

**CONCLUSION:**

From this study it was concluded, that knowledge of the past medical history of the patient regarding past drug allergy, family history of drug allergy or death in the family due to a drug is of great importance in order to avoid morbidity and mortality associated with SJS and TEN. The best results come from early diagnosis, immediate discontinuation of any suspected drug, and supportive therapy, paying dose attention to ocular complications, often in burn units or intensive care unit. Regular monitoring of such ADR's, educating physician's patients can help in early diagnosis and prevent the development of serious consequences of this idiosyncratic reactions.

**AKNOWLEDGEMENT:**

We would heartfully like to thank patient and their family members for their co-operation. we also like to thank, Dr. Bassy K Alias for her support and guidance throughout the study. Also, we would like to thank Vijayanagara Institute of Medical Sciences, Ballari.

**REFERNCES:**

1. Harrison's Principles of Internal Medicine 17th Edition Vol -1 page 346- 348.
2. Pharmacotherapy a path physiologic approach 10th edition, section 6, page 1042.
3. Essentials of medical pharmacology 6th edition, page 403.
4. Shambhavi Kulkarni*, A. N. Dattatri, Phenytoin Induced Stevens Johnson Syndrome, International Journal of Basic



Volume 2, Issue 6; November-December 2019; Page No.337-340

and Clinical Pharmacology, March 2018/ Vol 7/ issue 3 page 573.

5. Upinder Kaur*,*et al*, Phenytoin Induced Stevens Johnson Syndrome, Pharmacology Toxicology And Biomedical Reports, Jan - April 2016/ Vol 2/ issue 1 page 2(1): 22-23.
6. BharadwajaPendurthi*, Phenytoin Induced Stevens Johnson Syndrome, International Journal of Basic and Clinical Pharmacology, June 2018/Vol 7/issue 6 page 1205.
7. Fa – Yun Hu* *et al:*Phenytoin Induced Stevens Johnson Syndrome with negative HLA-B* 1502 Allele in mainland China: British Epilepsy Association 20 (2011) page 431- 432.
8. Bhavi S. Trivedi* *et al:*Anti Epileptic Drugs – Induced Stevens – Johnson Syndrome, Journal of Basic And Clinical Pharmacy 2017,8 : 42-4.



Volume 2, Issue 6; November-December 2019; Page No.337-340