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# Steven-Johnson Syndrome following Sodium Valproate Monotherapy

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## Abstract

Steven-Johnson Syndrome (SJS) is a severe, episodic, acute mucocutaneous reaction characterized by blisters and epidermal detachment resulting from epidermal necrosis in the absence of substantial dermal inflammation. We report a case of 64-year old male farmer who developed Stevens-Johnson syndrome following the ingestion of Sodium Valproate monotherapy prescribed for seizure disorder. He was treated with intravenous corticosteroids, antihistamine, antibiotics and supportive therapy. We are presenting this case to highlight the serious adverse effect of commonly prescribed antiepileptic drug, sodium valproate as a monotherapy.

**Keywords:** Sodium Valproate, Steven-Johnson Syndrome, Seizure Disorder, Mucocutaneous reaction, Corticosteroid.

## Introduction

Sodium valproate is a broad-spectrum antiepileptic drug frequently prescribed in all seizure types (Tonic-Clonic, Absence, Atypical Absence, Myoclonic, Focal-Onset and Atonic Seizure) and it is also beneficial in multiple seizure-types or when the exact seizure classification is unknown.(1) It is generally well tolerate, though there are some common side effects which include anorexia, nausea, vomiting, sedation, ataxia, tremor, alopecia, stimulation of appetite, elevation of hepatic transaminases, and rarely fulminant hepatitis or acute pancreatis.(2,3) There are only few reports of SJS due to sodium valproate as monotherapy.

## Case Report

A 65-year-old male farmer came to our Medicine Emergency Department with complaints of fever with myalgia, followed by multiple lesions in the oral and nasal cavity for three days and difficulty in swallowing for two days. On enquiry he gave history of three episodes of generalized seizures within a week, for which sodium valproate 500 mg twice a day was prescribed by a neurologist. On examination there were erosions distributed on bilateral buccal mucosa, floor of the mouth, tongue and nasal mucosa.(Fig. 1) Conjunctivitis was present in both eyes. The lesions were associated with continuous, severe localise pain. The pain was aggravated on touching, speaking and eating without any relieving factor. The skin and joints were not involved.

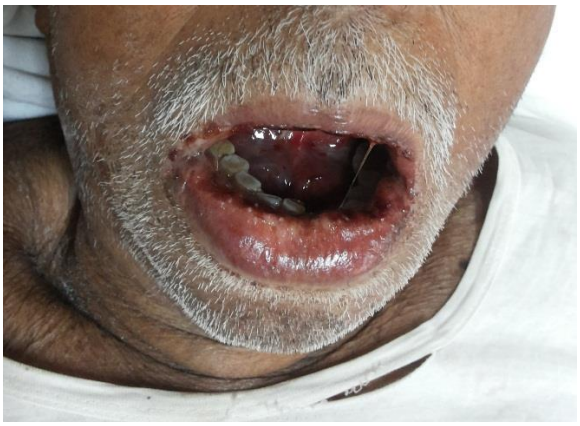

**Fig. 1**

His General and Systemic examinations showed unremarkable findings. Vitals signs were stable. Temperature was recorded as 101.2°F. Investigation revealed Haemoglobin 13.8 mg/dl, total leucocyte count 14000/mm$^3$, differential count polymorphs-76%, lymphocyte-18% and platelet count 3.6 lacs/mm$^3$. Serum C-reactive protein was elevated as 60.78 g/ml (0–5 g/ml). Random blood sugar, Serum electrolytes, Kidney function test, Liver function test and Urine analysis were within normal limits. Electrocardiography and Chest x-ray were normal. Viral serology for Hepatitis A Virus, Hepatitis B Virus and Hepatitis C Virus were negative. Case was discussed with Dermatologist and managed on the line of Steven-Johnson Syndrome.

## Treatment and follow up

Sodium Valproate was withdrawn and patient was managed with intravenous steroid, antihistamine, antibiotics, intravenous fluids and Supportive therapy with wound care and eye care. The management of temperature and pain was done accordingly. The lesions resolved within a few days and he was discharged 13 days after admission. No sequelae were found during

subsequent follow up of four months and patient was found to respond well on Levetiracetam treatment.

## Discussion

In 1922, two American physicians named Stevens and Johnson described an acute mucocutaneous syndrome in two young boys characterized by severe purulent conjunctivitis, severe stomatitis with extensive mucosal necrosis.[4] SJS is a rare entity with an incidence of 0.05 to 2 persons per 1 million populations per year and mortality rate as 1 to 3% which impact significantly on the public health.[5,6] Stevens Johnson syndrome (SJS) is due to a severe hypersensitive reaction which can be precipitated by infection such as herpes simplex virus or mycoplasma, systemic diseases, vaccinations, drugs, physical agents and foods. The commonly prescribed drugs causing SJS are Antibacterials (sulfonamides), Anticonvulsants (phenytoin, phenobarbital, carbamazepine), Non-steroidal anti-inflammatory drugs (oxicam derivatives) and Oxide inhibitors (allopurinol).[6]

SJS is diagnosed on the basis of clinical manifestations which are acute onset of rapidly expanding targetoid erythematous macules, necrosis and detachment of the epidermis along with erythema, erosions, and crusting of two or more mucosal surfaces.[7] Anticonvulsants are known to cause more severe adverse reactions and faster recovery in patients as compared to those with reactions produced by antibiotics. Besides this, most of the reported cases of antiepileptic induced reactions recovered uneventful without any major sequelae.[8]

According to a review of the literature, most of the valproate induced SJS cases are due to combination therapy, in which other drug was well known to produce mucocutaneous disosders.[1] In our case SJS due to valproate monotherapy and it was limited only to the mucosa. In review literature, we found only two reports that directly talked about SJS due to valproate monotherapy.[1,9] In literature most of the studies showed their best results from early diagnosis, immediate withdrawal of suspected drug, and appropriate management.

Most of the adverse effects of antiepileptic drugs are generally well tolerated but sometimes the cutaneous reactions can also be fatal if severe. So one should be careful while initiating Valproate therapy either alone or with combination.

## Conclusion

In spite of these not very uncommon cases of drug induced Stevens-Johnson syndrome (SJS). It is rarely reported due to Sodium valproate in literature. A high degree of suspicion is necessary in patients presenting with skin eruptions after initiating any drug. Therefore treating clinician must be aware of this entity to reach at a correct diagnosis and also counsel the patients accordingly.

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