Section: Dermatology

Case Series

STEVENS JOHNSON SYNDROME, STEVEN JOHNSON SYNDROME-TOXIC EPIDERMAL NECROLYSIS OVERLAP AND TOXIC EPIDERMAL NECROLYSIS IN A TERTIARY CARE SETTING IN NORTH-EAST INDIA: A CASE SERIES

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ABSTRACT

Background: Stevens-Johnson syndrome (SJS), SJS-TEN overlap, and toxic epidermal necrolysis (TEN) are rare but life-threatening mucocutaneous adverse drug reactions associated with significant morbidity and mortality. Early diagnosis, prompt withdrawal of the offending drug, and intensive supportive care are essential for improved outcomes. The aim is to describe the clinical profile, causative drugs, management, and outcomes of patients diagnosed with SJS, SJS-TEN overlap, and TEN in a tertiary care hospital. **Materials and Methods:** This retrospective case series included ten patients diagnosed with SJS, SJS-TEN overlap, or TEN and managed in the Dermatology Outpatient Department, Emergency Department, and Dermatology Ward between January 2025 and December 2025. Clinical features, suspected offending drugs, latency period, extent of body surface area (BSA) involvement, treatment modalities, and outcomes were analyzed. **Result:** Among the 10 cases, six were diagnosed as TEN, two as SJS, one as SJS-TEN overlap, and one as extensive TEN secondary to antiretroviral therapy. The age of patients ranged from 30 to 76 years, with a slight male predominance. Commonly implicated drugs included carbamazepine, ofloxacin-ornidazole combination, dapsone, doxycycline, amoxicillin & pottasium clavulanate, anti-tubercular therapy, and abacavir-based antiretroviral therapy. The latency period between drug exposure and onset of symptoms ranged from 7 to 30 days. Mucosal involvement was present in all patients, with BSA involvement ranging from 9% to 70%. Management primarily consisted of immediate withdrawal of the offending drug, systemic corticosteroids, supportive care, topical therapy, and cyclosporine in selected cases. Eight patients recovered completely, while two patients with extensive TEN and high BSA involvement died due to septic shock. **Conclusion:** This case series highlights the significant role of commonly prescribed medications in precipitating SJS, SJS-TEN overlap, and TEN. Carbamazepine emerged as the most frequently implicated drug. Early recognition, prompt cessation of the offending agent, and aggressive supportive management are crucial in reducing morbidity and mortality. Increased clinician awareness and careful drug monitoring remain essential for preventing severe cutaneous adverse drug reactions.

INTRODUCTION

Stevens–Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are two rare, potentially fatal, adverse cutaneous drug reactions of differing severity, characterized by mucocutaneous tenderness and erythema as well as extensive exfoliation. They are clinically distinguished by atypical target-like lesions with a rapid course, diffuse purpura, epidermal detachment, and involvement of at least two mucosal surfaces. Prodrome consists of upper respiratory tract symptoms, fever, and painful skin. The incidence rate varies from 1–6 cases/million/year with female preponderance over males at a ratio of 2:1.[1]

Exfoliation is due to extensive death of keratinocytes via apoptosis; the latter is mediated via the cytotoxic secretory protein granulysin and interaction of the death receptor-ligand pair Fas–FasL.

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SJS is characterized by <10% body surface area of epidermal detachment, SJS/TEN overlap by 10–30%, and TEN by >30%.

The medications most frequently incriminated are allopurinol, nonsteroidal anti-inflammatory drugs, antibiotics, and aromatic anticonvulsants; TEN and SJS usually occur 7–21 days after initiation of the responsible drug.

The average mortality rate is 1–5% for SJS and 25–35% for TEN; the mortality rates are often higher in the elderly and those with a very large surface area of epidermal detachment.

Exfoliation is due to extensive death of keratinocytes via apoptosis; the latter is mediated via the cytotoxic secretory protein granulysin and interaction of the death receptor–ligand pair Fas–FasL.

Optimal medical management of SJS and TEN requires early diagnosis, immediate discontinuation of the causative drug(s), and rapid initiation of supportive care.

Additional therapies include IVIg, cyclosporine, pulse corticosteroids, and targeted immunomodulators, but to date none have proven efficacy based upon prospective controlled trials.[2]

Given the rarity of SJS, TENS & SJS-TENS overlap, we encountered 8 cases and therefore current case series aims to highlight drug induced SJS, TENS & SJS-TENS overlap cases reported from a tertiary care hospital.

Aim: The aim of the present study is to describe the clinical profile, causative drugs, management, and outcomes of patients diagnosed with SJS, SJS-TEN overlap, and TEN in a tertiary care hospital.

CASE REPORT

All 10 cases of SJS, TENS & SJS-TENS overlap reported & treated at our Dermatology Out Patient Department (OPD), Hospital Emergency & Dermatology Ward between January 2025 and December 2025 were included.

Case 1: Suspected drug- Ofloxacin & Ornidazole

A thirty-year-old female patient came to the casualty department with the chief complaints of oro-ocular lesion, skin erosion with maculopapular rashes over trunk & lymphadenopathy for the past six days. Patient gave a history of taking tablet Ofloxacin 200mg & Ornidazole 500mg BD for diarrhea treatment. Lesions developed seven days following intake of suspected drug. A diagnosis of drug included SJS was made by a dermatologist with body surface area involvement of around 10%. Suspected drug was withdrawn on the same day, and the patient completely recovered in 13 days with treatment with injection Dexamethasone 1 ml intravenous (IV) BD, injection Pheniramine 2 ml 4 hourly, injection Paracetamol, Ozenoxacin cream & Clotrimazole mouth paint for local application BD.

Case 2: Suspected drug- Dapsone

A 59-year-old male patient came to the casualty department with the chief complaints of oro-ocular lesion, skin erosion with maculopapular rashes over trunk, limbs, palms-soles for the past five days. Patient gave a history of taking tablet Dapsone 100mg OD for Lichen Planus treatment. Lesions developed 30 days following intake of suspected drug. A diagnosis of drug included SJS-TENS overlap was made by a dermatologist with body surface area involvement of around 20%. Suspected drug was withdrawn on the same day, and the patient completely recovered in 20 days after treatment with injection Dexamethasone 1 ml intravenous (IV) BD, injection Pheniramine 2 ml 4 hourly, injection Paracetamol, Tab Cyclosporine 100mg BD, Ozenoxacin cream & Clotrimazole mouth paint for local application BD.

Case 3: Suspected drug- Carbamazepine

A 45-year-old male patient came to the casualty department with the chief complaints of oro-ocular lesion, crusting over lips, skin erosion with maculopapular rashes over face, trunk, limbs, palms-soles for the past seven days. Patient gave a history of taking tablet Carbamazepine 200mg OD for Trigeminal Neuralgia. Lesions developed 21 days following intake of suspected drug. Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 40%. Suspected drug was already withdrawn 5 days before admission, and the patient completely recovered in 21 days with treatment with injection Dexamethasone 1 ml intravenous (IV) BD, Injection Meropenem 1g TDS, injection Paracetamol, Tab Cyclosporine 100mg BD, Ozenoxacin cream & Clotrimazole mouth paint for local application BD.

Case 4: Suspected drug- Carbamazepine

A 64-year-old male patient came to the casualty department with the chief complaints of ocular lesion, crusting over lips, skin erosion with maculopapular rashes over face, trunk & limbs for the past 4 days. Patient gives a history of taking Carbamazepine 200mg OD for Tooth Ache. Lesions developed 25 days following intake of suspected drug Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 10%. Suspected drug was withdrawn immediately on admission, and the patient completely recovered in 13 days after treatment with injection Dexamethasone 1 ml intravenous (IV) BD, Tab Levocetrizine 10mg HS, Tab Cyclosporine 100mg BD, Ozenoxacin cream for local application BD.

Case 5: Suspected drug- Ofloxacin & Ornidazole

A 51-year-old female patient came to the casualty department with the chief complaints of oro-genital lesion, skin erosion with maculopapular rashes over face, trunk & limbs for the past seven days. Patient gave a history of taking tablet Ofloxacin 200mg & Ornidazole 500mg for treatment of diarhhea. Lesions developed 14 days following intake of suspected drug Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 10%. Suspected drug was withdrawn immediately on admission, and the patient

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completely recovered in seven days of treatment with injection Dexamethasone 1 ml intravenous (IV) BD, Tab Levocetrizine 10mg HS, Ozenoxacin cream & Clotrimazole mouth paint for local application BD.

Case 6: Suspected drug- Doxycycline

A 44-year-old male patient came to the casualty department with the chief complaints of fever, oro-ocular lesion, crusting over lips, skin erosion with maculopapular rashes over face, trunk, limbs, palms-soles for the past six days. Patient gave a history of taking tablet Doxycycline 100mg for Scrub Typhus. Lesions developed seven days following intake of suspected drug. Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 60%. Suspected drug was already withdrawn 6 days before admission, and the patient died due to septic shock despite treatment with injection Dexamethasone) 1 ml intravenous (IV) BD, Injection Meropenem 1g TDS, injection Paracetamol, Ozenoxacin cream and Triamcinolone Acetonide cream.

Case 7: Suspected Drug- Carbamazepine

A 76-year-old female patient came to the casualty department with the chief complaints of fever, oro-oculo-genital lesion, crusting over lips, skin erosion with maculopapular rashes over face, neck, trunk, limbs, palms-soles for the past 10 days. Patient gave a history of taking tablet Carbamazepine 200mg OD for Gum pain. Lesions developed 12 days following intake of suspected drug. Diagnosis of drug induced TENS was made by a dermatologist with body surface area involved around 70%. Suspected drug was already withdrawn prior to admission, patient was managed in the ICU & died due to septic shock despite treatment with injection Dexamethasone 2 ml intravenous (IV) BD, Injection Meropenem 1g TDS, injection Paracetamol, Inj KCl, IV Fluids, Albumin infusion, Ozenoxacin cream and Triamcinolone Acetonide cream for local application.

Case 8: Suspected Drug- Isoniazid, Rifampcin, Pyrazinamide & Ethambutol

A 76-year-old female patient came to the casualty department with the chief complaints of oro-ocular lesion, crusting over lips, skin erosion with maculopapular rashes over neck, trunk, limbs, palms for the past 10 days. Patient gave a history of taking tablet Isoniazid, Rifampcin, Pyrazinamide & Ethambutol for TB Lymph Node. Lesions developed 27 days following intake of suspected drugs. Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 60%. Anti tubercular therapy was withheld temporarily on admission, and the patient completely recovered in 18 days after treatment with injection Dexamethasone 2 ml intravenous (IV) BD, Injection Meropenem 1g TDS, injection Paracetamol, Inj KCl, IV Fluids, Ozenoxacin cream, Clotrimazole mouth paint and Triamcinolone Acetonide cream for local application.

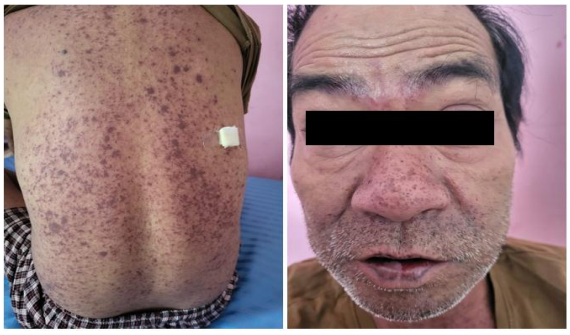
Case 9: Suspected Drug- Abacavir

A 51-year-old male came to the out-patient department of dermatology, with chief complaints of erosion over lips and urethral meatus, maculopapular rashes over face, neck, trunk, limbs for the past 14 days. Patient was a known case of HIV-AIDS who has been taking Anti Retroviral Therapy for more than 20 years, 25 days before the onset of lesions patient was started with new anti retro viral drugs; Abacavir & Dolutegravir. Diagnosis of drug induced TENS was made by a dermatologist with body surface area involvement of around 50% and other sexually transmitted infections were ruled out. The Anti Retroviral Therapy regimen was changed in consultation with the Medicine Department and patient completely recovered in 21 days after treatment with Tab Prednisolone, Tab Levocetrizine, Mometasone-Fusidic cream & Triamcinolone gel for local application.

Case 10: Suspected Drug- Amoxicillin & Pottasium Clavulanate

A 52-year-old female patient came to the casualty department with the chief complaints of fever, oro-oculo-genital lesion, crusting & sloughing over lips, skin erosion with maculopapular rashes and atypical target lesions over face, neck, trunk, limbs, palms-soles for the past 10 days. Patient gave a history of taking tablet Amoxicillin 500mg & Pottasium Clavulanate 125mg BD for Throat pain. Lesions developed 12 days following intake of suspected drug. A diagnosis of drug induced SJS was made by a dermatologist with body surface area involvement of around 9%. Suspected drug was withdrawn immediately on admission, and the patient completely recovered in 7 days of treatment with injection Dexamethasone 2 ml intravenous (IV) BD then changed to Tab Prednisolone 25mg BD, Tab Levocetrizine 10mg HS. Ozenoxacin cream, Clotrimazole mouth paint, Mometasone-Fusidic cream & Triamcinolone gel for local application.

Images of some of the patients are shown below.



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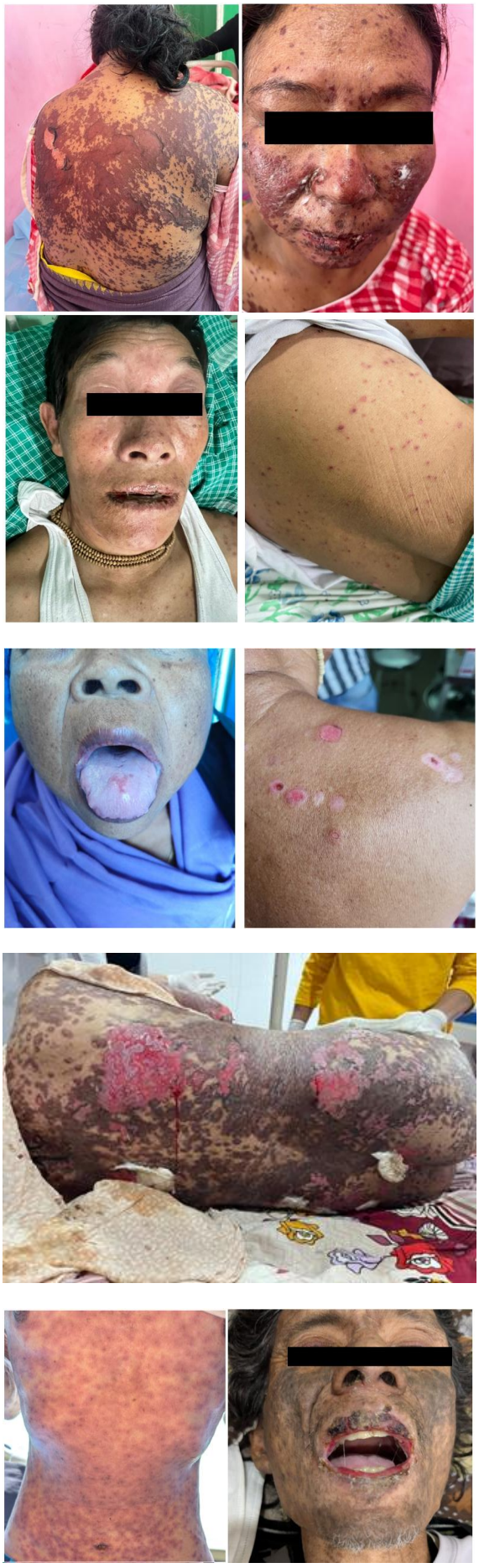

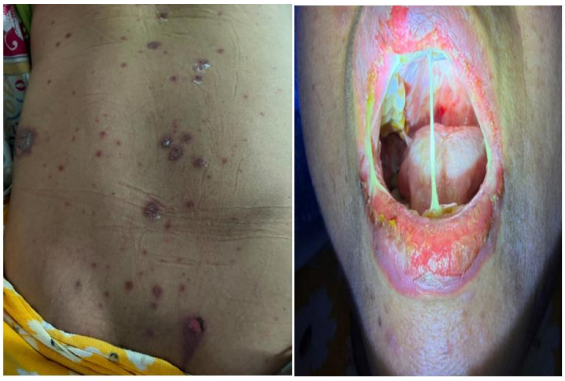

DISCUSSION

Stevens-Johnson syndrome (SJS) and/or Toxic Epidermal Necrolysis (TENS) is a worrying unfavourable drug reaction initially affecting mucous membranes and skin. This is categorised as an immune-mediated hypersensitivity reaction.[3]

Advances in understanding the immune mechanisms involved, such as the role of cytotoxic T lymphocytes (CTLs) and keratinocyte apoptosis, have enhanced clinical management, though the unpredictable nature of TEN remains a challenge for healthcare providers.[4]

This case series highlights the role of commonly used drugs such as carbamazepine, antibiotics, dapsone, anti-retroviral and anti-tubercular therapy in triggering SJS, SJS–TEN overlap, and TEN. The onset of symptoms within 1–4 weeks of drug initiation and the presence of mucocutaneous involvement were consistent with known clinical patterns. Carbamazepine was the most frequently implicated drug, in line with existing literature.

Early withdrawal of the offending agent and prompt supportive management, including corticosteroids and cyclosporine in selected cases, resulted in favorable outcomes in most patients. However, mortality in severe TEN cases with high body surface area involvement was observed, primarily due to septic shock, emphasizing the prognostic significance of disease severity.

While several treatment options have been explored, supportive care remains the cornerstone of management. Educating patients and healthcare professionals about the risks of severe hypersensitivity reactions to medications is crucial for preventing recurrences.[5]

Overall, this series reinforces the importance of early diagnosis, careful drug history, and timely intervention to reduce morbidity and mortality.

CONCLUSION

This case series of 10 patients with Stevens–Johnson syndrome (SJS), SJS–TEN overlap, and toxic epidermal necrolysis (TEN) highlights the continued clinical relevance and severity of drug-induced mucocutaneous adverse reactions in a tertiary care setting. A wide spectrum of commonly used

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medications including antibiotics, anticonvulsants, anti-retroviral drugs, anti-tubercular drugs, and anti-inflammatory agents were implicated, with carbamazepine and combination antimicrobials emerging as frequent triggers. The latency period between drug exposure and onset was consistent with established timelines, reinforcing the need for vigilance during the initial weeks of therapy.

Early recognition, prompt withdrawal of the offending drug, and initiation of supportive care remain the cornerstone of management. The majority of patients in this series showed favorable outcomes with timely intervention, including systemic corticosteroids and, in selected cases, cyclosporine. However, mortality was observed in patients with extensive body surface area involvement and complications such as septic shock, underscoring the prognostic significance of disease severity and the need for intensive care in advanced cases.

This series emphasizes the importance of clinician awareness, careful drug history evaluation, and early referral to specialized care to improve outcomes. Furthermore, it highlights the need for continued research into standardized, evidence-based therapeutic protocols to reduce morbidity and mortality associated with SJS, SJS–TEN overlap, and TEN.

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