***Case report***

**Overlapping Stevens-Johnson Syndrome and Staphylococcal Scalded Skin Syndrome in a 3-Year-Old Child: A Rare Pediatric Dermatologic Emergency**

**ABSTRACT**

**Aims**: To report a rare pediatric case presenting with overlapping Stevens-Johnson Syndrome and Staphylococcal Scalded Skin Syndrome complicated by impetigo in a 3-year-old child, highlighting diagnostic and therapeutic challenges.

**Presentation of Case**: A 3-year-old female child was brought to the emergency department with complaints of perioral vesicles, crusting, fever, and pain around the mouth. The symptoms began following upper respiratory tract infection and administration of amoxicillin. Over a period of four days, the child developed worsening vesiculobullous lesions with perioral crusting and mucosal involvement. Examination revealed erosive, erythematous lesions, positive Nikolsky’s sign, and inability to open the mouth due to lip involvement. There was no ocular or genital involvement. A diagnosis of overlapping SJS (BSA <10%) and SSSS with secondary impetigo was made. The patient was managed with IV fluids, IV cefotaxime, paracetamol, ranitidine, topical paraffin, saline soaks, and zinc supplementation. Clinical improvement was noted within 5–7 days, and the child was discharged in stable condition.

**Discussion**: Coexistence of SJS and SSSS is rare in children and presents diagnostic challenges due to overlapping features. Early differentiation and treatment are crucial, especially when diagnostic tools are limited.

**Conclusion**: This report emphasizes the need for clinical vigilance in pediatric exfoliative dermatoses and the importance of early empirical therapy to ensure recovery

**1.INTRODUCTION**

Stevens–Johnson Syndrome (SJS) and Staphylococcal Scalded Skin Syndrome (SSSS) are rare, serious dermatologic conditions affecting pediatric populations. SJS is a type IV hypersensitivity reaction, typically triggered by medications such as beta-lactam antibiotics, and is characterized by mucocutaneous necrosis involving less than 10% of the body surface area [1]. In contrast, SSSS is a toxin-mediated disorder caused by exfoliative toxins A and B released by Staphylococcus aureus, leading to intraepidermal splitting at the level of the stratum granulosum [2].

Although the etiologies of SJS and SSSS are distinct—immune-mediated vs. bacterial toxin-induced—their clinical presentations may overlap, particularly in children. Both conditions can present with fever, erythema, blistering, and positive Nikolsky’s sign, which can complicate early diagnosis [3]. Mucosal involvement, typically absent in SSSS, is a hallmark of SJS and serves as a key differentiating feature [4].

Overlap of SJS and SSSS in a single pediatric patient is extremely rare but clinically important, as management strategies diverge significantly. SJS requires immediate withdrawal of the causative drug and supportive care, while SSSS warrants prompt antibiotic therapy targeting S. aureus [5,6]. In resource-limited settings, where confirmatory diagnostics such as biopsy and culture may be unavailable, clinical judgment plays a vital role.

We report a unique case of a 3-year-old child with overlapping features of SJS and SSSS, complicated by impetigo, managed successfully in a tertiary care hospital.

**2. PRESENTATION OF CASE**

A 3-year-old female child, weighing 10 kg, was brought to the emergency department with complaints of fever, painful perioral vesicles, crusting, and difficulty opening the mouth. The symptoms had been present for one week, beginning with oral blisters and fever. Parents initially applied traditional remedies, including honey and oil, which exacerbated the lesions.

The child had been treated previously by private practitioners with syrup amoxiclav, mefenamic acid, and multivitamins. Despite topical metronidazole and chlorhexidine-based gels, the lesions progressed. On examination, perioral crusting, erythema, and erosions were noted, with mucosal involvement of the lips and inability to examine the oral cavity. Nikolsky’s sign was positive. No genital or ocular involvement was observed.

**Past Medical History**

* History of a rash one month earlier (managed outpatient)
* Pneumonia at age two, managed as inpatient
* No known drug allergies prior to this episode

**Perinatal and Developmental History**

* Term, normal vaginal delivery; birth weight 3.75 kg
* NICU admission for neonatal jaundice (2 days)
* Normal developmental milestones
* Fully immunized

**Laboratory Investigations**

Laboratory investigations are summarized in Table 1. Notable findings included microcytic hypochromic anemia and elevated CRP levels.

Table 1: Summary of Laboratory Findings

|  |  |
| --- | --- |
| Parameter | Value |
| WBC | 9,200 /mm³ |
| Hemoglobin | 8.7 g/dL |
| MCV | 63.9 fL |
| MCH | 17.9 pg |
| MCHC | 28.2 g/dL |
| CRP | 9.8 mg/L |
| Urea | 21 mg/dL |
| Creatinine | 0.64 mg/dL |
| Bilirubin | 0.73 mg/dL |
| SGOT | 17 U/L |
| SGPT | 19 U/L |
| Sodium (Na⁺) | 139 mmol/L |
| Potassium (K⁺) | 3.7 mmol/L |
| Chloride (Cl⁻) | 104 mmol/L |
| RBS | 79 mg/dL |

Microbiological cultures and skin biopsy were not performed due to limited resources.

**Diagnosis**

A clinical diagnosis of overlapping Stevens–Johnson Syndrome (SJS) and Staphylococcal Scalded Skin Syndrome (SSSS), complicated by impetigo, was made.

**Treatment Administered**

* IV fluids (DNS with KCl at 40 ml/hour)
* IV cefotaxime 500 mg TDS
* IV paracetamol and IV ranitidine
* Saline soak dressings and liquid paraffin for local application
* Oral zinc supplements and B-complex with vitamin C

The child showed gradual clinical improvement over 5–7 days and was discharged in stable condition

**3. DISCUSSION**

Staphylococcal Scalded Skin Syndrome (SSSS) is a rare toxin-mediated skin disorder primarily affecting neonates and young children. It is caused by exfoliative toxins A and B produced by Staphylococcus aureus, which target desmoglein-1, resulting in superficial epidermal splitting at the stratum granulosum [2,7]. Stevens–Johnson Syndrome (SJS), on the other hand, is a severe mucocutaneous hypersensitivity reaction, most commonly drug-induced, and involves full-thickness epidermal necrosis along with mucosal membrane involvement [1,4].

The simultaneous presentation of SJS and SSSS is extremely rare in children. However, clinical overlap is possible, especially in the early stages. Both conditions can present with fever, erythema, positive Nikolsky’s sign, and desquamation, which can make diagnosis challenging [3]. A major clinical differentiator is mucosal involvement, which is common in SJS but typically absent in SSSS [4,5]. In our case, the presence of lip mucosal crusting pointed to SJS, possibly triggered by recent amoxicillin use, while the rapid progression of superficial erosions and response to antibiotic therapy supported a diagnosis of SSSS.

In similar reported pediatric cases, the diagnostic uncertainty was heightened due to overlapping features and lack of confirmatory diagnostics such as skin biopsy or toxin assay, particularly in resource-limited settings [2,6]. Our case was managed empirically with IV cefotaxime, supportive fluids, and wound care, resulting in significant clinical improvement within 5–7 days. This approach is consistent with other published reports of toxin-mediated pediatric dermatoses [8,9].

Additionally, a secondary bacterial infection (complicated impetigo) may have exacerbated the skin condition and contributed to the systemic signs. Impetigo caused by S. aureus can serve as a nidus for toxin production, further complicating the clinical picture [10].

This case emphasizes the importance of high clinical suspicion in pediatric exfoliative syndromes, especially when mucosal and skin features co-exist. Early diagnosis and timely intervention with antibiotics and supportive care can prevent complications and reduce morbidity.

**4. CONCLUSION**

Overlap syndromes involving Stevens–Johnson Syndrome and Staphylococcal Scalded Skin Syndrome are exceptionally rare in pediatric populations and pose significant diagnostic challenges. This case reinforces the importance of clinical judgment in the absence of confirmatory diagnostics and highlights the effectiveness of early empirical therapy in ensuring favorable outcomes. Clinicians should remain vigilant for such overlap presentations and initiate prompt, supportive, and targeted treatment to prevent complications.

**8. CONSENT**

Written informed consent was obtained from the child’s legal guardian for publication of this case report and any accompanying clinical information.

**9. ETHICAL APPROVAL**

This case report is exempt from institutional ethical review as per the policy for anonymized single-patient case reports at our institution.

**10.REFERENCES**

1. Ramien M, Goldman JL. Pediatric SJS–TEN: where are we now? F1000Research. 2020;9:982. doi:10.12688/f1000research.26900.1

2. Nusman CM, Blokhuis C, Pajkrt D, Visser DH. Staphylococcal scalded skin syndrome in neonates: case series and overview of outbreaks. Antibiotics (Basel). 2023;12(1):38. doi:10.3390/antibiotics12010038

3. Coleman I, Ruiz G, Brahmbhatt S, et al. AGEP and Stevens–Johnson syndrome overlap due to hydroxychloroquine: a case report. J Med Case Rep. 2020;14:210. doi:10.1186/s13256-020-02504-8

4. Shetty SR, Chatra L, Shenai P, Rao PK. Stevens–Johnson syndrome: a case report. J Oral Sci. 2010;52(2):343–6. doi:10.2334/josnusd.52.343

5. Hassnoot PJ, De Vries A. Staphylococcal scalded skin syndrome in a 4-year-old child: a case report. J Med Case Rep. 2018;12:20. doi:10.1186/s13256-017-1533-7

6. Meshram GG, Kaur N, Hura KS. Staphylococcal scalded skin syndrome: a pediatric dermatology case report. SAGE Open Med Case Rep. 2018;6:2050313X17750890. doi:10.1177/2050313X17750890

7. Melish ME, Glasgow LA. The staphylococcal scalded skin syndrome: the expanded clinical syndrome. J Pediatr. 1971;78(6):958–967.

8.Dalla Pria AS, Botelho BC, Batista BG, et al. Staphylococcal scalded skin syndrome in an infant: case report. Res Soc Dev. 2025;14(6):e1414648902. doi:10.33448/rsd-v14i6.48902

9.Granado MC, Gonçalo AL, Macedo-Francisco C, Santos S, Andrade JV, Carvalho L. Staphylococcal scalded skin syndrome in a breastfed newborn: a case report. Int J Clin Pediatr. 2021;10(2-3):53–56. doi:10.14740/ijcp438

10. Bowen AC, Mahé A, Hay RJ, et al. The global epidemiology of impetigo: a systematic review of the population prevalence of impetigo and pyoderma. PLoS One. 2015;10(8):e0136789. doi:10.1371/journal.pone.0136789