

## Neonatal Staphylococcal Scalded Skin Syndrome

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### Abstract

Staphylococcal Scalded Skin Syndrome (SSSS) is one of the dermatological emergencies primarily seen in newborns and young children. This is a major exfoliating condition caused by exfoliative toxins of *Staphylococcus aureus*. We present a 28 days old infant with SSSS admitted with complaints of bilateral purulent conjunctivitis, fever and generalised erythematous exfoliation. He responded to intravenous vancomycin. Baby was discharged after complete resolution of symptoms. This case report highlights the importance of having a high clinical suspicion for SSSS, early diagnosis and treatment to prevent morbidity among young children.

**Keywords:** Scalded Skin Syndrome; Exfoliation; Newborns.

### Introduction

Staphylococcal scalded skin syndrome is an extensive desquamative erythematous condition which is due to exfoliative toxins (ET) of *Staphylococcus aureus* (SA). This disease affects neonates easily and generally responds rapidly to antibiotics. Mortality in children with SSSS is less (1-5%).<sup>1</sup> This bacterium is commonly found to colonize human skin and mucosa without causing any morbidity. Colonization begins soon after birth. Sometimes, it breaks through the skin causing infection.<sup>2</sup> In neonates, the risk of SSSS is much higher due to inadequate immunity and immature renal clearance of exotoxin in them. The severity of SSSS varies from a few blisters to severe exfoliation affecting the entire body. The epidermolytic toxins (ETs) released by *S. aureus* leads to

intra epidermal splitting.<sup>3</sup>

### Case Report

A 28 days old male baby was brought with complaints of purulent discharge from both eyes for 2 days and poor feeding for 1 day. He had erythematous skin lesions with areas of peeling and with positive nikolsky's sign (Figure). His septic workup was positive. Gram stain of the discharge showed gram positive cocci in singles, pairs and tetrads. Culture grew *Staphylococcus aureus*. Blood culture was sterile. Baby was started on injection vancomycin intravenously and topical antibiotics for eyes. Temperature instability, hydration, skin care and

pain were taken care appropriately. Over 3 days of admission, skin lesions started healing. After 10 days of treatment, baby was well with no skin lesions/conjunctivitis and was discharged.



### Discussion

SSSS in neonate is a serious and occasionally fatal condition. The ETs produced by *S. aureus* are considered to be the pathogenetic agent in SSSS which causes loss of desmosome-mediated cell adhesion within the superficial epidermis. These toxins get released into the bloodstream and reach the epidermis where they act locally to produce the characteristic skin lesions.<sup>4</sup>

The presentation includes fever, facial edema, conjunctivitis, perioral crusting with mucous membranes being spared, dehydration, Nikolsky's sign being positive. The diagnosis is usually made on clinical grounds (characteristic appearance of the rash with fever

and the presence of *S. aureus* in blood culture. Antibiotics are the mainstay of SSSS treatment. Consideration needs to be given to pain management, temperature regulation, fluid management (rehydration), nutrition, and skin care. Corticosteroids are contraindicated.<sup>5</sup>

Exposed, damaged areas can be treated with emollients which soothe and moisturize the skin. The diagnosis is usually made on clinical ground; it relies mainly on the recognition of the characteristic appearance of the rash with fever. But it is important to swab the skin, the oro-facial areas, and the mucus membranes for bacterial confirmation and to identify the primary focus infection and screening for *Staphylococcus aureus* carriage. This diagnosis is made in our case based on clinical finding of superficial blisters, conjunctivitis and demonstration of staphylococcal infection in culture.<sup>6</sup>

### Conclusion

SSSS responds well to specific antibiotic therapy, it remains an emergency and a potential fatal condition in neonates. SSSS can occasionally lead to serious complications like pneumonia, septic arthritis, hypothermia, dehydration, and secondary infections. Hence, early diagnosis, prompt treatment, and following aseptic measures while caring infants and young children are the mainstay for its successful management for a good prognosis. Isolating neonates is mandatory to prevent the outbreak of SSSS in the unit.

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