

**CASE REPORT ON THE EFFICACY OF LINEZOLID IN STAPHYLOCOCCAL
SCALDED SKIN SYNDROME (SSSS) IN PEDIATRICS****Aisha Jalaludeen*, Nimmi Thomas and Saidali Mohammad**

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ABSTRACT

Staphylococcal scalded skin syndrome (SSSS) is a disorder that develops because of a toxin produced by a staphylococcal infection. *Staphylococcus aureus* is a bacterium commonly found harmlessly colonising human skin and mucosa without causing any morbidity. The symptoms of Staphylococcal scalded skin syndrome (SSSS) include blistering of skin on superficial layers due to the exfoliative toxins released from *Staphylococcus aureus*. Immediate medication with parenteral anti-staphylococcal antibiotics is mandatory. Mostly, SSSS are resistant to penicillin. Penicillinase resistant synthetic penicillins such as Nafcillin or Oxacillin are prescribed as emergency treatment medicine. If Methicillin-resistant *Staphylococcus aureus* (MRSA) is suspected, antibiotics with MRSA coverage (e.g., Vancomycin or Linezolid) are indicated. Clindamycin is considered as drug of choice to stop the production of exotoxin from bacteria ribosome. The case study is based on a pediatric patient admitted with Staphylococcal scalded skin syndrome (SSSS) in the Pediatric ICU of a tertiary care centre. This study aims to find out the effectiveness of Linezolid in reducing the symptoms of infection and recovery. This study was done by following up a pediatric patient admitted with SSSS and getting relevant details from medical records and caretaker interviews. From this study it was clearly evident that successful result was achieved in the case due to timely and correct management. This case report proves the effectiveness of Linezolid in cure of the disease.

KEYWORDS: *Staphylococcus aureus*, Nafcillin or Oxacillin.**INTRODUCTION**

Staphylococcal scalded skin syndrome (SSSS) is a syndrome of acute exfoliation of the skin typically following an erythematous cellulitis. Severity of staphylococcal scalded skin syndrome varies from a few blisters localized to the site of infection to a severe exfoliation affecting almost the entire body.

The syndrome is induced by epidermolytic exotoxins (exfoliatin) A and B, which are released by *S. aureus* and cause detachment within the epidermal layer, by breaking down the desmosomes. One of the exotoxins is encoded on the bacterial chromosome, while the other is encoded on a plasmid. These exotoxins are proteases that cleave desmoglein-1, which normally holds the granulosum and spinosum layers together, Staphylococcal scalded skin syndrome (SSSS) primarily is a disease of children.

Children are more at risk because of lack of immunity and immature renal clearance capability (exfoliative toxins are renally excreted) The mortality rate from staphylococcal scalded skin syndrome (SSSS) in children is very low (1-5%), unless associated sepsis or an underlying serious medical condition exists.

SSSS often includes a widespread painful erythroderma, often involving the face, diaper, and other intertriginous areas

White blood count (WBC) may be elevated; however, often WBC is normal.

Erythrocyte sedimentation rate (ESR) frequently is elevated. Electrolytes and renal function should be followed closely in severe cases where fluid losses and dehydration via denuded skin are a concern. A polymerase chain reaction (PCR) serum test for the toxin.

CASE PRESENTATION

A 2year old female patient was admitted with c/o high grade fever for one day and nasal block. Later she developed pain and irritable rashes with peeling of skin. On day 2 of admission she developed bullae over the face, axilla, trunk and perineum.

On examination she was alert, afebrile, had nasal crusting, generalized erythematous rash, peeling of skin on touch (Nikolsky's sign +). Warm and tenderness on touch and chest sounds were bilaterally conducted and other systems were normal. Her laboratory investigation

were Hemoglobin 12.2g/dl and Total count was 12380 cells/ μ L

Her therapeutic plan during the hospital stay was as follows.

1. Inj.Ceftizoxime 500mg IV Q8H
2. Syp.Paracetamol (250mg/5ml) 3ml Q6H
3. Polybion LC 5ml OD
4. Syp.Linezolid (100mg/5ml) 7.5ml Q8H
5. Zytac (Choline salicylate) Gel for local application
6. Metrogyl M (Metronidazole 2% w/w + Mupirocin 2% w/w) Ointment
7. Alokem 75 gel

During her six days stay in the hospital her conditions improved and her lesions healed. At discharge she was active, alert, afebrile and vitals were stable.

The following were her discharge medications.

1. Polybion LC 5ml OD for 2weeks
2. Syp.Linezolid (100mg/5ml) 7.5ml Q8H for 5 more days
3. Metrogyl M (Metronidazole 2% w/w + Mupirocin 2% w/w) Ointment on skin lesions
4. Alokem 75 gel on dry areas
5. Tedibar soap for bath

DISCUSSION

This study report highlights SSSS and its treatment. In this case, a prompt diagnosis and treatment resulted in rapid healing and timely discharge. No complications or later complaints were reported. SSSS is a rare skin condition which primarily affects children and was first described by German physician, Von Rittershain in 1878. Drug therapy for staphylococcal scalded skin syndrome (SSSS) consists of parenteral antibiotics to cover *S aureus*, which was found to be effective. Topical therapy with agents, such as fusidic acid and/or mupirocin, can be used as adjuncts to parenteral antibiotic. Linezolid was effective and well tolerated in patients with *S. aureus* infections. Additionally, linezolid was associated with reduced length of stay.

Deterrence and prevention may involve the following

- Avoidance of the primary staphylococcal infection that may lead to the toxic syndrome
- Timely treatment of established staphylococcal infections
- Identification and treatment of asymptomatic carriers

Prognosis of staphylococcal scalded skin syndrome (SSSS) in children is excellent, with complete healing typically occurring in 10 days without significant scarring.

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