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Generalized Staphylococcal Epidermolysis in a Two-Month-Old Infant: A Case Report

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Clinical Image

CLINICAL IMAGE

Staphylococcal scalded skin syndrome (SSSS) is a blistering skin disease caused by staphylococcal exfoliative toxins. It primarily affects young children [1, 2].

We present the case of a 65-day-old infant with no prior medical history who was admitted to the hospital with erythroderma. On admission, the generalized erythema was most prominent in the skin folds, accompanied by skin sloughing and flaccid bullae. Nikolsky's sign was positive. The infant had received a vaccination 10 days earlier and had experienced rhinopharyngitis and diarrhea in the preceding week, associated with fever. The mother had administered acetaminophen. A differential diagnosis of toxic epidermal necrolysis, staphylococcal scalded skin syndrome, and post-vaccination bullous pemphigoid was considered.

Laboratory tests revealed an inflammatory syndrome with a C-reactive protein level of 100 mg/L and a polymorphonuclear neutrophil leukocytosis of 8,230 x 10^3/mm3 (normal range: 2.0 – 7.7 x 10^3/mm3). A skin smear showed Staphylococcus aureus, which was treated with oral oxacillin and topical dressings. The patient showed significant clinical improvement. Cultures from other sites were sterile. These findings confirmed the diagnosis of staphylococcal scalded skin syndrome (SSSS).

Acute staphylococcal epidermolysis is caused by certain strains of Staphylococcus aureus that secrete exfoliative toxins A and B. These toxins, with proteolytic activity, lead to the degradation of desmoglein 1, a desmosomal protein present in the upper layers of the epidermis but absent from the mucous membranes. The hydrolysis of the amino-terminal extracellular domain of desmoglein 1 by ETA and ETB toxins disrupts the adhesion of keratinocytes in the stratum granulosum, thus causing the formation of blisters and generalized desquamation. The toxins, diffusing through the bloodstream from a distant infection site to the areas of skin detachment, then act on the skin [3-5].

This rare disease has an estimated incidence of 0.09 to 0.56 cases per million inhabitants [2]. It primarily affects infants and young children under the age of 10 [6], a vulnerability attributed to their inability to produce sufficient antibodies against exfoliative toxins and the immaturity of their kidney function, which limits the efficient elimination of these toxins [7].

Staphylococcal scalded skin syndrome is characterized by a blistering skin disease, with a positive Nikolsky sign, a scalded skin appearance, and large red areas covered by sheets of epidermis [6].

The treatment of staphylococcal scalded skin syndrome (SSSS) requires a combined approach of antibiotics and local care. Anti-staphylococcal antibiotics, primarily penicillins such as oxacillin or flucloxacillin, are the first-line treatment. They should be administered as soon as possible for a duration of 10 to 14 days. In case of penicillin allergy, clarithromycin can be considered. For methicillin-resistant Staphylococcus aureus (MRSA) infections, vancomycin is generally used [6, 7].

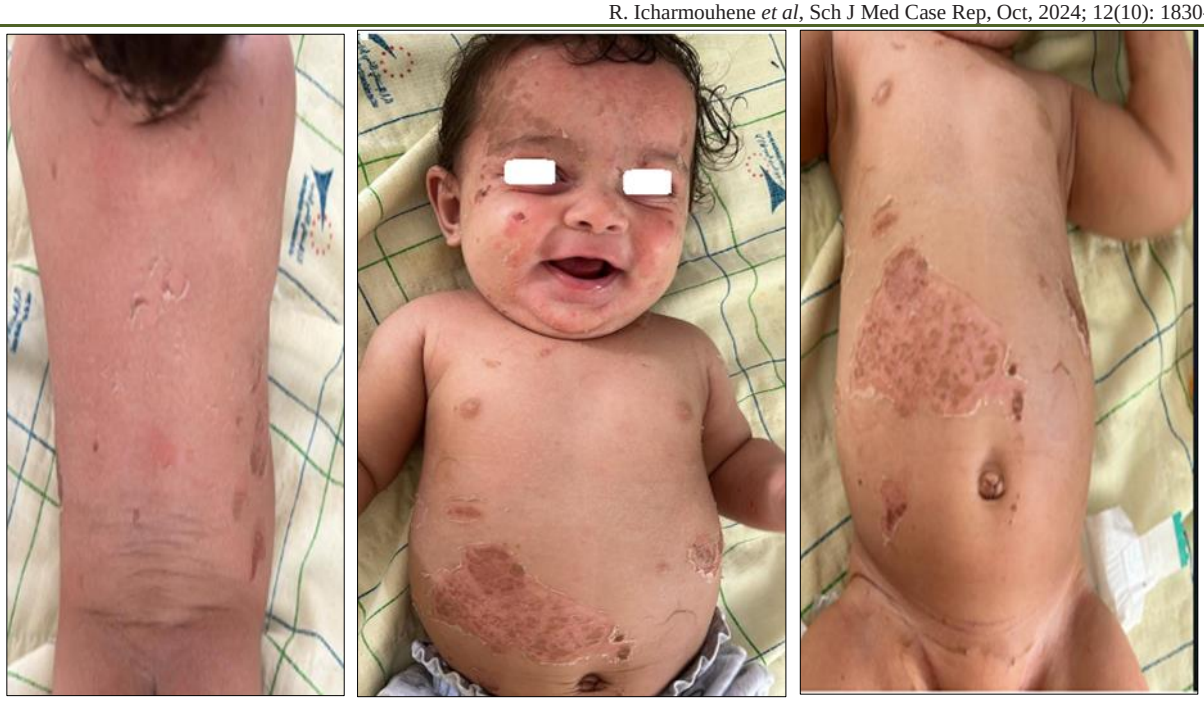

Figure 1: Widespread scalded skin rash involving the back, abdomen, face, and extremities, with ruptured bullae and a positive Nikolsky sign."

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