Major Burn in a 10 week old baby : A Case Report

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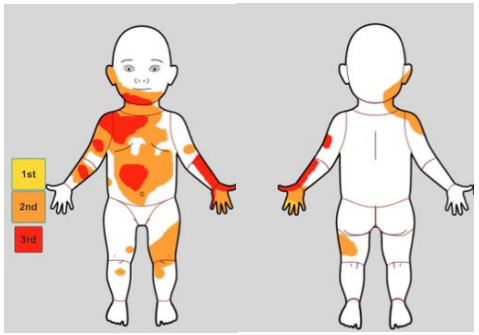
Introduction

Scalds are the most common cause of thermal injuries in children under 4. We discuss our experience with an infant who had a 27% total body surface area (TBSA) scald and the challenges faced.

Case Description

A 10-week-old girl was treated at WCH for scald injuries when a jug of hot water to prepare her feed spilled on her whilst she was asleep in her capsule. Adequate first aid was applied at the scene but with resultant hypothermia. The initial debridement and escharotomy to left forearm and hand were performed in ICU to maintain normothermia as she was resuscitated. Eventually, 10% TBSA was excised and grafted (refer illustration below)



1. **Resuscitation**

In the first 24 hours where fluid resuscitation was vital, extra caution was taken to ensure appropriate temperature regulation, and preventing over or under fluid loading the infant as she physiologically had decreased capacity to concentrate or dilute urine in response to intravascular changes.

2. **Infection**

Early excision and grafting was delayed by sloughy wounds that cultured methicillin sensitive staphylococcus aureus. She was treated successfully with a course of antibiotics and frequent dressing changes.

3. **Contracture and scarring**

The left hand and forearm developed hypertrophic scarring and contracture, resulting in hyperextension of the thumb metacarpophalangeal joints. Contracture release, skin grafting and laser treatment was conducted at 9 months post injury.

2 weeks

11 weeks

11 months

Discussion

Infant burn can have devastating results. Infants have higher metabolic rate and more extracellular fluid distribution which result in higher renal and insensible loses compared to adults. Thus, fluid resuscitation should aim for urine output of 1.5–2ml/kg/hour as it correlates with adequate hydration. Early excision and grafting in hand burns have better preservation of function and shortened hospital stay. Reconstruction with split skin grafting is adequate and scarring is inevitable. Contracture release is better undertaken approximately 12 months after injury, when scars have matured beyond the active phase and is less vascularised. One of the exception for this rule is as this case demonstrates, when dorsal contractures result in hyperextension and functional constraints. Splinting, silicone therapy and pressure garments to reduce recurrence. Long term follow up warranted especially in periods of growth spurts which can result in further deformity. This case was also a sentinel event to propagate a state wide change in practice - **use warm , NOT hot or boiling water to warm formula or expressed milk.**

References

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