Partial Thickness Burns: Easing the Pain & Healing the Wound in the Pediatric Patient

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Objectives

- **Identify traditional treatment for partial thickness burns in children,**
- **Demonstrate the effectiveness of hydrogel wafers for the treatment of partial thickness burns in children,**
- **State the advantages of hydrogel dressings over silver sulfadiazine and whirlpool.**

Introduction

Burns are a leading cause of injury in children. During 2002, an estimated 92,000 children under the age of 14 were treated for burns: Scald Burns, Contact with Hot Liquids, Thermal Burns (e.g. flames, cigarettes), Contact with Hot Items (e.g. ovens, irons, room heaters, chemicals).

Clinical Problem

Traditional treatment dictates that blisters are left intact. If the blister ruptures, silver sulfadiazine 1% cream is applied as an antibiotic cream and then covered with a dry, sterile dressing. Dressing changes include removal of the cream and occur b.i.d. Whirlpool is indicated to mechanically debride dead tissue and remove the cream.

Dressing changes and whirlpool are painful to the child and disturbing for the parents. Silver sulfadiazine is associated with complications: leukopenia (5-15%) and hypersensitivities (5-7%).

Evaluation of Hydrogel Protocol

At Children's Memorial Hospital, 12 children were treated over a 3 month period with a sheet hydrogel rather than the traditional treatment with the desired outcomes of reducing pain, decreasing dressing change frequency, elimination of daily whirlpool and decreasing costs resulting from materials and labor.

Burns were cleansed with nl saline, hydrogel sheet was trimmed 1" larger than the wound and applied. The dressing was secured w/tape and covered with roll gauze and self-adhering tape or tubular net dressing. The dressing was changed 2-3 times a wk.

Case I

Day 1 of Protocol | Day 4 | Day 11 – complete epithelialization

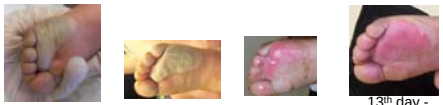
A 4-y.o. with hot water burns: 2nd degree or partial thickness burn to the LT shoulder surrounded by 1st degree or superficial burns to the side of the neck. Bacitracin was used for the superficial burns. Hydrogel for the 2nd degree/partial thickness.

Case II

Admission | 24 hours | 5th day | 13th day

A 1 y.o. male admitted 2 days s/p burns from a travel iron.

33rd day epithelialized



Admission | 24 hours | 5th day | 13th day - epithelialized

Conclusion

1) Hydrogel sheet is an effective therapy for managing partial thickness burns in children.

2) The burns in this evaluation healed without infection or scarring. Whirlpool was not required.

3) The number of dressing changes was decreased significantly from 2x/day to 2-3x/wk. Therefore, pain related to dressing changes was decreased. Labor time associated with dressing changes was also decreased.

Presented at the Annual Symposium on Advanced Wound Care & Annual Medical Research Forum on Wound Repair, 2005

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