To Serve, Protect, and Treat: Two Neonatal Skin Care Challenges

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Objectives

- Discuss at least one benefit of using an algorithm to prevent, identify, and treat diaper dermatitis in the NICU.
- List two skin injuries that could benefit from Hydrogel dressings.
- Summarize the current body of evidence presented that supporting the goal of early identification and treatment of challenging skin care issues in the NICU.

Causes of Diaper Dermatitis (DD)

- Overhydration of skin = increased pH
- Elevated pH affects flora of skin
- Friction from diapers and wiping
- Stool and urine cause pH to become alkaline
- Unable to protect from invasion
- Acidic barrier of skin compromised

Disclosure

- I have nothing to disclose
Signs of Diaper Dermatitis

- Erythema
- Edema
- Blistering
- Erosion
- Weeping

Supporting Evidence

- Review Articles
- Few Randomized Controlled Studies
- Poster Presentations


1/2 of all infant's that visit ped's office will have DD

- Friction major factor
- Microbes DO NOT play a role
- Breast fed infants have less DD
- Less DD with more diaper changes
- Cleansing can be useful

Most baby wipes not recommended when skin is broken

- Barriers are useful in protecting the skin
- Powders have been seen as helpful in reducing friction (No talc, boric acid, or baking soda)
- No prescription medications have been proven to treat DD (except Nystatin)

Concern over increased product related costs and inconsistent treatment practices

Tested the use of a single skin protectant on 5 neonates
Noted a reduction of erythema within 24 hours
Continued product prophylactically until DC


DD most common dermatoses in infants

Prevention is Key!
(skin hygiene, preserve barrier, prevent friction)

Identification of predisposing factors important

Resistance to treatment or chronic DD should be further investigated


Bottom Line!
Preserving the Skin
Barrier Protection

Zinc Oxide

White powder suspended in cream or ointment
Repels fluid
Not absorbed into skin
Antibacterial, antiseptic, and astringent properties
Petrolatum

Protects the skin by traveling through the interstitial spaces of the SC to aid in barrier recovery

Watch Out!

Barrier Ingredients

St. Elizabeth Hospital Study

- 32 day old with NAS
- 3 day old on abx therapy
- 60 day old with caustic stool possibly r/t formula
- 65 day old with reflux and increased gastric enzymes


Consistency in practice and Development of DD Algorithm

- Initial prevalence rate 24%
- Promotes prevention with Vaseline, triple paste, or desitin
- After implementation on high risk units rate decreased to 11% over a 2 year period

Common Themes

Erythema (intact skin):
- Zinc oxide cream or paste

Denuded skin:
- Zinc oxide or stomahesive powder or Ilex (with Vaseline over) or crusting technique

Candida:
- Treatment with Antifungal

M. Esser Algorithm

Sensicare
- Petrolatum base
- 15% zinc oxide
- Sticks to skin well
- Can be used alone or in combination with other treatments

Ilex
- Petrolatum base
- Has undisclosed amount of zinc
- Adheres to denuded skin
- Requires Vaseline over as protectant from sticking to diaper

One nurse’s process for Ilex application with Nystatin.

- Coats the diaper in Vaseline
- Applies Nystatin liberally
- Applies Ilex thickly
- Then places the diaper
Overcoming the barriers

- Breakdown in consistency
- Insufficient access to products
- Loss of follow-up
- Lack of knowledge of products
- Loss of adherence to treatment regimens.

Implementing an algorithm

- Define the problem
- Staff involvement
- Education
- Follow up

Example of surveys

Change is difficult

Positive responses | Negative responses
Achieving Success

- Promote adherence to treatment regimens
- Education, tools, hospital-wide skin care team
- Increase proactive prevention strategies
- Reduce rates of skin care issues

Enhancing awareness

Promoting adherence to treatment regimens

Phases of wound healing

- Inflammatory
- Proliferative
- Maturation

Neonatal Wounds

"They say 'change is inevitable'... thank goodness!"
Decreased strength
At risk for injury
At risk for breakdown

The Healed Wound

Hydrogel

Product Information

Autolytic Debridement

Body’s Own Enzymes

Re-hydrate
Soften
Liquefy eschar and slough
Examples of Neonatal Wounds
- Congenital wound
- Birth trauma
- Post op surgical site
- In utero injury

Dressing Change
- Pain Medication
- Cleansed
- Doppler of pulses
- Hydrogel applied
- Vigilon/Spandgel
- Telfa
- Gauze wrap
- Telfa between fingers
- Parental Involvement

Mepilex Border
- Does not damage skin with its adhesive
- Provides a semi-occlusive dressing to promote a moist wound healing environment

Ligation Site
- Cleanse
- Hydrogel
- Mepilex border
- Stitches rose to surface
Keep in mind

- Infection eliminates the ability to do hydrogel
- Continue to monitor closely for infection
- Have someone familiar with the wound healing process to guide the process

Further resources

- If you are interested in learning more about wound care and might be interested in becoming wound care certified:
  - www.wcei.net

Summary

- Prevention
- Assessment
- Care, Intervention, Treatment
- Plan and Follow up

Thank You

Please email me with any questions:
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