Managing Atopic Dermatitis: Itching the Night Away

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Learning Objectives

Describe common treatments for atopic dermatitis including:

- Skin care
- Management strategies
- Innovative approaches
- Patient education tips
Atopic Dermatitis
Features and Pathophysiology

• Dryness
  • Barrier function impaired
  • Skin’s ability to lose water increased
  • Skin’s ability to bind water decreased

• Itching-major feature: Intense scratching brings out the rash

• Inflammation

• Infection- skin often becomes secondarily infected
The Skin is Composed of Three Layers:

- Epidermis
- Dermis
- Subcutaneous tissue

The top layer of the epidermis — the stratum corneum — keeps water in and irritants out.
Normal epidermis: a protective barrier

- The stratum corneum: a protein-lipid matrix with filaggrin, ceramide, and sphingosine
- Barrier against water loss and allergen/microbe entry
Goals of Treatment

- Keep skin hydrated
- Decrease inflammation
- Control itching
- Keep skin intact to prevent infection
- Eliminate Triggers
Infants

- Face
- Extensor surfaces
- Diaper-sparing

Picture – http://www.uptodate.com/patients
Older children/adults

- Flexural surfaces
- Periorbital
- Neck
Elements of Care

- Identify triggers through history and allergy testing
- Topical Care
- Skin Care Plan
- Education of patient and family
Bathing

- Bath EVERY DAY
  - Washes off adherent allergens and bacteria
  - Soak 15-20 minutes
  - Submerge/cover/ wrap areas of skin not exposed to water with wet cloth
  - Gentle skin cleansers only where needed
Dilute Bleach Baths

- Decreases clinical severity of secondary infections
- Add 1/4 to 1/2 cup of household bleach to a bath tub full of water
- Intranasal mupirocin ointment for 5 days
- Disadvantages:
  - Drying
  - Burning

Immediately After Bath

• GENTLY pat skin
• Apply topical steroid first
• Apply moisturizers
• Apply wraps if needed
Moisturizers/Emollients

• Key part of the bathing routine
• Examples: Hydrolatum® Vanicream®
• Aquaphor®, Eucerin®, CeraVe®, Cetaphil®
• Seek one pound jars!
Treatment of Inflammation

• Primary goal of therapy
• If skipped failure WILL occur
• Topical steroids
• Extremely safe when used correctly
• Important to give skin a break

Use topical steroids to “put out the fire”
Topical Corticosteroids

First-line treatment for flares

• Potency classification
  
  Class I – most potent
  
  Class VII – least potent

• Potencies differ and can be confusing

• Vehicles differ and may affect acceptance, potency (oils, cream, ointments) and absorption as well as side effects

• Ointments are best for chronic dry skin
### Amount of Topical Steroids to Prescribe in Grams

<table>
<thead>
<tr>
<th>Location</th>
<th>Adult</th>
<th>Older Child</th>
<th>Younger Child</th>
<th>Infant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face and neck</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Arm and hand</td>
<td>60</td>
<td>40</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Leg and foot</td>
<td>110</td>
<td>60</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Entire body</td>
<td>580</td>
<td>350</td>
<td>190</td>
<td>120</td>
</tr>
</tbody>
</table>

Cost per ounce (30 gm)

Emollients
- Vaseline® - $0.25
- Hydrolatum® - $0.58
- Cetaphil® - $0.83
- Vanicream® - $0.84
- Aquaphor® - $0.94
- Eucerin® - $0.88

Barrier Creams
- CeraVe® $1.00
- Eletone® - $30

Topical Medications
- Triamcinolone 0.1% - $10
- Hydrocortisone 2.5% - $10
- Mometasone 0.1% - $23
- Pimecrolimus 1% - $200
- Tacrolimus 0.1% - $260

Online prices 2014
Myths About Topical Steroids

- Steroids will stunt my child’s growth
  Low to mid potency steroids will not cause clinically significant adrenal suppression

- Steroids will cause thin skin
  Use steroids on rough skin until smooth
  Do not use for more than 14 days per month
  Use appropriate potency and strength for area

- Steroids will cause white spots on my child’s skin
  White spots (hypopigmentation) are from repeated scratching
Controlling the Itch

• Cool cloths/ice packs for targeted areas
• Antihistamines:
  – Adequate doses with long half life
  – Sedative effects for evenings
• Common combination:
  – Cetirizine, loratidine, fexofenadine during day
  – Hydroxyzine or diphenhydramine evening
Wet Wrap Therapy

- Re-hydrates and calms skin
- Can be combined with topical steroids
- Recovery of epidermal barrier function
- Reduced redness and skin inflammation
- Diminished itching
- Provides continuous moisturization
- Provides protective barrier
- Improved sleep
Wet Wraps

• Take wet pajamas right out of washer (damp)
• After bath apply creams, etc.
• Put on wet PJ’s covered by dry PJ’s
• Hands/Feet: Wet Tube socks or gloves; cover with dry Tube socks or gloves
• May put dry PJ’s/socks in dryer
Zinc Oxide Wraps

- Recovery of epidermal barrier function
- Antimicrobial
- Anti-inflammatory
- Provides protective barrier
Zinc Oxide Wraps

- Zinc Oxide Wraps stay on overnight
- Cover areas with co-flex, mitts, socks, tights, non-latex ace bandage, tubifast
Zinc Oxide Wraps
DISADVANTAGES

• Time consuming
• Requires patience and supervision
• Moderate to high expenses for supplies
• Complaints of feeling “Gooey!”
Infections and AD

1. Culture skin
2. Topical antibiotics
3. Short term (7-10 d.) oral antibiotics, anti-virals, anti-fungals
4. Nasal mupirocin
5. Bleach baths

Systemic Antibiotic Choices

Favorites

• Cephalexin (effective, tastes good)
• Dicloxacillin if tablets ok
• Clindamycin or Bactrim for resistant bacteria

• 7-10 days of antibiotics often sufficient
• Avoid indiscriminate or prolonged use of antibiotics
AD Triggers

**Infections**
- URI/OM
- Bacterial, Fungal, Viral, Skin infections

**Allergens**
- Foods
- Environmental
- Contact (nickel)

**Other**
- Heat, dryness
- Anxiety
- Vaccinations

Itch-Scratch Cycle & AD Flare
The Impact of Itch

• Most common problem reported by parents in a chart review study of patients in the AD Center at Boston Children’s Hospital (LeBovidge et al., 2007)

• Sleep disturbance reported in over 60% of children with AD and their parents and siblings (Chamlin et al., 2005)
Infant Eczema/Sleep Problems/Mental Health

Sleep disturbance in infants due to itching may be a factor in development of future mental health issues

• **Clinical Implications**
  – Treat AD aggressively to improve sleep
  – Monitor for sleep disturbance
  – Refer to psychologist or sleep specialist if needed

Sleep Interventions

• Relaxing, **consistent** bedtime routine
• Cool temperature
• Wet wraps/Sleep-suits/modified pajamas so hands/feet covered

Simplify regimen
Treat inflammation

- Improve barrier
- Less itch
- Less scratch
- Sleep better
Skin Care Plan

• Patient family education is very important
• Care plan should include:
  ➢ Skin cleansing
  ➢ Skin barrier
  ➢ Control of itching and infection
  ➢ Appropriate use of topical anti-inflammatory agents
  ➢ Elimination of sleep disruption
Assess Barriers to Adherence

Understanding of skincare
• Concerns about any parts of the routine?
• Worry about medications?
• What parts of the routine are hardest?
• What parts do you skip the most?
• Problem-solve to reduce stress
Take Home Points

• Moisturize
• Decrease Inflammation
• Control Infection
• Control itch/scratch cycle
• Allergen Avoidance
• Assess adherence barriers and problem solve
• Increase child control and involvement!
Education

Key to successful outcomes

AD Resources
National Eczema Association
www.nationaleczema.org
www.undermyskin.com
AAFA-www.aafa.org
FARE- www.foodallergy.org