Use of Corticosteroids in the Treatment of Eczema

Miriam Weinstein MD FRCPC (Paediatrics) FRCPC (Dermatology)
Objectives

• Understand the clinical signs and symptoms of eczema requiring therapeutic intervention
• Understand the fundamental principles of managing eczema
• Further develop knowledge on the use of topical corticosteroids as first-line management for eczema including: indications for use, when to initiate and discontinue therapy, safety and side effects
Key Message

Topical cortisosteroids are generally safe and effective first-line medications for eczema and aid in improving symptoms and quality of life. Patients and their families should be supported in the correct use and expectations of this therapy.
Suggested Reading


Model of Skin
What is Eczema?

• Chronic skin disease
• Can range from mild to severe
• Symptoms may come rarely or frequently
• Can greatly impact quality of daily life
Sensitive Skin

Dry Skin

Itch

Rash
What Are The Causes of Eczema?
Barrier Defect

Altered Inflammatory Response
Quality of Life

• Quality of life
  – Impact of disease on family in moderate to severe eczema had a significantly higher impact score than diabetic children
  – Mild atopic dermatitis was equal to IDDM

  » Su JC et al. Arch Dis Child 1997;76:159-62
Sleep Loss

• Many parents up multiple times per night
• Many co-sleep with children because of itch
  – Try to hold hands down to prevent scratching
  – Scratch or rub child’s skin
  – Many did not want to co-sleep
  – Suffocation risk increases 20x if child in adult bed
• ? Adverse effects from inadequate sleep
• Parents lost 39-45 min sleep/night vs 0 for asthma

BJD 2006, 154,514-18; Scheers et al, Pediatrics 2003
“You don’t have to die from a disease to suffer from it”

Dr. Bernice Krafchick
Paediatric Dermatologist
Eczema Management

• Eliminate triggers
• Enhance the barrier
• Eradicate itch and rash
Eliminate Triggers

- Identifiable triggers that can be reduced
  - E.g., sweat, fragrances, some fibers
- Identifiable triggers that can’t be modified
  - E.g. Low humidity in winter
- Unidentifiable triggers....

- Most flares don’t have an identifiable trigger
Enhance the Barrier
EMOLLIENTS

Moisturize! Moisturize! Moisturize!
Eradicate itch and rash

- Topical corticosteroids are first-line
- Calcineurin-inhibitors are 2\textsuperscript{nd} line
- Barrier-repair emulsions
  - For mild dermatitis or with above
Eczema Management

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Challenges in Managing Eczema

• Corticosteroid phobia
• Search for “cure”
• Choice of complementary and alternative care
• Inappropriate focus on dietary manipulation
• Poor compliance
  – Lack of understanding of care plan
  – Forgetting routines, lack of motivation to treat
  – Fatigue of managing a chronic disease
Major Side Effects of Topical Steroids

- Atrophy
  - RARE (despite widespread concern)  
  
- Telangiectasia
- Striae
- Purpura
- Aggravation/masking of infectious dermatoses
- Steroid acne
- Hypertrichosis
- Hypothalamic-pituitary-adrenal axis suppression

*From Table 2, Hengge et al, 2006; Hong et al, 2011*
Corticosteroids

- Long history
- Work well
- Work quickly
- Many options to fine-tune therapy
  - Many strengths
  - Many vehicles
- Use for eczema generally safe
- What’s the problem??
Corticosteroid Phobia

“...the fear of atrophy in the lay and medical community has become so exaggerated that many parents cannot bring themselves to treat their children appropriately”

Do Corticosteroids Thin the Skin?

- AD patients well controlled with TCS
- N=70 patients, 22 control
- Range of potencies (weak to potent)
- Potent TCS Bid-TID for flare; when clear moderate TCS for 3 days
- Also used emollients
- Parents taught how and when to apply meds
- Thin film over area
- Amount of TCS assessed by self report and # of prescriptions
- Atrophy assed with validated 5-point dermoscopic scale
  - previously shown to have good correlation with histologic measurement

Do Corticosteroids Thin the Skin?

• 93% were using combination of potent and moderate and weak
  – as appropriate to site/severity

• All kids under excellent control

• 280 sites (study group) and 88 sites (control group):
  – 2 investigators (98% agreement)
    • No atrophy in any of the above sites
    • Minimal telangiectasia in AC fossae in some (p>0.99 compared)
    • No striae or purpura

<table>
<thead>
<tr>
<th>TCS Potency</th>
<th>Percent of patients REGULARLY using</th>
<th>TCS used per month in grams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potent</td>
<td>93</td>
<td>79 (15-180)</td>
</tr>
<tr>
<td>Moderate</td>
<td>77</td>
<td>128 (50-150)</td>
</tr>
<tr>
<td>Weak</td>
<td>70</td>
<td>34 (15-50)</td>
</tr>
</tbody>
</table>

Ingredients:
-Mild Cortisone for face, folds, groin
  -eg. 1% Hydrocortisone UNG
-Mid-potent Cortisone for body
  -eg. 0.05% betamethasone valerate UNG
-Potent steroid for palms/soles
  -eg. fluocinonide
-Non alcohol lotion for scalp

Method:
1. Apply above TWICE daily to affected areas
2. Apply from START of flare to END of flare

Weinstein Recipes
Suggested Use of Topical Cortisones Amount

• Topical meds should be applied in thin layer
  – Approximately 0.1mm
  – 1 gram CREAM covers a 10cm by 10cm area
  – 1 gram of OINTMENT spreads about 10% further
  – Thicker layer doesn’t enhance penetration
  – Too sparing won’t provide enough therapy

• Practical measuring unit: Fingertip unit
Fingertip Units

• Amount of ointment from a 5mm nozzle
  – applied to distal third of index finger
• 1 FTU is equal to 0.5gram
• Approx 20g used for whole body of adult male
• Extended palm requires about 0.5FTU
  – (includes fingers)
• Ointments can spread to an area 10% greater than creams of same weight

Health Literacy

• Many adults have literacy level insufficient to function well in society
• Problem-solving proficiency skills especially low
• May impact ability to:
  – Read handouts
  – Understand risk
  – Carry out management plans
  – Recognize when they need care

OMR, December 2009, 29-35
Education

• Chronic and recurrent nature
• Some triggers can be identified and controlled
• Role of emollients and bathing
• Role of medications and safety:
  – Cortisones
  – Calcineurin inhibitors
  – Antihistamines
  – Unconventional medicine
• How and when to use medications
• Complications
  – Infections, sleep loss, dispigmentation, QOL impact
• Role of food
Thin Skin
Long-term safety issues
Thin Skin
Long-term safety issues

Brief Stinging
Long-term safety issues
Thin Skin
Itch

Long-term safety issues
Thin Skin

Brief Stinging
Itch

Losing Sleep

Long-term safety issues

Thin Skin

Brief Stinging
Infections
Losing Sleep
Itch

Brief Stinging
Long-term safety issues
Thin Skin
Pain
Infections
Losing Sleep
Itch

Brief Stinging
Long-term safety issues
Thin Skin
Bullying
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Brief Stinging
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Thin Skin
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