Learning Circle: Jan 26, 2011
Childhood Eczema

Wingfield Rehmus, MD MPH
BC Children’s Hospital
Clinical Assistant Professor, UBC
Department of Paediatrics
Associate Member, UBC Department of Dermatology and Skin Science
Eczema

- Greek Ekzema: ek=out zein=to boil
- Non-contagious inflammation of the skin, characterized chiefly by redness, itching, and the outbreak of lesions that may discharge serous matter and become encrusted and scaly.
- Many forms: atopic dermatitis, seborrheic dermatitis, nummular dermatitis, winter eczema, statis dermatitis, contact dermatitis
- Most common form in children is atopic dermatitis
BC Children’s Hospital 2008-2009

Approximate number of visits for the 10 most common diagnoses

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atopic Dermatitis</td>
<td>1100</td>
</tr>
<tr>
<td>Acne</td>
<td>160</td>
</tr>
<tr>
<td>Hemangioma</td>
<td>150</td>
</tr>
<tr>
<td>Congenital Nevus</td>
<td>100</td>
</tr>
<tr>
<td>Warts</td>
<td>95</td>
</tr>
<tr>
<td>Molluscum Contagiosum</td>
<td>85</td>
</tr>
<tr>
<td>Psoriasis</td>
<td>80</td>
</tr>
<tr>
<td>Eczema, NEC</td>
<td>75</td>
</tr>
<tr>
<td>Vitiligo</td>
<td>60</td>
</tr>
<tr>
<td>Nevus</td>
<td>40</td>
</tr>
</tbody>
</table>
Atopic Dermatitis
Atopic Dermatitis: Infants
Atopic Dermatitis: Older children
Infections
What causes atopic dermatitis

- Genetics
- Skin itself
- Immune system
  - Assoc. with hayfever, food allergies, asthma
  - Poor handling of infections esp staph

http://www.caring4cancer.com/uploadedImages/Website-C4C-20/Skin_Cancer_(Non-Meloma)/The_Basics/Epidermis-dermis.jpg
http://en.wikipedia.org/wiki/Epidermis_(skin)
Filaggrin and Atopic Dermatitis

Filaggrin mutation

- Strongest risk factor for AD
- Patients with mutation
  - High rate of referral to dermatologist
  - Refractory to treatment
  - Increased risk of asthma
  - Dry skin
  - Hyperlinear palms

What makes it worse?

- Dry skin
- Contact with chemicals and fragrances
  - Bubble bath
  - Harsh soaps
  - Perfume
  - Fabric softener, dryer sheets
- Contact with saliva, acidic foods
- Contact with irritating fibers i.e. wool, tags in clothing
- Infections
Impact on the family

- Concern
- Frustration – comes and goes
- Sleeplessness
- Extra work, time
- Cost
- Changes in food prep/eating
- Social concerns
  - embarrassment, fear of contagion
What can be done to make it better?

- There is NO cure
- Fix the protective function
  - Moisturize!!!!
- Avoid contact with triggers
  - No bubble bath, soap with fragrance
  - Fragrance free laundry soap, no dryer sheets
  - Cut tags out of clothing
  - Rinse after swimming
- Use medicine to calm the immune system
  - Corticosteroids
  - Steroid sparing agents
- Prevent and treat infections
Atopic Dermatitis Home Care

- Daily bath: warm not hot, 10 minutes
- No scented products in bath
- Wash with mild cleanser
  - Dove Sensitive Skin, Cetaphil, Spectro, etc.
  - **No** Ivory, Dial, Irish Spring, bath gels
- Pat dry
- Immediately apply medication
- Seal medication in with plain moisturizer
  - Ointment, cream
- Use moisturizer several other times a day
Treatment

- **Corticosteroids** – ointments > creams > lotion
  - Hydrocortisone 1%, 2.5%
  - Betamethasone valerate 0.1%
  - Mometasone 0.1%
- **Calcineurin inhibitors** (tacrolimus, pimecrolimus)
- **Antihistamines** – Benadryl, Hydroxyzine
- **Systemic Therapy:**
  - NbUVB, MTX, CSA, Azathioprine
What else can parents/caregivers do?

- Keep fingernails short
- For babies, sleep with socks on hands
- Cover areas frequently scratched after applying medicine
- Consider impact of mold, dust mites, dander, pollens
  - Mattress covers
  - Avoid wall to wall carpets
  - Dogs better than cats
- Breastfeeding until 6 months, then introduce all foods
Eczema and food allergies

- AD and food allergies are related
- Children with AD have an increased risk of food allergy
- Food allergies do not cause eczema
- Occasionally withdrawing a food can make eczema better
- Possibly food allergies occur due to contact between food and broken skin
- Most common causes of food allergy in US
  - Dairy, wheat, nuts, egg, shellfish, soy
Infections

● Prevention
  – Baths with $\frac{1}{4}-\frac{1}{2}$ cup bleach per full tub
  – If recurrent, consider staph carrier state
    ● Treat both nares and perianal area with mupirocin BID for 3 weeks

● Impetigo
  – Culture
  – Keflex, Erythromycin, Clindamycin

● Eczema herpeticum
  – IV acyclovir
Differential Diagnosis: Could this be anything else?

- **Tinea Corporis**
  - Edges are more distinct
  - Improves, then worsens with steroid use
  - Raised border, often with scale
  - Central plaques less scaly
Scabies

- Itching out of proportion to findings
- Papules, nodules, pustules - esp hands, feet, axilla
- Other family members itchy
- Lack of typical eczema features
Nummular eczema

- Localized
- With or without history of atopic dermatitis
- Often require stronger corticosteroids to treat
- Often have a secondary infection associated
Seborrheic dermatitis

- Generally more limited involvement - head and scalp plus folds
- Yellow greasy scale compared to dryer appearance of AD scale

Photos courtesy of DermAtlas.com
Atopic Dermatitis

- Barrier inadequate -> water out and irritants in
- Over-active immune response which worsens barrier

Treatment
- Emolliation
- Corticosteroids:
  - HC ointment to face and groin
  - Betamethasone valerate to moderate plaques or everywhere to calm a major flare
  - Mometasone to thicker, stubborn areas
- Calcineurin inhibitors
  - Around eyes, to groin, if concerned about atrophy
  - Perhaps as maintenance
- Newer moisturizers with ceramides etc. an alternative but pricey
- Avoid abrupt discontinuation of steroids, calm parents fears about steroid use,

- Bleach baths ¼ c bleach in tub for crusted, excoriated patients
- Antihistamines if disrupting sleep
- Antibiotics if clearly infected