5007 Seminar
Advanced Therapeutics:
Managing Severe & Refractory Eczema

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Part 1
• Adherence
• Antibiotics
• When & what allergens to test
  – Does allergen avoidance work?
• Vitamin D

Keys to Adherence:
Simplify regimen & Educate
Elimination of exacerbating factors

ECZEMA ACTION PLAN

DAILY SKIN CARE ROUTINE

GREEN ZONE
(Skin clear or with very mild redness/irritation)

YELLOW ZONE
(Skin starting to FLARE with mild to moderate redness/itching)

RED ZONE
(Skin with SEVERE redness/itching/oozing)
Action Plan

AM:
1. Apply triamcinolone ointment to eczema areas
2. Apply moisturizer everywhere

During day:
1. Apply moisturizer everywhere 1-2 times

PM:
1. Dilute bleach bath for 10 minutes
2. Pat dry
3. Apply triamcinolone ointment to eczema areas
4. Apply moisturizer everywhere

Do this for several days (up to 1 week) until better. Once better...

Education

• Wet wraps, bleach baths, unna boot

Online Resources

• www.nationaleczema.org
• www.skincarephysicians.com/eczemanet (from American Academy of Dermatology)
• www.undermyskin.com

Treatment & Education Pearls

• THERE IS NO EASY ANSWER
• Remind families: there is no cure. Despite proper skin care and trigger avoidance, AD may still flare
• Provide examples of non-allergic triggers
  – Sweating, detergents (i.e. travel), URIs
• All aspects of disease must be addressed… think TETRAD
• Treatment is like juggling
• Fire analogy

How to treat atopic dermatitis

Infections & Antibiotics

• Staph is common (>90% in severe cases)
• MSSA > MRSA
• In refractory cases, or if pustules or ulcers, culture could be important, esp in immunosuppressed patients

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

Dilute Bleach Baths

• Add ¼-½ cup of household bleach to a bath tub (~40 gallons) 2-3x per wk for 10-15 min
  – For babies or compresses ½-1 tsp in 4 gallons
• Intranasal mupirocin ointment for 5 days

• Burning can occur with open skin
• Use white towels
• Daily when flaring
• Biweekly as maintenance

Changes in mean EASI scores

When Atopic Derm is Atopic

Food Allergy and AD

- FA and AD are highly associated
  Up to 37% of children <5 years with moderate to severe AD will have IgE-mediated FA

- Can FA exacerbate AD? Controversial
  - Several studies found improvement in pruritus when patients with egg allergy and AD were placed on egg-free diet
  Lever R et al, Pediatr Allergy Immunol 1998

FA in AD: Diagnostic Puzzle

- Detailed history
  - consistent & reproducible?

- Physical exam
  - focal and/or mild eczema less likely to have food as trigger

- Optimize skin care using tetrad

- Parental concern about FA and # reported reactions decreased significantly after adequate treatment of AD

FA and AD misconceptions

- Eczematous flares can be erroneously attributed to foods by patient/parent
  - May be precipitated by irritants, humidity, change in temperature, infections, etc.
  “Tell me WHAT is causing his eczema!”

- Manage expectations
  - Most eczema unrelated to FA
  - Some children with eczema have FA, but FA may not actually cause eczema

2010 Food Allergy Guideline 35

The EP suggests that children less than 5 yrs old with moderate to severe AD be considered for FA evaluation for milk, egg, peanut, wheat, and soy, if at least 1 of the following conditions are met...
2010 Food Allergy Guideline 35

1. The child has persistent AD in spite of optimized management and topical therapy
2. The child has a reliable history of an immediate reaction after ingestion of a specific food

The younger the child (earlier onset of AD) and the more severe the AD, the greater likelihood that child has FA

Guillet G & MH, Arch Dermatol 1992

Challenges

- Highly atopic patients
  - ↑ severity of AD assoc with ↑ # +food sIgEs
- What about testing infants prior to food introduction?
  - No literature
- Consider elimination diet of 4-6 weeks
  - Take caution with regard to nutrition
  - Consider concomitant interventions

Oral Food Challenges in Children with a Diagnosis of Food Allergy
Fleischer et al, J Pediatr 2011

- Using serum food-specific IgE testing alone to diagnose food allergy, especially in children with AD, can result in overly restrictive diet.
- Oral food challenges most reliable test
- Retrospective chart review of 125 children with active atopic dermatitis and food avoidance

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<th>Total #</th>
<th>% negative OFCs</th>
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Allergen Immunotherapy: 3rd update of practice parameter
2011 Summary Statement 8

- There are some data indicating that immunotherapy can be effective for AD when associated with aeroallergen sensitivity
- In review of 4 placebo-controlled studies, significant improvement in AD symptoms for patients on SCIT
  - Bussman et al, JACI 2007

Vitamin D

- Anti-inflammatory
- Elimination of exacerbating factors
- Antipruritics
- Moisturisation
- Antibiotics

Bieda Mushleisen, Richard L. Gaalo, JACI Volume 131, Feb 2013, pp. 324 - 329
**Vitamin D replacement**

Bath-Hextall FJ et al. Dietary supplements for established atopic eczema. Cochrane Skin Group. Published Online: 15 FEB 2012. Assessed as up-to-date: 8 JUL 2010

2 RCTs for vitamin D: no benefit over placebo
1. a two-arm parallel group design (Sidbury 2008), n=11 vitamin D vs. placebo
2. four-arm parallel group design (Javanbakht 2011), n=52 vitamin D + vitamin E placebo vs. vitamin E + vitamin D placebo vs. vitamins D + vitamin E vs. placebos for both vitamin D and E

**Vitamin D supplementation depends on the time of year (NE)**

- **WINTER** (Nov-Mar) when vit D levels lowest
  - >25 no supplementation recommended
  - <25 supplement to RDA
  - <20 supplement 1000 IU/day
- **SUMMER**
  - Supplement to RDA if <30 nmol/L

Children >1 year of age need 600 IU
<1 year of age need 400 IU

NOTE: most supplements provide 400 IU

**Topical Vitamin D?**

- Vitamin A&D ointment
  - composed of cod liver oil, fragrance, lanolin, and propylparaben in petrolatum base
- Topical vitamin D3 and retinoic acid induce TSLP expression in keratinocytes
- A + D ointment at least partly may undermine potential benefit of emollient properties