AAAAI 2014 Session 4830 Handout

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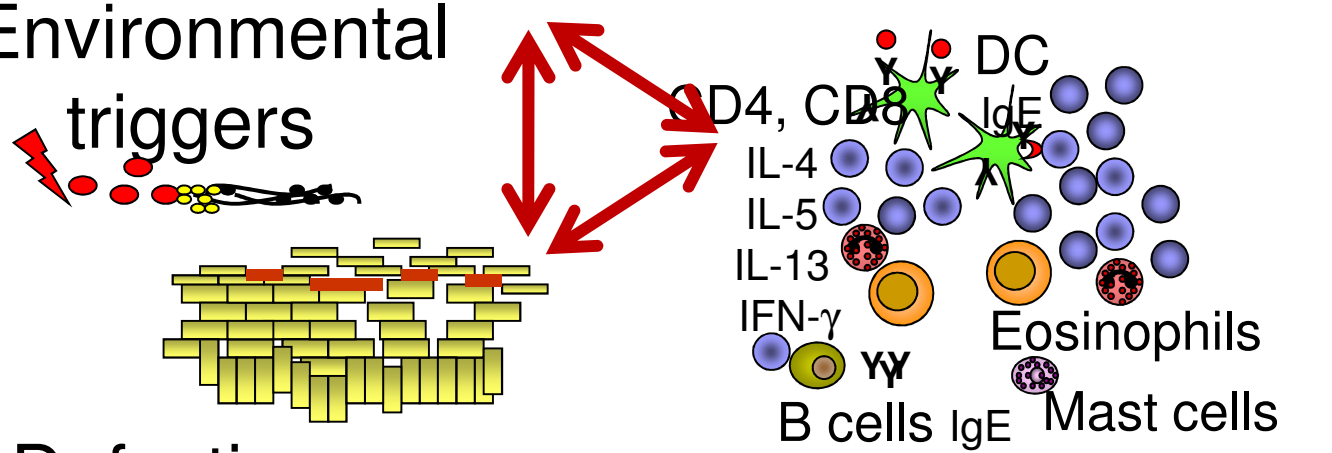
Management of children and adult patients with atopic dermatitis

Impaired skin barrier and Th2 inflammation



1 Restoring the skin barrier

- Emollients, ointments
  - Enriched with moisturizers, lipids, ceramides
  - Wet wraps
- Vitamin D3: controversial
  - increase of cathelicidin expression in AD skin
  - Cave: topical vitamin D might induce TSLP
- Calcineurin inhibitors
  - In vitro, pimecrolimus enhances production of cathelicidin, HBD2, HBD3 by keratinocytes
- Avoid long-term therapy with topical corticosteroids

Hata TR et al.; J Allergy Clin Immunol 2008;122:829-831. JEADV 2013, e-pub ahead of print. Büchau AS et al.; J Invest Dermatol 2008;128:2646-54. Sato-Deguchi E et al.; Br J Dermatol 2012; 167:77-84

2 Avoidance of triggers

- Staph.aureus
  - Antimicrobial intervention: disinfectants, bleach baths, silver, silk clothes
  - Cave: topical antibiotics
  - vaccinations
- Soap, detergents: use syndets, oil baths
- House dust mites
  - Reduce exposure, specific immunotherapy for allergic patients
- Emotional stress

3 Anti-inflammatory therapy

- Topical:
  - Corticosteroids
  - Calcineurin inhibitors
- Systemic:
  - UV Therapy
  - Cyclosporine, corticosteroids, azathioprine, MMF, MTX
  - Alitretinoin
  - Biologics
- Proactive therapy
  - Topical corticosteroids, calcineurin inhibitors (2x per week)

4 Anti-pruritic therapy

- Emollients
  + polidocanol (local anesthetics)
  - Wet wraps
- Effective anti-inflammatory therapy
- Antihistamines
  – Controversial
  – Non-sedating
- Cold packs
- Psychological interventions, relaxation

Educational programs

- To increase compliance
- To increase knowledge on disease pathomechanisms and treatment
- For patients and parents
- Interdisziplinary courses: dermatologist, allergist, psychologist, nutritionist, nurse, physiotherapist (5 x 2 hours)
- Education, practical demonstrations of therapy, in AD clinic

Epidermal Role in AD Development

- Corneocyte defect—FLG, LEKTI, CDSN
- Irritants, proteases, pH change, microbes, allergens
- Keratinocytes → TSLP
- Influence on immune cells (Th2, IgE)
- ?Perturbs respiratory epithelium

(Zhang 2009; Demehri 2009, Irvine 2011)

AD & Atopy: New Directions in Prevention and Therapy

- Immediate barrier care in at-risk newborns: A pilot study of emollient therapy for the primary prevention of AD. *Simpson, et al. J Am Acad Dermatol 6:587-593, 2010.*
- Household peanut consumption as a risk factor for the development of peanut allergy, *Fox, et al. JACI, 123:417-23, 2009*
- Early allergen feeding: *Can early introduction of egg prevent egg allergy in infants?* *Koplin JJ, et al. JACI 126:807-13, 2010*

Preventing AD

- **Primary prevention**
  - **Recognize babies genetically at risk; e.g. Ichthyosis/xerosis, family atopy**
  - **Alert parents to watch for irritant dermatitis**
  - **Treat irritant problems aggressively**
- **Secondary prevention—when AD is already evident**
  - **Clear with effective, remittive, topical therapy**
  - **Maintain remission with biw TCS, qd TCI, emollients**

Hypothesis: Correcting Early Skin Barrier Dysfunction May Prevent or Delay the Development of Atopic Dermatitis

- A pilot study of emollient therapy for primary 43.4% developed eczema in the control group
  - 21.8% in the emollient group
- Incidence of eczema at 6 months (ITT)
  - OR 0.33, P <.0001

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Why not recommend early emollients in atopic families?

Faulty Management Choices for AD

- Conservative TCS dosing
- Start/Stop instead of Tapering
- Diluting TCS with emollients or topical antibiotics
- Failing to pre-hydrate
- Prolonged antibiotic therapy
- Diversions from optimal therapy
  - Antihistamines
  - Allergy obsessions

Antihistamines and Childhood AD

- An indirect therapeutic aid in easing allergic comorbidities
  - Allergic rhinoconjunctivitis
- Enhancing sleep and reducing night awakenings due to itch
- A negative feature is diversion from effective topical antiinflammatory therapy
- No studies in 70 years that show an anti-pruritic effect