ATOPIC DERMATITIS

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Atopic dermatitis

Definition
An inflammatory skin disorder characterized with: *erythema*, *edema*, *intense pruritus*, *exudation*, *crusting*, and *scaling*.
Mechanisms of Eczema in Children

1. ALLERGY
2. SKIN BARRIER DYSFUNCTIONS
3. CHRONIC INFECTION
4. AUTO-IMMUNITY (?)

= complex interplay according to pt. and age
Atopic dermatitis

1. SKIN DISORDER

2. ALLERGIC DISEASE

3. Combination ?
Pathophysiology of atopic dermatitis

Components of the skin immune system
- The static component
- The dynamic component
- Lessons from the genes

Mechanisms inducing the inflammation in skin
- The role of antigen presenting cells

Putative mechanisms underlying chronicity (*AD at the frontier between allergy and autoimmunity*)
- *Staph. aureus* and IgE response
- Epidermal antigens or autoallergens?
- Evidence for a lack of tolerance: the IDO-story
Onset of dermatities frequently coincides with the introduction of certain foods into the infant’s diet (especially: cow’s milk, wheat, soy, peanuts, fish or eggs).

**Diagnosis**

- Intense pruritus
- Family history of asthma, hay fever, atopic dermatitis
- Elevated IgE
- Elevated antibodies to variety of foods & inhalants

- Eosinophilia
- White dermographism
Clinical manifestations

- Affect: 2-10% children
- Most begin in infancy (the first 2-3 mo of life)
- 60% affected by 1 yr of age, 90% by 5 yr of age
- Early lesions: erythematous, weepy patches on cheek, extend to: face, neck, wrists, hands, abdomen, extensor aspect of the extremities
**Clinical Manifestation**

**Infantil form**: begins at 2-3 month of age
- face, scalp, extensor, surface of limb,
- hand and sucked thumb, flexure folds
- after 1 yr

**Children form**: > 2 yr
- Flexure folds, hand, food and periorbital

**Adult form**: > 20 yr
- Lichenification, scaling.
DIAGNOSTIC CRITERIA OF AD (Hanifin & Rajka, 1980)

- Must have 3 or more **MAJOR features:**
  - Pruritus
  - Typical morphology and distribution
    - flexural lichenification in adult
    - facial and extensor involvement in infant and children
  - Personal and family history of atopy
  - Chronic and chronically relapsing course
    - **AND**
DIAGNOSTIC CRITERIA OF AD (Hanifin & Rajka, 1980)

- Must also have 3 or more **MINOR features**:
  - Xerosis
  - Ichthyosis/palmar hyperlinearity/keratosis pilaris
  - Immediate (type I) skin test reactivity
  - Elevated serum IgE
  - Early age of onset dermatitis
• MINOR features:
  • Tendency toward cutaneous infections
  • Tendency toward nonspecific hand & foot dermatitis
  • Nipple eczema
  • Cheilitis
  • Recurrent conjunctivitis
  • Denni-Morgan infraorbital fold
DIAGNOSTIC CRITERIA OF AD (Hanifin & Rajka, 1980)

- MINOR features
  - Keratoconus
  - Anterior subcapsular cataract
  - Orbital darkening
  - facial pallor/facial erythema
  - Pityriasis alba
  - Sweating itch
  - Intolerance to wool and lipid solvent
DIAGNOSTIC CRITERIA
OF AD (Hanifin & Rajka, 1980)

- MINOR features:
  - Perifollicular accentuation
  - Food hypersensitivity
  - Course influenced by environmental/emotional factors
  - White dermagraphism/delayed blanch
Complications

Secondary infection of the lesion with bacterial, fungal, or viral.

Treatment

- Avoid extreme temperature & humidity
- Sweating leads to itching and aggravation of the disease
- Exposure to sunlight and salt water may be beneficial
Treatment ........

• Avoid the use of soap and detergent for the dry skin
• During acute flare-up, wet dressings (e.g. Burrow’s solution 1:20) → antipruritic & anti-inflammatory
• If infection is present (acute weeping or crusting) → systemic antibiotic. Drug of choice: erythromycin or cephalexin (because of frequent resistance of penicillin by *Staphylococcus aureus*)
• Topical triamcinolone acetonide ointment, 0.1% is useful but best limited to 1-3 weeks at a time; after improvement
What improvements are needed?

- Ideally, a cure
- The next best alternative is a treatment that is safe and effective and adds a significant dimension to existing therapies