Advanced Therapeutics: Managing the Severe and Refractory Eczema Patient

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INTRACTABLE PEDIATRIC ATOPIC DERMATITIS CHECKLIST

I. General Principles:
   A. GENERAL SKIN CARE
      - Bathing (duration, frequency, soap used)
      - Moisturization methods
      - Clothing (cotton/wool/irritant)
   B. SLEEPING PATTERNS
      - Difficulty falling asleep
      - Frequent night / Daytime fatigue
   C. PSYCHOSOCIAL
      - Conflict between child-parent/child’s motivations for Rx

II. Hypersensitivity:
   A. FOOD ALLERGY
   B. AEROALLERGY
   C. CONTACT ALLERGY
III. INFECTIOUS CAUSES

A. BACTERIAL SUPERINFECTION:
   Honey-colored crusting, pustules, weeping
   Dx: consider skin and nasal cultures from child & caretaker
   Empiric antibiotics/intranasal Bactroban®

B. ECZEMA HERPETICUM:
   Fever, lymphadenopathy, vesicles, erosions
   Dx: consider Tzanck prep, culture, acyclovir

C. DERMATOPHYTE INFECTION:
   Scaly rash or nail changes
   Dx: consider fungal culture, KOH prep

   • *Malassezia* (Pityrosporum) *sympodialis* common in seborrheic areas
   • IgE antibodies vs. *M. sympodialis* in AD patients, mostly head & neck
   • Decrease AD severity in patients treated with antifungal agents

IV: Immunodeficiency

**WISKOTT-ALDRICH SYNDROME**: Male; Infections
   - Petechiae, epistaxis, bloody diarrhea or + hx of intracranial bleeding
   - Dx: ↓ platelets, ↑ bleeding time, IgA & IgE; ↓ IgM, nl IgG

**HYPERIMMUNOGLOBULIN E SYNDROME**: coarse facial features
   - Recurrent infections of skin, lower respiratory tract, ears, eyes, sinuses
   - Dx: persistent IgE>2000 IU/mL; leukocyte chemotactic test

**NETHERTON SYNDROME**: poor hair growth (trichorrhexis invaginata/nodosa)
   - ichthyosis linearis circumflexa (double-edged scale)
   - Dx: microscopic examination of hair (bamboo stalk appearance)

**CHRONIC GRANULOMATOUS DISEASE**: male
   - Recurrent infections, stomatitis, pneumonia, diarrhea, visceral abscesses
   - Dx: oxidative burst analysis

**INFECTIVE DERMATITIS W/HTLV-1**: Caribbean/Japanese origin
   - Staph/Strep superinfection resistant to treatment
   - Dx: consider HTLV-1 antibodies, PCR

**HIV INFECTION**: child/parent risk factors/known HIV + status
   - Recurrent opportunistic infections/failure to thrive
   - Dx: HIV-1 antibodies/CD4 count/viral load
Principles of Therapy

• GENERAL SUPPORTIVE CARE
  – Skin Hydration & Barrier Therapy
    • Emollients
    • Baths
    • Wet Wraps
  – Avoid irritants & specific allergens

• GET THE DISEASE UNDER CONTROL!
  – Anti-Inflammatory meds:
    • Strength based on disease severity
    • Stronger steroids for short bursts

• KEEP IT UNDER CONTROL
  – Steroid Sparing Agents
    • Immunomodulators (pimecrolimus, tacrolimus)
    • Immunodevices (atopiclair®, mimyx®, epiceram®)
    • Proactive Treatment
1. Proper skin hydration & moisturizers repair & preserve skin barrier function
   - Development of improved skin barrier creams
   - Wet wraps

2. Topical antiinflammatory therapy can be used for both treatment of acute flares and prevention of relapses
   - Proactive treatment with topical CS or TCI

3. Avoidance of proven food & inhalants may prevent or lessen flares by early dietary interventions
   - Breast Feeding
   - Hydrolyzed infant formulas

4. Decrease of microbial colonization can improve atopic dermatitis
   - Bleach baths, antiseptics, Unna boots, Silver-impregnated clothing

5. Addressing psychosocial aspects of a chronic, relapsing illness and providing education with written skin care instructions can lead to improved outcomes

6. Ongoing and future studies
   a. Probiotics to control eczema early in life by directing allergic responses
   b. Oral vitamin D
   c. Omalizumab
   d. Specific Immunotherapy