

ECZEMA/ATOPIC DERMATITIS

Atopic dermatitis: 'out of place' disruption of epidermal barrier.

-Eczema refers to scaling, crusting, and serous oozing.....not just erythema. Can typically be used interchangeably with dermatitis- but connotes a specific type of dermatitis

-“Atopy” refers to triad of eczema, allergy, and asthma that often co-occur– if the patient has one (or a family history of one) – you should look for the others

General Treatment approach: avoid, prevent, repair

Avoidance: This is a lifelong disease –most people will learn to avoid things that make it worse

-Things to avoid: heat, perspiration, low humidity, excessive bathing, emotional stress, dry skin, exposure to solvents and detergents, anything that tends to induce itch (atopic folks respond more readily to pruritic stimuli)

Prevention: (besides eliminating exacerbating factors)

1. Use antihistamines to prevent itching.

-Benadryl, hydroxyzine work well.

-Many Pediatricians at CHO prefer hydroxyzine (better side effect profile).

-Loratidine or fexofenadine are non-drowsy formulations.

-In severe cases, wet wraps may help (emollient on skin, covered by dampened cotton garment, with dry garment on top) .

2. Quickly treat skin infections like staph/herpes. People with eczema are predisposed to nasty skin infections (bacterial/fungal/viral) – their skin will often OVER react to an otherwise mild infection.

-Bacteria: get a culture, try topical mupirocin or oral cephalosporin. If concern for MRSA, do bleach baths and appropriate antibiotic for the population (Bactrim).

Bleach baths have been shown to reduce skin infection frequency in people with eczema. Can be very helpful for kids; add ¼-1/2 cup of bleach to full tub. Soak for 5-10 minutes, afterwards rinsing with fresh water. Pat dry and apply emollient. Repeat 2 times per week.

-Viral: watch for herpes and treat early, if disseminated rash forms can be very dangerous and may require IV ARVs. If they come in contact with molluscum contagiosum, they can get very widespread infections

-Fungal: Much more frequent dermatophyte infections- but respond to typical anti-fungals.

3. Treat stress/anxiety: one of the more common presentations in adults – may require behavior modification, mindful meditation, anti-anxiety regimen.

Repair: SKIN HYDRATION is the KEY to prevention and treatment

-Problem: water evaporating from skin causes xerosis (dry skin) and lotions worsens this

(especially those with high water/low oil content). Not all lotions are equal and not all lotions are good!

Backbone of treatment is use of **EMOLLIENTS**

- use CREAMS (low water content): eucerin, cetaphil, aveeno
- use OINTMENTS (zero water content): Vaseline, aquaphor
- studies show that over the counter brands are just as effective as prescription formulations.
- Vigilant use of emollients often prevents need for use of topical steroids
- Apply emollients immediately after bathing
- Bath vs shower about equal (one is not better than the other), but must dry self quickly and immediately apply emollient
- Type of soap can be SUPER important: use sensitive skin fragrance free soap. Be wary of false advertising (ex: Johnson&Johnson's is NOT fragrance free and many babies get skin reactions to it!). Good brands: dove/aveeno. NO FANCY SOAPS.
- must also use mild detergents.

When emollients are not enough:

1. First try Topical Corticosteroids

- once daily (no clear benefit to applying more than once daily)
- start with low potency and low % and can always go up from there
- Least potent: 1% - 2.5% hydrocortisone cream/ointment
- Less potent: **Desonide 0.05% cream, triamcinolone (kenalog) 0.025%, fluocinolone 0.01%**
- Medium potency: 0.025% fluocinolone or 0.1% triamcinolone
- High potency (should use in consultation with dermatologist): Fluocinolone (Lidex) 0.05%, triamcinolone 0.5%
- If requiring a higher potency cream- use for 10 days only, avoid the face/skin folds
- For lesions on the face, in general stick to desonide, 1% hydrocortisone but never for long term use w/o talking with Derm (causes skin thinning)

2. If teenagers or adults, acute exacerbations can be treated with systemic glucocorticoids:

Prenisone 40 mg x 4 days, then 20-30 mg x 3 days, then off

3. Second Line: Topical calcineurin inhibitors

- Doses: Tacrolimus .01% for adults, 0.03% for kids; apply to skin twice daily
- Benefits: don't cause atrophy like steroids & can be used on face, skin folds, and kids over the age of 2
- Risks: possible link to cancers (lymphoma/leukemia/skin cancer). FDA suggests only use as 2nd line therapy, only for short periods of time, avoid in immune-compromised patients
- do NOT confuse Triamcinolone/kenalog (steroid frequently called "Tac" by MDs) with Tacrolimus (calcineurin inhibitor)!**

Knowing when to refer:

- If you are concerned for an immune deficiency
- Before systemic immunosuppressive agents are considered
- Before treating severe eczema on the face/skin folds
- If it has not responded to the appropriate treatment
- Anytime you are not certain of the diagnosis

If the patient asks about other treatment options:

- Phototherapy is expensive, may increase risk of melanoma, but may be effective
- Oral cyclosporines: effective in short doses for kids or in severe attacks; but must monitor creatinine and BP frequently
- Immunotherapy (sensitizing patient to dust mite extract: unclear benefit
- Probiotics: limited benefit
- Dietary Supplements (fish oil, vitamins): no clear benefit
- Chinese herbs: small studies, unclear benefit

Excellent Sources:

"Atopic Dermatitis: An Overview." Berke R, Singh A, Guralnick M . AAFP
July 1 2012 Vol. 86 No. 1. Also available online on AAFP website.

- please see summary of treatment recommendations from this article below

Atopic Dermatitis Treatment Summary

Emollients

Recommend regular and liberal use of emollients on a daily basis and other xerosis-reducing behaviors (e.g., taking low-heat showers, using emollient washes)

Topical corticosteroids (first-line prescription management)

When indicated: emollient use alone is not adequate to control symptoms

Application: once or twice daily

Vehicles: ointments, creams, lotions, solutions, tape, etc.

Potencies: ranges from group I (most potent) to group VII (least potent); potency choice should be based on disease severity

Adverse effects: atrophy, striae, telangiectasia, corticosteroid acne; potential risk of adrenal suppression and growth retardation with longer-term use of high-potency topical corticosteroids in children

Main advantages: effective, cost-effective (most are available in generic form)

Main disadvantage: risk of atrophy

Other: consider longer treatment or occlusive therapy for lichenified plaques; consider maintenance dose (e.g., twice weekly) for persons with recurrent atopic dermatitis

Topical calcineurin inhibitors (second-line prescription management)

When indicated: short-term or intermittent long-term use in persons with moderate to severe atopic dermatitis, especially when there is concern that ongoing use of conventional topical

corticosteroids will lead to atrophy or other complications

Application: Twice daily

Vehicles: pimecrolimus (Elidel) cream and tacrolimus (Protopic) ointment

Potencies:

Pimecrolimus 1% cream (indicated for persons two years and older)

Tacrolimus 0.1% ointment (indicated for use in adults only)

Tacrolimus 0.03% ointment (indicated for persons two years and older)

Adverse effects: transient skin burning and irritation; FDA boxed warning about the potential risks of skin malignancies and lymphoma, but studies have not demonstrated these risks

Main advantage: no risk of atrophy

Main disadvantages: expensive, FDA boxed warning

Other:

Tacrolimus 0.1% ointment is considered at least as effective as a potent topical corticosteroid

Pimecrolimus is considered weaker than moderate or potent topical corticosteroids, but has not been compared with mild agents

Pimecrolimus may be preferred in some patients because of its cream formulation

Antibiotics

When indicated: clear evidence of a secondary infection

Choice of antibiotics: agents with good coverage of *Staphylococcus* and *Streptococcus* species

Other: antibiotics have not proven to be effective for improving atopic dermatitis by reducing staphylococcal colonization

UV phototherapy and systemic immunomodulator therapies (e.g., cyclosporine (Sandimmune), interferon gamma-1b)

When indicated: atopic dermatitis refractory to treatment with topical agents or severe widespread atopic dermatitis

Other: UV phototherapy and systemic therapies require supervision and treatment by a dermatologist
