

Definition, etiopathogenesis, clinical manifestations, nonpharmacological and pharmacological management of the diseases associated with Dermatology

Psoriasis

Definition:

- Psoriasis is a chronic, immune-mediated skin disorder characterized by hyperproliferation of keratinocytes, leading to thick, scaly plaques on the skin, often with systemic involvement.

Etiopathogenesis:

Immune Mechanism:

- Activation of **T-cells** (especially Th17) and cytokines (IL-17, IL-23, TNF- α)
- Accelerated epidermal turnover $\rightarrow$ buildup of immature skin cells
- Environmental triggers: trauma, infection (e.g., streptococcal pharyngitis), stress, smoking, alcohol, drugs (lithium, beta-blockers)

Genetic factors:

- HLA-Cw6 gene association
- Positive family history

Clinical Manifestations:

Types of Psoriasis:

1. **Plaque psoriasis (chronic):** Most common; well-demarcated, erythematous plaques with **silvery-white scales**, typically on elbows, knees, scalp, lower back
2. **Guttate psoriasis:** Small drop-like lesions, often post-streptococcal infection
3. **Inverse psoriasis:** In body folds, less scaly
4. **Pustular psoriasis:** Sterile pustules
5. **Erythrodermic psoriasis:** Generalized redness and scaling; life-threatening

Nail involvement:

- Pitting, onycholysis, subungual hyperkeratosis

Psoriatic arthritis:

- Occurs in up to 30% of patients
- Asymmetrical oligoarthritis, DIP involvement, dactylitis, sacroiliitis

Non-Pharmacological Management:

- Avoid triggers (stress, alcohol, trauma)
- Moisturizers/emollients
- Sunlight exposure (UVB beneficial)
- Smoking cessation
- Dietary support (especially in obese patients)
- Psychological support (due to impact on quality of life)

Pharmacological Management:

1. Topical therapy (for mild to moderate cases):

- Corticosteroids (e.g., betamethasone)
- Vitamin D analogs (e.g., calcipotriol)
- Coal tar preparations
- Salicylic acid for scale removal
- Topical calcineurin inhibitors (for sensitive areas)

2. Phototherapy:

- UVB or PUVA (psoralen + UVA) therapy

3. Systemic agents (for moderate to severe psoriasis):

- **Methotrexate** – first-line systemic agent
- Cyclosporine
- Acitretin (retinoid)

4. Biologics (for severe or refractory cases):

- **TNF inhibitors:** Etanercept, Adalimumab
- **IL-17 inhibitors:** Secukinumab
- **IL-12/23 inhibitors:** Ustekinumab
- Require screening for infections (especially TB) before starting

Scabies

Definition:

- Scabies is a contagious parasitic skin infestation caused by the mite *Sarcoptes scabiei*, which burrows into the skin, leading to intense itching and rash.

Etiopathogenesis:

- Transmission through prolonged skin-to-skin contact or contaminated clothing/bedding
- Female mite lays eggs in burrows within the stratum corneum
- Hypersensitivity to mite proteins and feces → intense pruritus

Incubation period:

- 2–6 weeks (first infestation), shorter if re-exposed

Clinical Manifestations:

- **Severe itching**, especially at night
- **Burrows** (thin, wavy, grayish lines) in interdigital spaces, wrists, axillae, waist, buttocks
- Papules, vesicles, excoriations
- **Crusted scabies** (Norwegian scabies) in immunocompromised – thick crusts, highly infectious

In infants and young children:

- Face, scalp, palms, soles may be involved

Non-Pharmacological Management:

- Wash all clothes, bedding, towels in hot water
- Iron clothes or keep unused for 3–4 days
- Avoid close physical contact until treatment is complete
- Treat **all close contacts simultaneously**, even if asymptomatic

Pharmacological Management:

Topical scabicides:

- **Permethrin 5% cream** – drug of choice
 - Apply from neck to toes (include scalp in infants), leave overnight
 - Repeat after 7 days
- **Benzyl benzoate, sulfur ointment** (alternative in infants and pregnant women)

Oral treatment:

- **Ivermectin** – single oral dose (200 mcg/kg), repeat after 1–2 weeks
 - Used for crusted scabies or mass treatment in outbreaks

Symptomatic treatment:

- Antihistamines for itching
- Topical corticosteroids for residual dermatitis

Eczema (Atopic Dermatitis)

Definition:

- Eczema, also known as atopic dermatitis, is a chronic, relapsing inflammatory skin disorder characterized by itchy, red, dry, and scaly patches of skin.
- It typically begins in childhood and is associated with atopy (asthma, allergic rhinitis, food allergies).

Etiopathogenesis:

- **Genetic predisposition:** Strong familial component, especially if parents have atopic diseases.
- **Skin barrier dysfunction:** Mutation in filaggrin gene impairs the skin's ability to retain moisture and protect against allergens/microbes.
- **Immune dysregulation:** Overactive Th2-type immune response, increased IgE.
- **Environmental triggers:** Allergens (dust mites, pollen), irritants (soaps, detergents), climate (dry air), infections, stress.

Clinical Manifestations:

Classic features:

- Intense pruritus (itching)
- Erythema, dryness, and scaling
- Lichenification (thickened skin from chronic scratching)
- Excoriations, fissures, and secondary infection (e.g., *Staph. aureus*)

Distribution by age:

- **Infants:** Face, scalp, extensor surfaces
- **Children/adults:** Flexural areas (elbows, knees, neck, wrists)

Complications:

- Eczema herpeticum (HSV infection)
- Secondary bacterial infections
- Sleep disturbances due to itching



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