D.PHARM • SECOND YEAR

Pharmacotherapeutics

CHAPTER 2.9

Dermatology



ENGLISH CHAPTER NOTES

DIPLOMA IN PHARMACY

PSORIASIS

DEFINITION

A chronic immune-mediated skin disease with excessive keratinocyte proliferation, forming thick, scaly plaques. It may also have systemic effects. Keratinocytes are the main cells of the epidermis.

IMMUNE MECHANISM

- T cells, especially Th17 cells, drive inflammation.
- Important cytokines: IL-17, IL-23 and TNF-α.
- Epidermal turnover becomes faster than normal.
- Immature cells build up at the surface, producing scales and thick plaques.

TRIGGERS

- Skin trauma.
- Infections, especially streptococcal pharyngitis.
- Psychological stress.
- Smoking and alcohol.
- Drugs, including lithium and β-blockers.

GENETIC SUSCEPTIBILITY

Family history increases risk.
HLA-Cw6 is an important genetic association.

MECHANISM SEQUENCE

Immune activation → Inflammatory cytokines → Rapid epidermal turnover → Scaly plaques

PSORIASIS

CLINICAL TYPES

Plaque psoriasis: most common; well-defined red plaques with silvery-white scales. Common on elbows, knees, scalp and lower back.

Guttate psoriasis: small drop-like lesions, often after streptococcal infection.

Inverse psoriasis: affects skin folds; usually less scaling.

Pustular psoriasis: sterile pustules; generalized disease can be severe.

Erythrodermic psoriasis: widespread redness and scaling; potentially life-threatening and needs urgent specialist care.

NAIL CHANGES

- **Pitting:** small depressions in the nail.
- **Onycholysis:** nail separates from the nail bed.
- **Subungual hyperkeratosis:** thickened material under the nail.

PSORIATIC ARTHRITIS

Occurs in **up to 30%** of people with psoriasis.

Possible patterns include:

- Asymmetric oligoarthritis: a few joints affected.
- Distal interphalangeal (DIP) joint disease.
- Dactylitis: swelling of an entire finger or toe.
- Sacroillitis: inflammation of sacroiliac joints.

PSORIASIS

SUPPORTIVE CARE

- Avoid skin trauma and personal triggers; manage stress.
- Stop smoking; limit alcohol.
- Regular emollients; healthy diet and weight reduction if overweight.
- Psychological support when needed.

PHOTOTHERAPY

Supervised UVB or PUVA (psoralen + UVA). Do not substitute uncontrolled sun exposure or sunburn.

TOPICAL TREATMENT

For mild-to-moderate disease:

- Corticosteroids, e.g. betamethasone.
- Vitamin D analogue: calcipotriol.
- Coal tar.
- Salicylic acid to reduce scales.
- Calcineurin inhibitors for selected sensitive sites; use is off-label for psoriasis.

SYSTEMIC TREATMENT

Specialist options for moderate-to-severe disease:

- Methotrexate: usual conventional first-line option.
- Cyclosporine.
- Acitretin: an oral retinoid.

BIOLOGICS

For suitable severe or inadequately controlled disease:

- TNF inhibitors: etanercept, adalimumab.
- IL-17 inhibitor: secukinumab.
- IL-12/23 inhibitor: ustekinumab.

SAFETY Methotrexate: **once weekly, NOT daily**; avoid in pregnancy. Acitretin is highly teratogenic: avoid pregnancy during treatment and for **3 years** after stopping. Monitor systemic therapy; screen for TB and relevant infections before biologics.

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