

Skin Pharmacology

General Principles

- Administration Routes
 - Transdermal (Systemic)
 - Topical (Local)

Adverse Effects

- Stinging and Burning → Alcohol preparation
- Pruritus and Erythema → Allergic Reaction
- Allergic Contact Dermatitis → Sensitization
- Skin Staining
- Skin Thinning (Atrophy) → Superficial erosion

Topical Antibacterial Agents (Antibiotics)

Gram-Positive Coverage

- used only on Bacitracin
- Combination (neomycin + polymyxin B + Bacitracin)
- add anti-inflammatory agents (hydrocortisone)

- Bacitracin
 - Staph, strept, pneumococci, streptococci, tetracocci, diptheria
 - MOA: Cell wall synthesis inhibitor
 - SE: Allergic Contact Dermatitis, Allergic Urticaria
 - Systemic toxicity (rarely absorbed through skin) is rare
- Gramicidin
 - Crusted scapular (Staph, strept, pneumococci)
 - Caution: avoid use on face
- Fusidic Acid
 - MOA: Protein synthesis inhibitor
 - Staph, strept, Corynebacterium
 - Combinations: Fusidin vs Fucidert
 - Caution: avoid use on face

Gram-Negative Coverage

- Proteus & Serratia are resistant
- Staph, P. aeruginosa, Enterobacter, Klebsiella

- Polymyxin B Sulfate
 - ability to be absorbed (in lower skin layers) is rare
 - Toxicity: Neurotoxicity and Nephrotoxicity
 - Max Daily Dose: 200 mg
- Neomycin & Gentamicin
 - Class: Aminoglycosides
 - Warning: Systemic toxicity in renal failure
 - Allergic dermatitis

Hair Growth Modifiers

Trichogenic (Stimulants)

- Androgenic alopecia (female hair baldness)
- Androgenetic alopecia → baldness? female hair?

- Minoxidil
 - MOA: Potassium channel opener
 - Effect: Vasodilation
 - side effect: hypotension
- Finasteride
 - MOA: 5-alpha reductase inhibitor
 - SE: Decreased libido, ejaculation disorders, erectile dysfunction
- Anti-trichogenic
 - Eflornithine
 - MOA: Ornithine decarboxylase inhibitor
 - Use: Unwanted facial hair

Acne Treatment

Acne Vulgaris

Pathophysiology

- Excess Sebum (oil)
- Clogged Follicles → big oil & dead skin
- C. acnes Infection (Propionibacterium, C. cutibacterium)
- Inflammation
- Incremental imbalances

Lesion Types

- Comedonal (Blackheads-Whiteheads) → small pimples // we use face wash
- Inflammatory (Pimples) → we use drugs targeting inflammatory response
- Nodulocystic (Deep nodules) → makes with pus
- Scarring (Permanent)

Topical Retinoids

- used to treat comedonal acne
- will reduce inflammatory acne

- MOA: Vitamin A derivatives (Exfoliants)
- Contraindication: Pregnancy
- SE: Photosensitivity and Pustular flare

Other Agents

- Azelaic acid
- Salicylic acid

- Cream (sensitive, dry skin)
- lotion (any skin type)
- gel (oily skin)
- Solution (oily skin)

(Topical Therapy)

(Adapalene, Differin)

* First apply small amount to test allergy

avoid use on face

