COMMONWEALTH OF AUSTRALIA

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Common Dermatological Conditions

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Learning objectives: Describe the common features of

• Eczema variants and psoriasis
• Acne and rosacea
• Scabies
• Understand the principles of investigation and treatment for common dermatological problems
Case: A 22 year old student presents with 3 months of worsening rash. Not responding to 1% hydrocortisone cream.
Erythematous, ill defined, scaly, patches in flexures
Diagnosis: Atopic eczema
Atopic Eczema

- Genetic predisposition (Family history)
- Atopic triad
  - Asthma
  - Hayfever
  - Eczema

Clinical features
- Itchy ++
- Erythematous
- Diffuse
- Flexural- thinnest skin
- Worse in winter (dry)
- Worse in summer (heat)
Atopic Eczema Model

Genetic Predisposition
-Filaggrin mutation-
Leads to reduced barrier function

Environmental Triggers
• Irritants (soaps etc)
• Allergy
• Heat
• Infection (Staph.)
• “Itch-scratch cycle”
• Stress and anxiety

1. Palmer et al Nat. Genet. 38,441-6
Atopic eczema in an infant
3 year old girl, eczema since infancy
35 year old man with longstanding eczema mainly of the flexures.
Lichenification:
The result of chronic rubbing and scratching
Eczema Variants
Discoid Eczema

- Eczema in annular disc like patches
- Mimics psoriasis and tinea
- Responds to potent topical steroids
Asteatotic Eczema

- Worse on front of legs of elderly patients
- Seasonal: Winter itch (heating and drying)
- Improves with topical steroid ointment and emollients
Pompholyx: Vesicular Hand (and foot) Eczema

- Can be precipitated by excessive washing and sweating
- Treat with potent topical steroid
- Avoidance of detergents and soaps and irritants
- Regular emollients
Diffuse erythrodermic eczema

- Severe eczema (>90% BSA) with significant morbidity
- Treatment is with intense topicals and systemic immunosuppression
Eczema Complications
Bacterial Superinfection

• Eczematous skin lacks naturally occurring antibacterial peptides
• Often superinfected with *Staphylococcus aureus* producing a "golden crust"
• Successful treatment requires systemic anti-staph antibiotics
Eczema Herpeticum

- Secondary infection by HSV virus
- Sudden onset, worsening of pre-existing eczema with painful vesicles and “punched out” erosions
- Medical emergency, risk of corneal scarring
- Needs assessment by ophthalmologist and systemic antiviral treatment
Contact Dermatitis

• Irritant vs allergic
• Allergic contact dermatitis (ACD) accounts for only a small proportion of eczema
• Suspect from pattern and on history
• Patch testing used to diagnose allergic contact dermatitis
Allergic contact dermatitis: Typical Patterns

- Streaky dermatitis from plant allergy
- “Belt buckle” dermatitis from nickel allergy
- Eyelid dermatitis from allergy to formaldehyde in nail polish
Treatment of atopic eczema

General measures
• Avoid soap (use soap substitute, non detergent)
• Regular emollient (eg sorbolene cream)
• Warm, not hot showers

Specific measures
• Topical steroid to inflamed areas eg potent steroid to body;
• Mild steroid for face, or non steroid anti inflammatory creams (pimecrolimus)
• Treat infection if suspected with systemic antibiotics
Other treatment options for atopic eczema

Wet dressings

Phototherapy with UVB

Systemic immunosuppression:

- Short term with oral prednisolone
- Medium to long term – Azathioprine, Cyclosporin A, Methotrexate, Mycophenolate mofetil
Any questions on eczema?
Case:

- 42 year old man
- 3 year history of worsening rash
- Significant arthritis in back, hips and knees
Case:

- Well demarcated plaques
- Extensor surfaces
- Very erythematous
- Scaly +++
- Diagnosis:
  - Chronic Plaque Psoriasis
Psoriasis: Clinical features

- Genetic predisposition: Family history in 30% of patients
- Age of onset – 20s and 50s (2 peaks)

- Extensor rash
- Symmetrical
- Silvery scale
- Well demarcated
- Can be itchy, but not like eczema
Classical appearance: Psoriasis

- Symmetrical
- Extensor surfaces
- Silvery scale
- Well demarcated
- Erythematous/salmon pink
Psoriasis: Salmon pink, silvery scale
Scalp Psoriasis

• Leads to scalp itch and irritation
• Silvery scale ++
• Responds to topical therapy with LPC, Salicylic acid, topical corticosteroids, calcipotriol.
Psoriasis: Periauricular, auricular involvement
Psoriasis

- Flexural and genital psoriasis is less scaly
- “Glazed” appearance
Palmar-plantar Psoriasis
Nail Psoriasis
Guttate “raindrop” psoriasis may be triggered by streptococcal infections.
Post-streptococcal guttate psoriasis

- Occurs 1-2 weeks after *Streptococcus* URTI/tonsillitis
- Sudden generalised onset of small plaque psoriasis
- Most will clear with treatment but recurs if *Strep.* infection again
- Very responsive to phototherapy
Generalised Pustular Psoriasis: Medical Emergency

- Acute pustular flare of psoriasis is often accompanied by systemic symptoms of fever and chills.
- Leads to loss of barrier function, thermoregulation, protein loss.
- Risk of pre-renal impairment, high output cardiac failure, sepsis.
- Needs hospital admission to stabilize.
Psoriatic Arthritis: Affects 10% of psoriasis patients

• More common if nail psoriasis
• Various types;
  - Oligoarthritis
  - Distal symmetrical polyarthritis
  - Ankylosing Spondylitis
  - Rheumatoid-like
  - Arthritis mutilans
Treatment of Psoriasis: Depends on severity and co-morbidities

- **Topical** – steroids, tars, calcipotriol, dithranol, keratolytics, emollients
- **Phototherapy** – Narrowband UVB treatment, (PUVA)
- **Systemic** – oral acitretin, methotrexate, cyclosporin A, biologic treatments.

Often used in combination.
Any questions on psoriasis?
Acne: Epidemiology

- Disorder of pilosebaceous unit
- Common - Occurs in approx 80% of post-pubertal individuals
- Moderate to severe in 15-20% of cases
- Teenage disease, but can persist into adulthood
Causes of acne

- Starts in adolescence with increasing sebum production
- Strong genetic component
- Can be flared by hormonal factors (menstruation), picking, emotional stress
- Medications: Lithium, anabolic steroids, topical corticosteroids (steroid acne)
- Topical occlusion – “oily” makeup, moisturisers, headwear and hairstyling
4 components of acne

1. Abnormal keratinization of sebaceous duct

2. Colonization with bacteria - *Propionobacterium acnes*

3. Increase in androgen levels leading to increased sebum production

4. Inflammation
Morphology of acne: Non-inflammatory lesions – Open and closed comedones

Key feature:
Open comedone
“Blackhead”
Not dirt! Oxidized sebum

Key feature:
Closed comedones
“Whitehead”
Mild-moderate Inflammatory lesions of acne:

Papules and pustules
Nodular cystic acne
Scarring present

Nodules
Cysts
Pustules
Scarring

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Severe cystic acne – Acne conglobata
Adult onset acne in female: Hormonal acne

- Premenstrual flare
- Mainly on lower face
- Treatment: Anti-androgenic OCP +/- anti-androgen
- If associated with other signs of androgenisation – eg hirsutism, androgenetic alopecia, consider polycystic ovarian syndrome (PCOS)
Acne Scars: Some Facts

• Colour change may be transient but textural change is permanent
• Prevention of scarring by treating acne is the main strategy
• It is important to settle inflammatory acne before treating scars
# Treatments and actions: Topicals

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<tr>
<th>Type of treatment</th>
<th>Specifics</th>
<th>Actions</th>
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<tbody>
<tr>
<td>Keratolytics</td>
<td>• Salicylic acids</td>
<td>Dissolve comedones</td>
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<tr>
<td>Comedolytic</td>
<td>• Retinoic acid</td>
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<td>• Adapalene</td>
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<td>Anti-bacterial treatments</td>
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<td>Antibacterial</td>
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<td>• Topical erythromycin</td>
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<td>• Topical clindamycin</td>
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<td>Combination treatments</td>
<td>• Adapalene and benzoyl peroxide</td>
<td>Comedolytic and antibacterial</td>
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# Systemic treatment for acne

<table>
<thead>
<tr>
<th>Type of treatment</th>
<th>Specifics</th>
<th>Mode of action / problems</th>
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| **Systemic antibiotics**  | • Doxycycline 50mg.day  
• Minoxycline 50mg.bd  
• Erythromycin 400mg.bd  
• Others: eg Trimethoprim 300mg.day | 1. Active vs P.acnes  
2. Useful vs pustular acne  
3. Resistance can develop  
4. Acne recurs on cessation |
| **Anti-androgenic OCP** (female patients only) | Anti-androgenic OCP:  
• Ethinyl estradiol + cyproterone acetate  
• Ethinyl estradiol + drospirenone | 1. Anti-androgenic  
2. Reduces sebum secretion  
3. Useful vs hormonal acne |
| **Anti-androgens** (female patients only) | • Spironolactone  
• Cyproterone acetate | 1. Anti-androgenic – reduces sebum secretion  
2. Very helpful vs hormonal acne  
3. Menstrual irregularities |
| **Systemic retinoids**    | • Isotretinoin | 1. Comedolytic  
2. Reduces sebaceous gland activity |
Systemic isotretinoin

- Specialist use only
- Potent systemic retinoid for treatment of severe acne
- 6-12 months treatment course
- Teratogenic ++
- Significant mucocutaneous side effects – dryness, photosensitivity – monitoring required

- 60-70% cured after first course
- Controversial association with depression
Any questions on acne?
Rosacea - Epidemiology

- Common skin disease – 1-2% of population
- Affects women more than men (3:1)
- Affects middle aged > young individuals
- Sun-damaged, Celtic skin more affected
- Men can get tissue hyperplasia as a complication- rhinophyma
2 components to rosacea – both can occur at the same time or in isolation

• Vascular reactivity – redness, flushing.
• Inflammatory rosacea – papules, pustules.
Erythrotelangiectatic (Vascular) Rosacea: Easy flushing, background telangiectasia
Rosacea – Triggers of Vascular reactivity

- Sunlight
- Alcohol
- Hot foods and drinks
- Spicy foods
- Emotion
- Heat
- Topical steroids may worsen rosacea
Inflammatory rosacea: inflammatory papules and pustules
Long term complications of rosacea

Vascular dilatation – redness, telangiectasia

Tissue hypertrophy – Rhinophyma
Ocular Rosacea

- Occurs in 20-40% of patients with cutaneous rosacea
- Symptoms: Grittiness, stinging, dryness, itching
- Mild: Watery, bloodshot appearance with interpupillary conjunctival hyperaemia
Rosacea - Management

General – Avoid triggers
• Sun-avoidance – SPF 30+ sunblocks daily
• Avoiding spicy foods, alcohol
• Avoid topical steroids
• Skin care advice – use mild cleansers and bland, non-perfumed moisturisers
• Stress management

Specific treatment
Vascular rosacea
- Vascular laser
Inflammatory rosacea
- Topical metronidazole gel
- Topical azaleic acid
- Systemic antibiotics – eg doxycycline or minocycline
- Systemic isotretinoin
Rhinophyma
- Ablative laser or surgery
Any questions on rosacea?
Case: 55 yr old patient presented with a 2 month history of an intensely itchy rash
Clinical features of scabies

• Intensely itchy rash, often starting on hands, interdigital spaces and feet
• Itch is worse at night
• Spreads to genital areas, generalised body rash

• Spares face and head in adults
• Other close contacts develop itch after a few weeks (incubation period 4-6 weeks)
The rash of scabies

- Scabies burrows – Serpiginous scaly lines, inflammatory scaly papules on hands, feet, interdigital areas, genitals – These are where mites live

- Non-specific eczematous rash – This is a secondary hypersensitivity reaction and occurs later
Confirm the diagnosis with skin scraping of burrow and examination under light microscopy

- Egg
- Scabies mite
- Faeces

Note: Demonstration of mite takes skill, usually treatment is recommended on suspicion of scabies
Treatment of Scabies: General Aspects

• Treat all close contacts – sexual contacts and household at the same time
• Index case is usually retreated again after one week
• Post-scabetic itch can take weeks to settle
Treatment of Scabies: Topical

- 5% permethrin cream 1st line treatment for scabies
- Apply cream all over from neck down – esp hands, genitalia and under nails with naibrush (care with handwashing)
- Infants (>6 months) and children need to treat scalp as well
- Leave on overnight (8hrs)
- Wash off in morning, treat clothing with hot wash and tumble dry (>55c)
Treatment of Scabies: Topical

- Index case and all symptomatic cases are retreated in 1 week
- Cure rate for permethrin – >90% if applied properly
Treatment of Scabies: Eczema

• After scabicide treatment, eczema needs to be treated
• Recommend potent topical steroid with emollients with oral antihistamines
• Treat secondary infection if present with antibiotics
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- Scabies
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Further reading:
Fitzpatrick Atlas and Synopsis of Dermatology
www.Dermnetnz.org

• Seborrhoeic dermatitis
• Pityriasis rosea
• Pityriasis versicolor
• Perioral dermatitis
• Vitiligo
• Lichen planus
• Lupus erythematosus
• Cutaneous Vasculitis
• Alopecia areata

• Erythema multiforme
• Stevens-Johnson Syndrome
• Urticaria
• Granuloma annulare
• Bullous pemphigoid
• Pemphigus vulgaris
• Pyoderma gangrenosum
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