Psoriasis Overview and Emerging Therapies

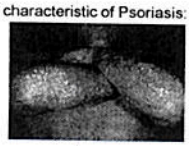
Psoriasis – making the diagnosis

Important characteristics:

- Often symmetrical distribution
- Well defined lesions with a characteristic silvery scale
- Extensor surfaces typically affected
- Loss of scale in body folds

Psoriasis Overview

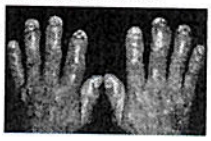
- Psoriasis is an autoimmune condition resulting from chronic activation of the immune system
- Activation of the immune system results in an excess of keratinocytes that mature at a rapid rate
- Usually the skin takes approx. 28 days to renew itself, in patients with psoriasis it only takes ~3-4 days.
- This causes the signs and symptoms characteristic of Psoriasis:
  - Redness
  - Thickened skin
  - Scaling



Menter A et al. JAAD 2008;58:826-50; Pictures on-line at google images

Psoriasis Overview

- Occurs most commonly in late teens or early 50's
- Most common type of psoriasis is plaque psoriasis[1]
- Prevalence in Australia is 1-3%[2]
- Possible genetic association – family history[1]
- Up to 30% of patients with Psoriasis can develop Psoriatic Arthritis (PsA)[3]
- In 75% of cases, psoriasis precedes the joint disease in PsA[4]



1. Menter A et al. JAAD 2008;58:826-50. 2. Raychaudhuri et al., JEADV 2001; 15:20-23, 3. Gottlieb A et al. JAAD 2008;58:851-64; 4. www.australiandoctor.com.au 19-02-2010; Pictures on-line at google images

Psoriasis is a hereditary disease

- A predisposing genotype for psoriasis can be inherited
- One-third of patients with psoriasis report relatives with disease
- Inheritance is polygenic and psoriasis is a multifactorial disease

Psoriasis
the commonest autoimmune condition to affect humans

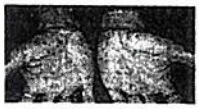
- Previously psoriasis was thought to be due to an abnormal response to injury
- Evidence now that *psoriasis is a T- cell mediated autoimmune disorder*

Psoriasis - triggers & aggravating factors

- Infection
  - Streptococcal
  - HIV
- Drugs
  - Lithium
  - B-blockers
  - Antimalarials
  - Interferon
  - ACE inhibitors
  - Corticosteroid withdrawal
- Physical injury
- (Koebner phenomenon)
- Stress
- Excessive alcohol

Types of psoriasis

Morphology	Specific Sites
• Plaque	• Scalp
• Guttate	• Palmo-plantar
• Erythrodermic	• Nail
• Pustular	• Flexural
• Flexural	• Genital



Nail psoriasis

- Onycholysis
- Pitting
- "Oil drop" spots
- Subungal hyperkeratosis
- Thickening & dystrophic nail plate
- Periungal psoriasis

Psoriasis Co-morbidities

- PsA
- obesity
- hypertension
- diabetes
- hyperlipidemia
- metabolic syndrome
- cardiovascular disease
- Crohn's disease
- lymphoma
- multiple sclerosis
- increased mortality

} immunopathogenic

- smoking
- alcoholism
- anxiety
- depression

} psychosocial

Guenther L & Gulliver W. J Cutaneous Med Surg 2009;13(Suppl2):S77-87.

How to assess psoriasis

- Body Surface Area
- PASI score
  - A scoring system based on erythema, scale, thickness and area
  - Possible scores 0 to 70
  - Used by PBS for access to biologic therapies
  - PASI > 15 severe psoriasis
- Quality of Life (DLQI)*
  - A validate research tool of ten questions
  - Possible score 0 to 30
  - DLQI > 5 indicate significant life impact

*Prof Andrew Finlay, Wales College of Medicine, Cardiff University,United Kingdom

Psoriasis Treatments

Four Major Types of Treatment

- Topical therapies
- Phototherapy
- Systemic therapies
- Biologic therapies

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Topical Therapies

- Corticosteroids
- Vitamin D analogues
- Retinoids
- Coal tar
- Dithranol

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Phototherapy

- UVB
  - Narrowband ultraviolet B radiation
- PUVA (photochemotherapy)
  - Ultraviolet A combined with light-sensitising drug psoralen

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Systemic immunosuppressive therapies

- Methotrexate
- Acitretin
- Cyclosporin

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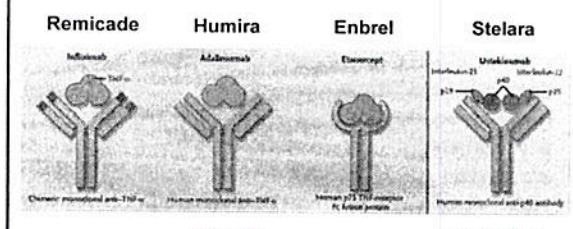
Biological agents



Nestle et al., 2009, NEJM, 361; 5, pg 505 (permission to use this image granted by NEJM)

Biological Agents in Psoriasis

Agent	Dose	t 1/2	PASI 75	Experience*	Indications
Adalimumab	40 mg fortnightly	10-20 days	71 % (week 16)	9 years	Ps, RA, AS, PsA, JIA CD
Etanercept	25 mg Biweekly or 50mg weekly	3.3 days	55 % (week 24)	13 years	Ps, RA, AS, PsA, JIA
Infliximab	5 mg 8 weekly	8 - 9.5 days	80 % (week 10)	13 years	Ps, RA, AS, PsA, CD, UC, FCD, PCD
Ustekinumab	45 mg 12 weekly, 90 mg in patients > 100kg	15-32 days	67 % (45mg) 66% (90mg) (week 12)	3 years	Ps

*Experience based on time since product registration including all indications
Based on data from REVEAL, Papp et al., 2005, EXPRESS, PHOENIX I, Etanercept Product Information, v CDS28.0, Infliximab Product Information, v 18, Ustekinumab Product Information, v CCDS060217
Ps = psoriasis, RA = Rheumatoid Arthritis, AS = Ankylosing Spondylitis, PsA = Psoriatic Arthritis, JIA = Juvenile Idiopathic Arthritis, CD = Crohn's Disease, UC = Ulcerative Colitis, FCD = Fistulising Crohn's Disease, PCD = Paediatric Crohn's Disease

TOPICAL THERAPIES

- **Topical corticosteroids**

Potent/very potent- trunk, limbs, scalp
Mild – face, flexures
Combination with non- steroidal topical therapies
<100 g of moderate/high potency steroids/month

- **Vitamin D3 analogs**

Calcipotriol,Tacalcitol, Calcitriol
100g/week Face and flexures to be avoided

- Coal tar

LPC +SA
Staining of skin and clothing, local skin irritation

- Dithranol

Dithranol in zinc oxide (Lassar's paste)
0.1- 0.6%
Short contact

- Tazarotene

Treatment of other forms of Psoriasis

- **Guttate psoriasis**

Emollients
Topical steroids
Vitamin D3 analogs
NBUVB

- **Chronic palmar- plantar psoriasis**

Potent/very potent steroids +/- occlusion

- **Pustular and Erythrodermic psoriasis**

Potentially life threatening spectrum of diseases
In

SPECIAL SITES

- **Scalp psoriasis**

Formulation – lotions, gels, shampoos
Mild- to – moderate scalp psoriasis
Coal tar shampoos, Ketoconazole
Corticosteroids (potent/very potent)
Calcipotriol +betamethasone dipropionate gel
Severe scalp psoriasis
Thick, adherent scale should be removed gently
15-30% salicylic acid in mineral oil
Tar pomade (LPC 10%+SA 6% in acq cream/sorbolene)

Scalp psoriasis

Salicylic acid 30% in mineral oil left on for 15 mins to loosen the scales.
Patient is then asked to comb out the scales with a wide-toothed comb.
Patient is then to apply a tar pomade cream to be left on for 3 hours
Tar pomade consists of LPC 10% + SA 6% in sorbolene/acq cream.
This is then washed off using a tar based shampoo before going to bed.

Flexural sites, the face and genitalia

- FACE

Mild steroid +/- coal tar solution/antifungal agents
Tacrolimus, pimecrolimus
Methylprednisolone aceponate (Advantan)

- FLEXURAL

Sec infection- bacterial/candidal
Topical steroid **creams**
Tacro/pimecrolimus
Weak antiseptic soaks (Burrows 1:40)

TAR Preparations

6% LPC, 3% Sal Acid in Aqueous cream/ Sorbolene

6% LPC, 3% Sal Acid in WSP

10% LPC, 6% Sal Acid in Aqueous cream/Sorbolene/WSP

1%-2% Crude Coal Tar in Aqueous cream

5% Crude Coal Tar in Aqueous cream

Tar/Dithranol Cream (10% LPC, Dithranol 0.1%, 6% Sal Acid in Sorbolene)

DITHRANOL

- Lower concentrations in long contact regimen

Dithranol 0.1 to 2% with Salicylic acid 2-5% in WSP
Topically to lesions with care once daily

- Higher concentrations in short – contact regimen

Dithranol 0.5 to 2% with Salicylic acid 2-5% in yellow soft paraffin,topically to lesions with care once daily for 30 minutes before washing off.

DITHRANOL

- 0.1%/0.2/0.5/1% Dithranol, 3% Sal Acid Tar in WSP
- 2% Dithranol, 3% Sal Acid Tar in WSP
- 5% Dithranol, 3% Sal Acid Tar in WSP
- 0.5%- 2% Dithranol, in Lassar's Paste

Nail psoriasis

General measures
Treatment of sec infection
Daivobet gel- nail folds
Very potent topical steroids – Clobetasol 0.05%
I/L KA 10mg/ml 1: 1 diluted with Xylocaine- PNF
MTX
Biologic agents

PSORIASIS IN CHILDREN

15% of cases of psoriasis in children <15yrs
Infancy – nappy rash
Flexural+ genital involvement
Guttate psoriasis
Treatment
Topical steroids
Coal tar
Calcipotriol
NBUVB

PREGNANCY

- Topical steroids

Category A
Hydrocortisone
Triamcinolone
Diprosone (betamethasone dipropionate)
Betnovate (betamethasone valerate)

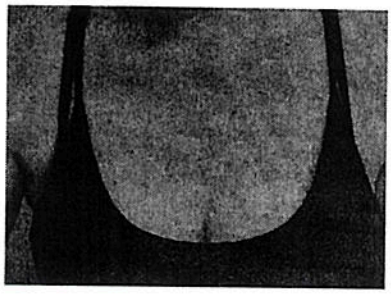
- Phototherapy

NBUVB

Clinical diagnosis

- 19 yo University student
- Widespread non itchy rash trunk limbs for 12 days
- New spots appearing
- Very upset at the appearance and worried she is contagious
- PH tonsillitis 2 weeks ago treated with Augmentin
- Family history – mother bad dandruff, maternal grandfather had a chronic rash but details??

Jenny



Jenny

Clinical diagnosis

- Differential diagnoses
- triggers
- investigations
- Management options
- Prognosis