Dermatitis herpetiformis

Dermatitis herpetiformis is an autoimmune blistering skin disorder associated with coeliac disease. It is caused by deposition of IgA in the dermis.

Features

- itchy, vesicular skin lesions on the extensor surfaces (e.g. elbows, knees buttocks)

Diagnosis

- skin biopsy: direct immunofluorescence shows deposition of IgA in a granular pattern in the upper dermis

Management

- gluten-free diet
- dapsone

Tinea

Tinea is a term given to dermatophyte fungal infections. Three main types of infection are described depending on what part of the body is infected

- tinea capitis - scalp
- tinea corporis - trunk, legs or arms
- tinea pedis - feet

Tinea capitis (scalp ringworm)

- a cause of scarring alopecia mainly seen in children
- if untreated a raised, pustular, spongy/boggy mass called a kerion may form
- most common cause is Trichophyton tonsurans in the UK and the USA
- may also be caused by Microsporum canis acquired from cats or dogs
- diagnosis: lesions due to Microsporum canis green fluorescence under Wood's lamp*. However the most useful investigation is scalp scrapings
- management (based on CKS guidelines): oral antifungals: terbinafine for Trichophyton tonsurans infections and griseofulvin for Microsporum infections. Topical ketoconazole shampoo should be given for the first two weeks to reduce transmission

Tinea corporis

- causes include Trichophyton rubrum and Trichophyton verrucosum (e.g. From contact with cattle)
- well-defined annular, erythematous lesions with pustules and papules
- may be treated with oral fluconazole

Tinea pedis (athlete's foot)

- characterised by itchy, peeling skin between the toes
- common in adolescence

*lesions due to Trichophyton species do not readily fluoresce under Wood's lamp

Basal cell carcinoma

Basal cell carcinoma (BCC) is one of the three main types of skin cancer. Lesions are also known as rodent ulcers and are characterised by slow-growth and local invasion. Metastases are extremely rare. BCC is the most common type of cancer in the Western world.

Features

- many types of BCC are described. The most common type is nodular BCC, which is described here
- sun-exposed sites, especially the head and neck account for the majority of lesions
- initially a pearly, flesh-coloured papule with telangiectasia
- may later ulcerate leaving a central 'crater'

Management options:

- surgical removal
- curettage
- cryotherapy
- topical cream: imiquimod, fluorouracil
- radiotherapy

Pyogenic granuloma

Pyogenic granuloma is a relatively common benign skin lesion. The name is confusing as they are neither true granulomas nor pyogenic in nature. There are multiple alternative names but perhaps 'eruptive haemangioma' is the most useful.

The cause of pyogenic granuloma is not known but a number of factors are linked:

- trauma
- pregnancy
- more common in women and young adults

Features

- most common sites are head/neck, upper trunk and hands. Lesions in the oral mucosa are common in pregnancy
- initially small red/brown spot
- rapidly progress within days to weeks forming raised, red/brown lesions which are often spherical in shape
- the lesions may bleed profusely or ulcerate

Management

- lesions associated with pregnancy often resolve spontaneously post-partum
- other lesions usually persist. Removal methods include curettage and cauterisation, cryotherapy, excision

Malignant melanoma: prognostic factors

The invasion depth of a tumour (Breslow depth) is the single most important factor in determining prognosis of patients with malignant melanoma

Breslow Thickness	**Approximate 5 year survival**
< 1 mm	95-100%
1 - 2 mm	80-96%
2.1 - 4 mm	60-75%
> 4 mm	50%

Eczema in children

Eczema occurs in around 15-20% of children and is becoming more common. It typically presents before 6 months but clears in around 50% of children by 5 years of age and in 75% of children by 10 years of age

Features

- in infants the face and trunk are often affected
- in younger children eczema often occurs on the extensor surfaces
- in older children a more typical distribution is seen, with flexor surfaces affected and the creases of the face and neck

Management

- avoid irritants
- simple emollients: large quantities should be prescribed (e.g. 250g / week), roughly in a ratio of with topical steroids of 10:1. If a topical steroid is also being used the emollient should be applied first followed by waiting at least 30 minutes before applying the topical steroid. Creams soak into the skin faster than ointments. Emollients can become contaminated with bacteria - fingers should not be inserted into pots (many brands have pump dispensers)
- topical steroids
- in severe cases wet wraps and oral ciclosporin may be used

Acne vulgaris: management

Acne vulgaris is a common skin disorder which usually occurs in adolescence. It typically affects the face, neck and upper trunk and is characterised by the obstruction of the pilosebaceous follicles with keratin plugs which results in comedones, inflammation and pustules.

Acne may be classified into mild, moderate or severe:

- mild: open and closed comedones with or without sparse inflammatory lesions
- moderate acne: widespread non-inflammatory lesions and numerous papules and pustules
- severe acne: extensive inflammatory lesions, which may include nodules, pitting, and scarring

A simple step-up management scheme often used in the treatment of acne is as follows:

- single topical therapy (topical retinoids, benzyl peroxide)
- topical combination therapy (topical antibiotic, benzoyl peroxide, topical retinoid)
- oral antibiotics: e.g. Oxytetracycline, doxycycline. Improvement may not be seen for 3-4 months. Minocycline is now considered less appropriate due to the possibility of irreversible pigmentation. Gram negative folliculitis may occur as a complication of long-term antibiotic use - high-dose oral trimethoprim is effective if this occurs
- oral isotretinoin: only under specialist supervision

There is no role for dietary modification in patients with acne

Tuberous sclerosis

Tuberous sclerosis (TS) is a genetic condition of autosomal dominant inheritance. Like neurofibromatosis, the majority of features seen in TS are neuro-cutaneous

Cutaneous features

- depigmented 'ash-leaf' spots which fluoresce under UV light
- roughened patches of skin over lumbar spine (Shagreen patches)
- adenoma sebaceum: butterfly distribution over nose
- fibromata beneath nails (subungual fibromata)
- café-au-lait spots* may be seen

Neurological features

- developmental delay
- epilepsy (infantile spasms or partial)
- intellectual impairment

Also

- retinal hamartomas: dense white areas on retina (phakomata)
- rhabdomyomas of the heart
- gliomatous changes can occur in the brain lesions
- polycystic kidneys, renal angiomyolipomata

*these of course are more commonly associated with neurofibromatosis. However a 1998 study of 106 children with TS found café-au-lait spots in 28% of patients

Herpes simplex virus

There are two strains of the herpes simplex virus (HSV) in humans: HSV-1 and HSV-2. Whilst it was previously thought HSV-1 accounted for oral lesions (cold sores) and HSV-2 for genital herpes it is now known there is considerable overlap

Features

- primary infection: may present with a severe gingivostomatitis
- cold sores
- painful genital ulceration

Management

- gingivostomatitis: oral aciclovir, chlorhexidine mouthwash
- cold sores: topical aciclovir although the evidence base for this is modest
- genital herpes: oral aciclovir. Some patients with frequent exacerbations may benefit from longer term acyclovir

Psoriasis: management

SIGN released guidelines in 2010 on the management of psoriasis and psoriatic arthropathy. Please see the link for more details.

Chronic plaque psoriasis

- regular emollients may help to reduce scale loss and reduce pruritus
- for acute control SIGN recommend: 'Short term intermittent use of a potent topical corticosteroid or a combined potent corticosteroid plus calcipotriol

ointment is recommended to gain rapid improvement in plaque psoriasis.'

- 'For long term topical treatment of plaque psoriasis a vitamin D analogue (e.g. Calcipotriol) is recommended.'
- 'If a vitamin D analogue is ineffective or not tolerated then consider coal tar (solution, cream or lotion), tazarotene gel, or short contact dithranol (30 minute exposure in patients with a small number of relatively large plaques of psoriasis).

Steroids in psoriasis

- topical steroids are commonly used in flexural psoriasis and there is also a role for mild steroids in facial psoriasis. If steroids are ineffective for these conditions vitamin D analogues or tacrolimus ointment should be used second line
- SIGN caution against the long term use of potent or very potent topical steroids due to the risk of side-effects

Scalp psoriasis

- for short term control SIGN recommend either the use of potent topical corticosteroids or a combination of a potent corticosteroid and a vitamin D

analogue

- 'For patients with thick scaling of the scalp, initial treatment with overnight application of salicylic acid, tar preparations, or oil preparations (eg olive oil, coconut oil) to remove thick scale is recommended.

Secondary care management

Phototherapy

- narrow band ultraviolet B light (311-313nm) is now the treatment of choice
- photochemotherapy is also used - psoralen + ultraviolet A light (PUVA)
- adverse effects: skin ageing, squamous cell cancer (not melanoma)

Systemic therapy

- methotrexate: useful if associated joint disease
- ciclosporin
- systemic retinoids
- biological agents: infliximab, etanercept and adalimumab
- ustekinumab (IL-12 and IL-23 blocker) is showing promise in early trials

Mechanism of action of commonly used drugs:

- coal tar: probably inhibit DNA synthesis
- calcipotriol: vitamin D analogue which reduces epidermal proliferation and restores a normal horny layer
- dithranol: inhibits DNA synthesis, wash off after 30 mins, SE: burning, staining

Skin disorders affecting the soles of the feet

The table below gives characteristic exam question features for conditions affecting the soles of the feet

Verrucas	Secondary to the human papilloma virus Firm, hyperkeratotic lesions Pinpoint petechiae centrally within the lesions May coalesce with surrounding warts to form mosaic warts
Tinea pedis	More commonly called Athlete's foot Affected skin is moist, flaky and itchy
Corn and calluses	A corn is small areas of very thick skin secondary to a reactive hyperkeratosis A callus is larger, broader and has a less well defined edge than a corn

Keratoderma	May be acquired or congenital Describes a thickening of the skin of the palms and soles Acquired causes include reactive arthritis (keratoderma blennorrhagica)
Pitted keratolysis	Affects people who sweat excessively Patients may complain of damp and excessively smelly feet Usually caused by Corynebacterium Heel and forefoot may become white with clusters of punched-out pits
Palmoplantar pustulosis	Crops of sterile pustules affecting the palms and soles The skin is thickened, red. Scaly and may crack More common in smokers
Juvenile plantar dermatosis	Affects children. More common in atopic patients with a history of eczema Soles become shiny and hard. Cracks may develop causing pain Worse during the summer

Vitiligo

Vitiligo is an autoimmune condition which results in the loss of melanocytes and consequent depigmentation of the skin. It is thought to affect around 1% of the population and symptoms typically develop by the age of 20-30 years.

Features

- well demarcated patches of depigmented skin
- the peripheries tend to be most affected
- trauma may precipitate new lesions (Koebner phenomenon)

Associated conditions

- type 1 diabetes mellitus
- Addison's disease
- autoimmune thyroid disorders
- pernicious anaemia
- alopecia areata

Management

- sun block for affected areas of skin
- camouflage make-up
- topical corticosteroids may reverse the changes if applied early
- there may also be a role for topical tacrolimus and phototherapy, although caution needs to be exercised with light-skinned patients

Lichen sclerosus

Lichen sclerosus was previously termed lichen sclerosus et atrophicus. It is an inflammatory condition which usually affects the genitalia and is more common in elderly females. Lichen sclerosus leads to atrophy of the epidermis with white plaques forming

Features

- itch is prominent

A biopsy is often performed to exclude other diagnoses

Management

- topical steroids and emollients
- increased risk of vulval cancer

Eczema: topical steroids

Use weakest steroid cream which controls patients symptoms

The table below shows topical steroids by potency

Mild	**Moderate**	**Potent**	**Very potent**
Hydrocortisone 0.5-2.5%	Betamethasone valerate 0.025% (Betnovate RD)	Fluticasone propionate 0.05% (Cutivate)	Clobetasol propionate 0.05% (Dermovate)
	Clobetasone butyrate 0.05% (Eumovate)	Betamethasone valerate 0.1% (Betnovate)	

Finger tip rule

- 1 finger tip unit (FTU) = 0.5 g, sufficient to treat a skin area about twice that of the flat of an adult hand

Erythema nodosum

Overview

- inflammation of subcutaneous fat
- typically causes tender, erythematous, nodular lesions
- usually occurs over shins, may also occur elsewhere (e.g. forearms, thighs)
- usually resolves within 6 weeks
- lesions heal without scarring

Causes

- infection: streptococci, TB, brucellosis
- systemic disease: sarcoidosis, inflammatory bowel disease, Behcet's
- malignancy/lymphoma
- drugs: penicillins, sulphonamides, combined oral contraceptive pill
- pregnancy

Keratoacanthoma

Keratoacanthoma is a benign epithelial tumour. They are more frequent in middle age and do not become more common in old age (unlike basal cell and squamous cell carcinoma)

Features - said to look like a volcano or crater

- initially a smooth dome-shaped papule
- rapidly grows to become a crater centrally-filled with keratin

Spontaneous regression of keratoacanthoma within 3 months is common, often resulting in a scar. Such lesions should however be urgently excised as it is difficult clinically to exclude squamous cell carcinoma. Removal also may prevent scarring

Skin disorders associated with malignancy

Paraneoplastic syndromes associated with internal malignancies:

Skin disorder	**Associated malignancies**
Acanthosis nigricans	Gastric cancer
Acquired ichthyosis	Lymphoma
Acquired hypertrichosis lanuginosa	Gastrointestinal and lung cancer
Dermatomyositis	Ovarian and lung cancer
Erythema gyratum repens	Lung cancer
Erythroderma	Lymphoma
Migratory thrombophlebitis	Pancreatic cancer
Necrolytic migratory erythema	Glucagonoma
Pyoderma gangrenosum (bullous and non-bullous forms)	Myeloproliferative disorders
Sweet's syndrome	Haematological malignancy e.g. Myelodysplasia - tender, purple plaques
Tylosis	Oesophageal cancer