DERMATOLOGY MCQs

Q-1

A 43-year-old man comes for review. A few months ago he developed redness around his nose and cheeks. This is worse after drinking alcohol. He is concerned as one of his work colleagues asked him if he had a drink problem despite him drinking 14 units per week. On examination he has erythema as described above with some pustules on the nose and telangiectasia on the cheeks. What is the most likely diagnosis?

A. Mitral stenosis
B. Seborrhoeic dermatitis
C. Alcohol-related skin changes
D. Acne rosacea
E. Systemic lupus erythematosus

ANSWER:
Acne rosacea

EXPLANATION:
This is a typical history of acne rosacea

ACNE ROSACEA
Acne rosacea is a chronic skin disease of unknown aetiology

Features
- typically affects nose, cheeks and forehead
- flushing is often first symptom
- telangiectasia are common
- later develops into persistent erythema with papules and pustules
- rhinophyma
- ocular involvement: blepharitis

Management
- topical metronidazole may be used for mild symptoms (i.e. Limited number of papules and pustules, no plaques)
- more severe disease is treated with systemic antibiotics e.g. Oxytetracycline
- recommend daily application of a high-factor sunscreen
- camouflage creams may help conceal redness
- laser therapy may be appropriate for patients with prominent telangiectasia

Q-2

A 34-year-old man with a history of polyarthralgia, back pain and diarrhoea is found to have a 3 cm red lesion on his shin which is starting to ulcerate. What is the most likely diagnosis?

A. Systemic Shigella infection
B. Syphilis
C. Metastatic colon cancer
D. Erythema nodosum
E. Pyoderma gangrenosum

ANSWER:
Pyoderma gangrenosum

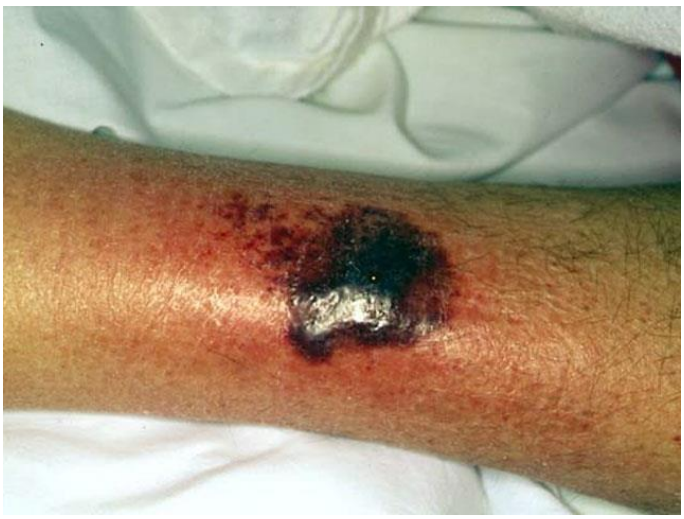
EXPLANATION:
This patient is likely to have ulcerative colitis, which has a known association with large-joint arthritis, sacroilitis and pyoderma gangrenosum

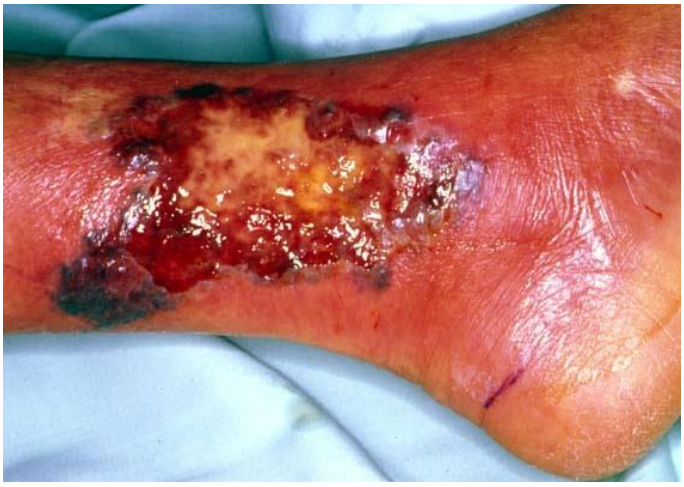
PYODERMA GANGRENOSUM
Features
- typically on the lower limbs
- initially small red papule
- later deep, red, necrotic ulcers with a violaceous border
- may be accompanied systemic symptoms e.g. Fever, myalgia

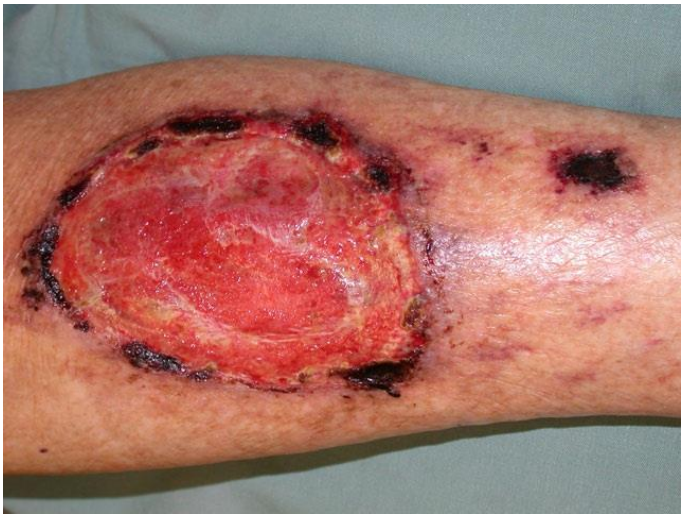
Causes*
- idiopathic in 50%
- inflammatory bowel disease: ulcerative colitis, Crohn's
- rheumatoid arthritis, SLE
- myeloproliferative disorders
- lymphoma, myeloid leukaemias
- monoclonal gammopathy (IgA)
- primary biliary cirrhosis

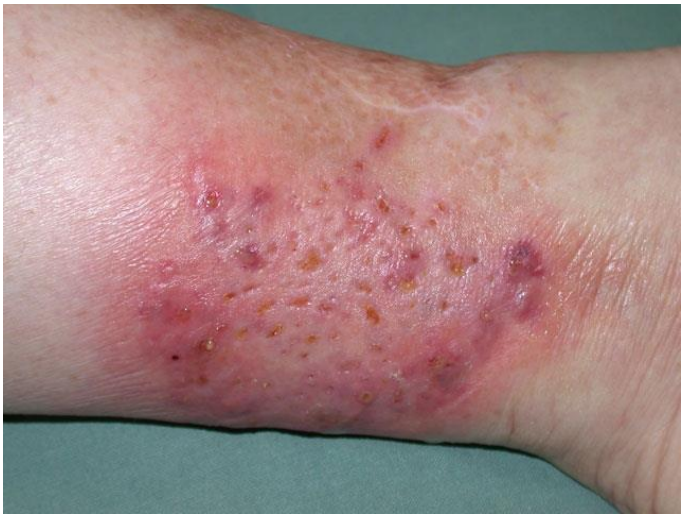
Management
- the potential for rapid progression is high in most patients and most doctors advocate oral steroids as first-line treatment
- other immunosuppressive therapy, for example ciclosporin and infliximab, have a role in difficult cases

*note whilst pyoderma gangrenosum can occur in diabetes mellitus it is rare and is generally not included in a differential of potential causes









Q-3

A 43-year-old presents with itchy lesions on the soles of both feet. These have been present for the past two months. On examination small blisters are seen with surrounding dry and cracked skin. What is the most likely diagnosis?

A. Porphyria cutanea tarda
B. Pustular psoriasis
C. Pompholyx
D. Bullous pemphigoid
E. Pemphigus

ANSWER:
Pompholyx

EXPLANATION:
POMPHOLYX
Pompholyx is a type of eczema which affects both the hands (cheiropompholyx) and the feet (pedopompholyx). It is also known as dyshidrotic eczema

Features
- small blisters on the palms and soles
- pruritic, sometimes burning sensation
- once blisters burst skin may become dry and crack

Management
- cool compresses
- emollients
- topical steroids

Q-4

A 60-year-old man is admitted to hospital with acute pneumonia. He has a past medical history of chronic obstructive pulmonary disease, alcohol excess and hypertension, and has been homeless for the last 12 years. On the post-take ward round, you notice that he has a brown-red discolouration of his face, neck, forearms and lower legs, with scaling and cracking of the skin. He complains that he is struggling to eat and drink and has persistent vomiting and diarrhoea. He seems a little disorientated. Which vitamin deficiency is most likely to be causing these symptoms?

A. B2 (riboflavin)
B. B3 (niacin)
C. B6 (pyridoxine)
D. B1 (thiamine)
E. B12 (cyanocobalamin)

ANSWER:
B3 (niacin)

EXPLANATION:
Deficiency of niacin (B3) causes pellagra
The correct answer is B3- niacin. The patient has some of the symptoms of pellagra, which is classically characterised by the triad of dermatitis, diarrhoea and dementia. The 'dementia' more commonly presents subtly with low mood, irritability, apathy and anxiety, progressing to delusions, psychosis, drowsiness and coma.

PELLAGRA

Pellagra is a caused by nicotinic acid (niacin) deficiency. The classical features are the 3 D's - dermatitis, diarrhoea and dementia

Pellagra may occur as a consequence of isoniazid therapy (isoniazid inhibits the conversion of tryptophan to niacin) and it is more common in alcoholics.

Features

- dermatitis (brown scaly rash on sun-exposed sites - termed Casal's necklace if around neck)
- diarrhoea
- dementia, depression
- death if not treated

Q-5

An 85-year-old lady presents to dermatology clinic complaining of itchy white plaques affecting her vulva. There is no history of vaginal discharge or bleeding. A similar plaque is also seen on her inner thigh. What is the likely diagnosis?

A. Candida
B. Lichen planus
C. Lichen sclerosus
D. Herpes simplex
E. Seborrhoeic dermatitis

ANSWER:

Lichen sclerosus

EXPLANATION:

Lichen

- ***planus: purple, pruritic, papular, polygonal rash on flexor surfaces. Wickham's striae over surface. Oral involvement common***
- ***sclerosus: itchy white spots typically seen on the vulva of elderly women***

The correct answer is lichen sclerosus. Candida may cause pruritus and white plaques but lesions would not also be seen on her inner thigh

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

The diagnosis is usually made on clinical grounds but a biopsy may be performed if atypical features are present*

Management

- topical steroids and emollients

Follow-up:

- increased risk of vulval cancer

*the RCOG advise the following

Skin biopsy is not necessary when a diagnosis can be made on clinical examination. Biopsy is required if the woman fails to respond to treatment or there is clinical suspicion of VIN or cancer.

and the British Association of Dermatologists state the following:

A confirmatory biopsy, although ideal, is not always practical, particularly in children. It is not always essential when the clinical features are typical. However, histological examination is advisable if there are atypical features or diagnostic uncertainty and is mandatory if there is any suspicion of neoplastic
change. Patients under routine follow-up will need a biopsy if:
(i) there is a suspicion of neoplastic change, i.e. a persistent area of hyperkeratosis, erosion or erythema, or new warty or papular lesions;
(ii) the disease fails to respond to adequate treatment;
(iii) there is extragenital LS, with features suggesting an overlap with morphoea;
(iv) there are pigmented areas, in order to exclude an abnormal melanocytic proliferation;
and
(v) second-line therapy is to be used.

Q-6

A 36-year-old woman is reviewed. She presented 4 weeks ago with itchy dry skin on her arms and was diagnosed as having atopic eczema. She was prescribed hydrocortisone 1% cream with an emollient. Unfortunately there has been no improvement in her symptoms. What is the next step in management, alongside continued regular use of an emollient?

A. Betamethasone valerate 0.1%
B. Clobetasone butyrate 0.05%
C. Clobetasol propionate 0.05%
D. Topical tetracycline
E. Regular wet wraps

ANSWER:

Clobetasone butyrate 0.05%

EXPLANATION:

Topical steroids

- ***moderate: Clobetasone butyrate 0.05%***
- ***potent: Betamethasone valerate 0.1%***
- ***very potent: Clobetasol propionate 0.05%***

Clobetasone butyrate 0.05% is a moderately potent topical steroid and would be the most suitable next step in management. It is important to note the potency difference between two very similar sounding steroids - Clobetasone butyrate 0.05% (moderate) and Clobetasol propionate 0.05% (very potent)

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) Clobetasone butyrate 0.05% (Eumovate)	Fluticasone propionate 0.05% (Cutivate) Betamethasone valerate 0.1% (Betnovate)	Clobetasol propionate 0.05% (Dermovate)

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

Topical steroid doses for eczema in adults

Area of skin	Fingertip units per dose
Hand and fingers (front and back)	1.0
A foot (all over)	2.0
Front of chest and abdomen	7.0
Back and buttocks	7.0
Face and neck	2.5
An entire arm and hand	4.0
An entire leg and foot	8.0

The BNF makes recommendation on the quantity of topical steroids that should be prescribed for an adult for a single daily application for 2 weeks:

Area	Amount
Face and neck	15 to 30 g
Both hands	15 to 30 g
Scalp	15 to 30 g
Both arms	30 to 60 g
Both legs	100 g
Trunk	100 g
Groin and genitalia	15 to 30 g

Q-7

A 3-year-old girl is taken to her doctor due to a rash on the right upper arm. On examination multiple raised lesions of about 2 mm in diameter are seen. On close inspection a central dimple is present in the majority of lesions. What is the likely diagnosis?

A. Roseola infantum
B. Molluscum contagiosum
C. Kawasaki disease
D. Viral warts
E. Pityriasis rosea

ANSWER:
Molluscum contagiosum

EXPLANATION:

MOLLUSCUM CONTAGIOSUM

Molluscum contagiosum is a common skin infection caused by molluscum contagiosum virus (MCV), a member of the Poxviridae family. Transmission occurs directly by close personal contact, or indirectly via fomites (contaminated surfaces) such as shared towels and flannels. The majority of cases occur in children (often in children with atopic eczema), with the maximum incidence in preschool children aged 1-4 years.

Typically, molluscum contagiosum presents with characteristic pinkish or pearly white papules with a central umbilication, which are up to 5 mm in diameter. Lesions appear in clusters in areas anywhere on the body (except the palms of the hands and the soles of the feet). In children, lesions are commonly seen on the trunk and in flexures, but anogenital lesions may also occur. In adults, sexual contact may lead to lesions developing on the genitalia, pubis, thighs, and lower abdomen. Rarely, lesions can occur on the oral mucosa and on the eyelids.

Self care advice:

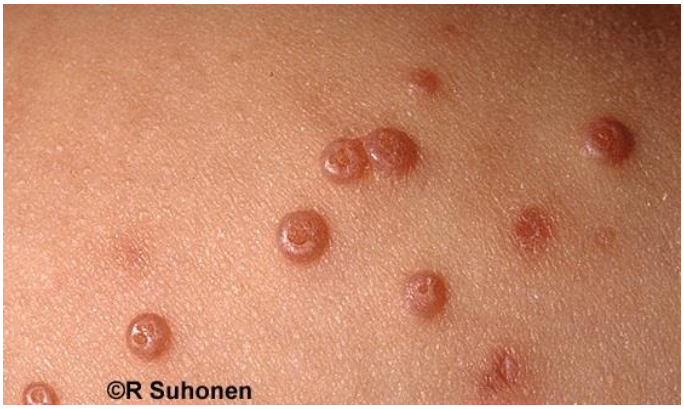
- Reassure people that molluscum contagiosum is a self-limiting condition.
- Spontaneous resolution usually occurs within 18 months
- Explain that lesions are contagious, and it is sensible to avoid sharing towels, clothing, and baths with uninfected people (e.g. siblings)
- Encourage people not to scratch the lesions. If it is problematic, consider treatment to alleviate the itch
- Exclusion from school, gym, or swimming is not necessary

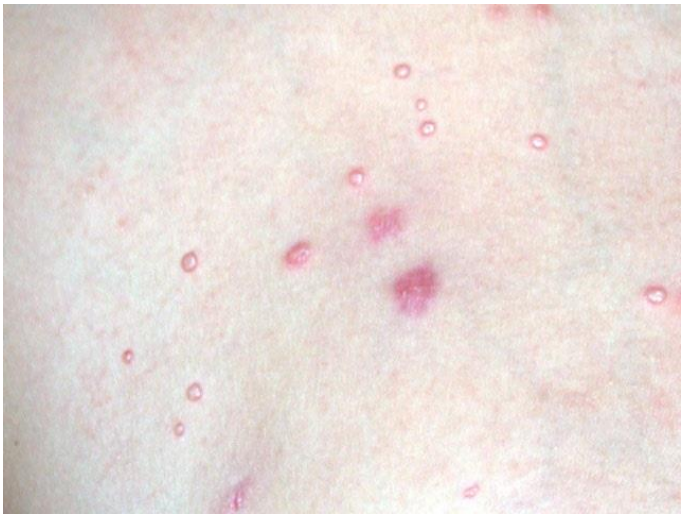
Treatment is not usually recommended. If lesions are troublesome or considered unsightly, use simple trauma or cryotherapy, depending on the parents' wishes and the child's age:

- Squeezing (with fingernails) or piercing (orange stick) lesions may be tried, following a bath. Treatment should be limited to a few lesions at one time
- Cryotherapy may be used in older children or adults, if the healthcare professional is experienced in the procedure
- Eczema or inflammation can develop around lesions prior to resolution. Treatment may be required if:
- → Itching is problematic; prescribe an emollient and a mild topical corticosteroid (e.g. hydrocortisone 1%)
- → The skin looks infected (e.g. oedema, crusting); prescribe a topical antibiotic (e.g. fusidic acid 2%)

Referral may be necessary in some circumstances:

- For people who are HIV-positive with extensive lesions urgent referral to a HIV specialist
- For people with eyelid-margin or ocular lesions and associated red eye urgent referral to an ophthalmologist
- Adults with anogenital lesions should be referred to genito-urinary medicine, for screening for other sexually transmitted infections





Q-8

A 64-year-old woman presents with severe mucosal ulceration associated with the development of blistering lesions over her torso and arms. On examination the blisters are flaccid and easily ruptured when touched. What is the most likely diagnosis?

A. Pemphigus vulgaris
B. Pemphigoid
C. Dermatitis herpetiformis
D. Psoriasis
E. Epidermolysis bullosa

ANSWER:
Pemphigus vulgaris

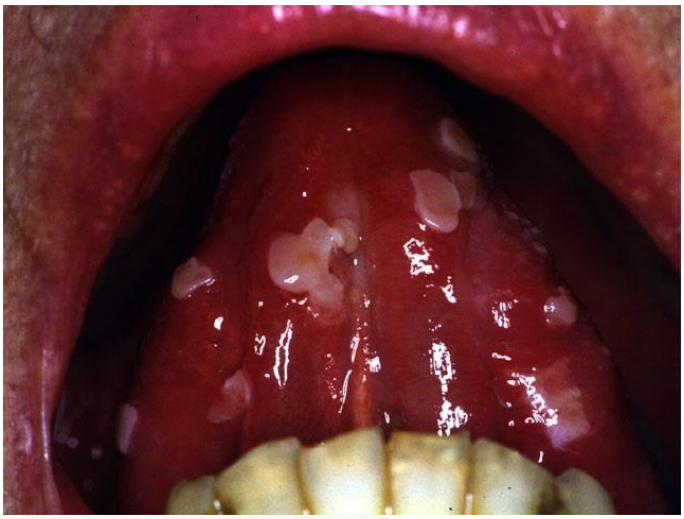
EXPLANATION:
Blisters/bullae

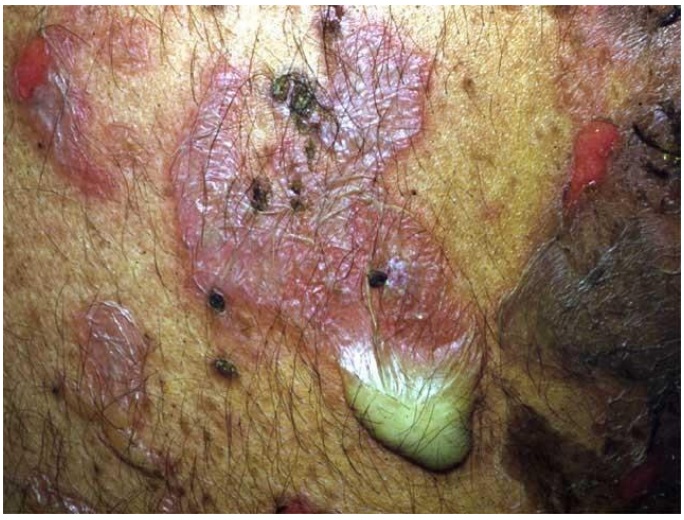
- ***no mucosal involvement: bullous pemphigoid***
- ***mucosal involvement: pemphigus vulgaris***

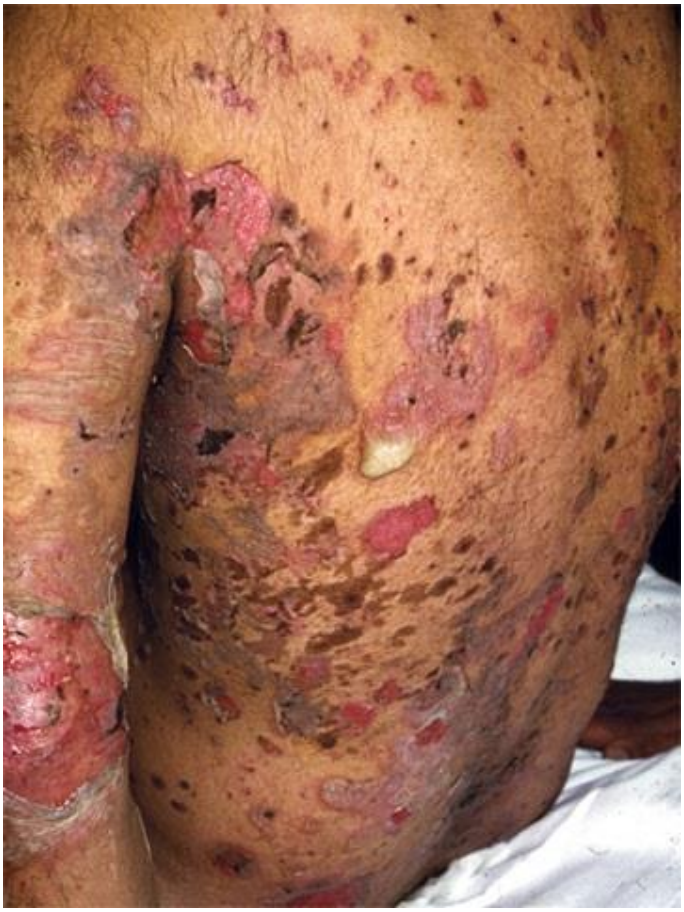
PEMPHIGUS VULGARIS
Pemphigus vulgaris is an autoimmune disease caused by antibodies directed against desmoglein 3, a cadherin-type epithelial cell adhesion molecule. It is more common in the Ashkenazi Jewish population

Features

- mucosal ulceration is common and often the presenting symptom. Oral involvement is seen in 50-70% of patients
- skin blistering - flaccid, easily ruptured vesicles and bullae. Lesions are typically painful but not itchy. These may develop months after the initial mucosal symptoms. Nikolsky's describes the spread of bullae following application of horizontal, tangential pressure to the skin
- acantholysis on biopsy


Mucosal ulceration is common with pemphigus





Management
- steroids
- immunosuppressants

Q-9

A 17-year-old female presents with multiple comedones, pustules and papules on her face. Which one of the following is least likely to improve her condition?

A. Topical retinoids
B. Dietary advice
C. Washing her face using a mild soap with lukewarm water twice a day
D. Oral trimethoprim
E. Ethinylestradiol with cyproterone acetate

ANSWER:
Dietary advice

EXPLANATION:
There is no role for dietary modification in patients with acne vulgaris. Ethinylestradiol with cyproterone acetate (Dianette) is useful in some female patients with acne unresponsive to standard treatment. Oral trimethoprim is useful in patients on long-term antibiotics who develop Gram negative folliculitis

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, benzoyl 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

Q-10

An 18-year-old female is reviewed in the dermatology clinic complaining of scalp hair loss. Which one of the following conditions is least likely to be responsible?

A. Porphyria cutanea tarda
B. Discoid lupus
C. Tinea capitis
D. Alopecia areata
E. Telogen effluvium

ANSWER:
Porphyria cutanea tarda

EXPLANATION:
Porphyria cutanea tarda is a recognised cause of hypertrichosis

ALOPECIA
Alopecia may be divided into scarring (destruction of hair follicle) and non-scarring (preservation of hair follicle)

Scarring alopecia
- trauma, burns
- radiotherapy
- lichen planus

- discoid lupus
- tinea capitis*

Non-scarring alopecia
- male-pattern baldness
- drugs: cytotoxic drugs, carbimazole, heparin, oral contraceptive pill, colchicine
- nutritional: iron and zinc deficiency
- autoimmune: alopecia areata
- telogen effluvium (hair loss following stressful period e.g. surgery)
- trichotillomania

*scarring may develop in untreated tinea capitis if a kerion develops

Q-11

Which of the following conditions is least likely to exhibit the Koebner phenomenon?

A. Vitiligo
B. Molluscum contagiosum
C. Lichen planus
D. Psoriasis
E. Lupus vulgaris

ANSWER:
Lupus vulgaris

EXPLANATION:
Lupus vulgaris is not associated with the Koebner phenomenon

KOEBNER PHENOMENON
The Koebner phenomenon describes skin lesions which appear at the site of injury. It is seen in:
- psoriasis
- vitiligo
- warts
- lichen planus
- lichen sclerosus
- molluscum contagiosum

Q-12

A 34-year-old man presents for the removal of a mole. Where on the body are keloid scars most likely to form?

A. Sternum
B. Lower back
C. Abdomen
D. Flexor surfaces of limbs
E. Scalp

ANSWER:
Keloid scars are most common on the sternum

EXPLANATION:
KELOID SCARS
Keloid scars are tumour-like lesions that arise from the connective tissue of a scar and extend beyond the dimensions of the original wound

Predisposing factors
- ethnicity: more common in people with dark skin
- occur more commonly in young adults, rare in the elderly
- common sites (in order of decreasing frequency): sternum, shoulder, neck, face, extensor surface of limbs, trunk

Keloid scars are less likely if incisions are made along relaxed skin tension lines*

Treatment
- early keloids may be treated with intra-lesional steroids e.g. triamcinolone
- excision is sometimes required

*Langer lines were historically used to determine the optimal incision line. They were based on procedures done on cadavers but have been shown to produce worse cosmetic results than when following skin tension lines

Q-13

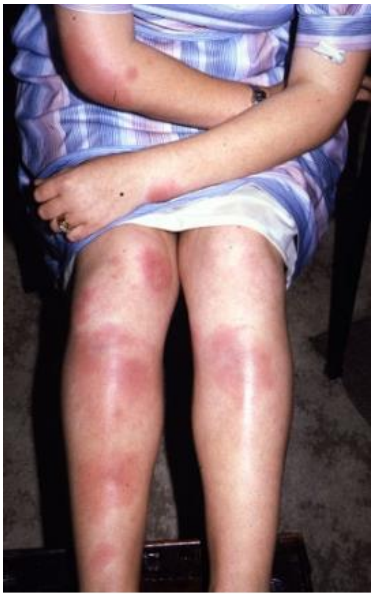
A 31-year-old woman develops with painful, purple lesions on her shins. Which one of the following medications is most likely to be responsible?

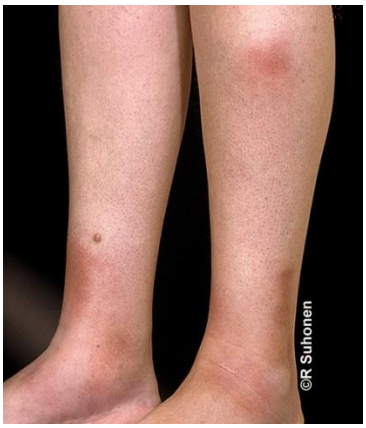
A. Montelukast
B. Lansoprazole
C. Combined oral contraceptive pill
D. Sodium valproate
E. Carbimazole

ANSWER:
Combined oral contraceptive pill

EXPLANATION:
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





Q-14

Which one of the following statements regarding scabies is false?

A. All members of the household should be treated
B. Typically affects the fingers, interdigital webs and flexor aspects of the wrist in adults
C. Scabies causes a delayed type IV hypersensitivity reaction
D. Patients who complain of pruritus 4 weeks following treatment should be retreated
E. Malathion is suitable for the eradication of scabies

ANSWER:
Patients who complain of pruritus 4 weeks following treatment should be retreated

EXPLANATION:
It is normal for pruritus to persist for up to 4-6 weeks post eradication

SCABIES
Scabies is caused by the mite Sarcoptes scabiei and is spread by prolonged skin contact. It typically affects children and young adults.

The scabies mite burrows into the skin, laying its eggs in the stratum corneum. The intense pruritus associated with scabies is due to a delayed type IV hypersensitivity reaction to mites/eggs which occurs about 30 days after the initial infection.

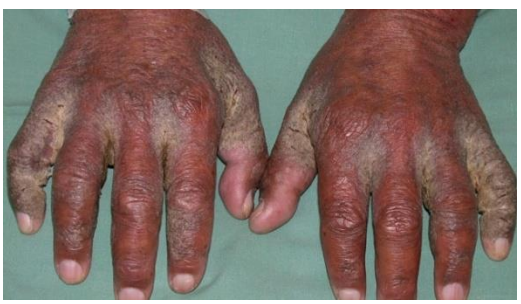
Features
- widespread pruritus
- linear burrows on the side of fingers, interdigital webs and flexor aspects of the wrist
- in infants the face and scalp may also be affected
- secondary features are seen due to scratching: excoriation, infection

Management
- permethrin 5% is first-line
- malathion 0.5% is second-line
- give appropriate guidance on use (see below)
- pruritus persists for up to 4-6 weeks post eradication

Patient guidance on treatment (from Clinical Knowledge Summaries)
- avoid close physical contact with others until treatment is complete
- all household and close physical contacts should be treated at the same time, even if asymptomatic
- launder, iron or tumble dry clothing, bedding, towels, etc., on the first day of treatment to kill off mites.

The BNF advises to apply the insecticide to all areas, including the face and scalp, contrary to the manufacturer's recommendation. Patients should be given the following instructions:
- apply the insecticide cream or liquid to cool, dry skin
- pay close attention to areas between fingers and toes, under nails, armpit area, creases of the skin such as at the wrist and elbow
- allow to dry and leave on the skin for 8-12 hours for permethrin, or for 24 hours for malathion, before washing off
- reapply if insecticide is removed during the treatment period, e.g. If wash hands, change nappy, etc
- repeat treatment 7 days later

Crusted (Norwegian) scabies
Crusted scabies is seen in patients with suppressed immunity, especially HIV.



The crusted skin will be teeming with hundreds of thousands of organisms.

Ivermectin is the treatment of choice and isolation is essential

Q-15

Which of the following skin disorders is least associated with tuberculosis?

A. Scrofuloderma
B. Erythema nodosum
C. Lupus vulgaris
D. Verrucosa cutis
E. Lupus pernio

ANSWER:
Lupus pernio

EXPLANATION:
Lupus pernio is sometimes seen in sarcoidosis but is not associated with tuberculosis

SKIN DISORDERS ASSOCIATED WITH TUBERCULOSIS
Possible skin disorders
- lupus vulgaris (accounts for 50% of cases)
- erythema nodosum
- scarring alopecia
- scrofuloderma: breakdown of skin overlying a tuberculous focus
- verrucosa cutis
- gumma

Lupus vulgaris is the most common form of cutaneous TB seen in the Indian subcontinent. It generally occurs on the face and is common around the nose and mouth. The initial lesion is an erythematous flat plaque which gradually becomes elevated and may ulcerate later

Q-16

A 63-year-old man who is known to have type 2 diabetes mellitus presents with a number of lesions over his shins. On examination there are a number of 3-4 mm smooth, firm, papules which are hyperpigmented and centrally depressed. What is the most likely diagnosis?

A. Lupus vulgaris
B. Necrobiosis lipoidica diabeticorum
C. Guttate psoriasis
D. Granuloma annulare
E. Pyoderma gangrenosum

ANSWER:
Granuloma annulare

EXPLANATION:
GRANULOMA ANNULARE
Basics
- papular lesions that are often slightly hyperpigmented and depressed centrally
- typically occur on the dorsal surfaces of the hands and feet, and on the extensor aspects of the arms and legs

A number of associations have been proposed to conditions such as diabetes mellitus but there is only weak evidence for this

Q-17

A 54-year-old woman with a history of type 1 diabetes mellitus presents with unsightly toenails affecting the lateral three nails of the left foot. On examination the nails and brown and break easily. Nail scrapings demonstrate Trichophyton rubrum infection. What is the treatment of choice?

A. Oral terbinafine for 12 weeks
B. Oral itraconazole for 4 weeks
C. Topical itraconazole for 2 weeks
D. Topical amorolfine for 6 weeks
E. Oral itraconazole for 1 weeks

ANSWER:
Oral terbinafine for 12 weeks

EXPLANATION:
Dermatophyte nail infections - use oral terbinafine

FUNGAL NAIL INFECTIONS
Onychomycosis is fungal infection of the nails. This may be caused by
- dermatophytes - mainly Trichophyton rubrum, accounts for 90% of cases
- yeasts - such as Candida
- non-dermatophyte moulds

Risk factors include for fungal nail infections include diabetes mellitus andincreasing age.

Features
- 'unsightly' nails are a common reason for presentation
- thickened, rough, opaque nails are the most common finding

Differential diagnosis
- psoriasis
- repeated trauma
- lichen planus
- yellow nail syndrome

Investigation
- nail clippings
- scrapings of the affected nail
- the false negative rate for cultures are around 30%, so repeat samples may need to be sent if the clinical suspicion is high

Management

- treatment is successful in around 50-80% of people
- diagnosis should be confirmed by microbiology before starting treatment
- dermatophyte infection: oral terbinafine is currently recommended first-line with oral itraconazole as an alternative. Six weeks - 3 months therapy is needed for fingernail infections whilst toenails should be treated for 3 - 6 months
- Candida infection: mild disease should be treated with topical antifungals (e.g. Amorolfine) whilst more severe infections should be treated with oral itraconazole for a period of 12 weeks

Q-18

Which one of the following conditions is least likely to be associated with pyoderma gangrenosum?

A. Ulcerative colitis
B. Syphilis
C. Lymphoma
D. IgA monoclonal gammopathy
E. Rheumatoid arthritis

ANSWER:
Syphilis

EXPLANATION:
Syphilis is not commonly associated with pyoderma gangrenosum

Please see Q-2 for Pyoderma Gangrenosum

Q-19

A 25-year-old man presents with bloating and alteration in his bowel habit. He has been keeping a food diary and feels his symptoms may be secondary to a food allergy. Blood tests show a normal full blood count, ESR and thyroid function tests. Anti-endomysial antibodies are negative. What is the most suitable test to investigate possible food allergy?

A. Total IgE levels
B. Hair analysis
C. Skin patch testing
D. Skin prick test
E. Jejunal biopsy

ANSWER:
Skin prick test

EXPLANATION:
Skin prick testing would be first-line here as it is inexpensive and a large number of allergens can be investigated. Whilst there is a role for IgE testing in food allergy it is in the form of specific IgE antibodies rather than total IgE levels.

ALLERGY TESTS

Skin prick test	**Most commonly used test as easy to perform and inexpensive. Drops of diluted allergen are placed on the skin after which the skin is pierced using a needle. A large number of allergens can be tested in one session. Normally includes a histamine (positive) and sterile water (negative) control. A wheal will typically develop if a patient has an allergy. Can be interpreted after 15 minutes** **Useful for food allergies and also pollen**
Radioallergosorbent test (RAST)	Determines the amount of IgE that reacts specifically with suspected or known allergens, for example IgE to egg protein. Results are given in grades from 0 (negative) to 6 (strongly positive) Useful for food allergies, inhaled allergens (e.g. Pollen) and wasp/bee venom Blood tests may be used when skin prick tests are not suitable, for example if there is extensive eczema or if the patient is taking antihistamines
Skin patch testing	Useful for contact dermatitis. Around 30-40 allergens are placed on the back. Irritants may also be tested for. The patches are removed 48 hours later with the results being read by a dermatologist after a further 48 hours

Q-20

You review a 24-year-old man who has recently presented with large psoriatic plaques on his elbows and knees. He has no history of skin problems although his mother has psoriasis. You recommend that he uses an emollient to help control the scaling. What is the most appropriate further prescription to use as a first-line treatment on his plaques?

A. Topical steroid
B. Topical steroid + topical calcipotriol
C. Topical coal tar
D. Topical calcipotriol
E. Topical dithranol

ANSWER:
Topical steroid + topical calcipotriol

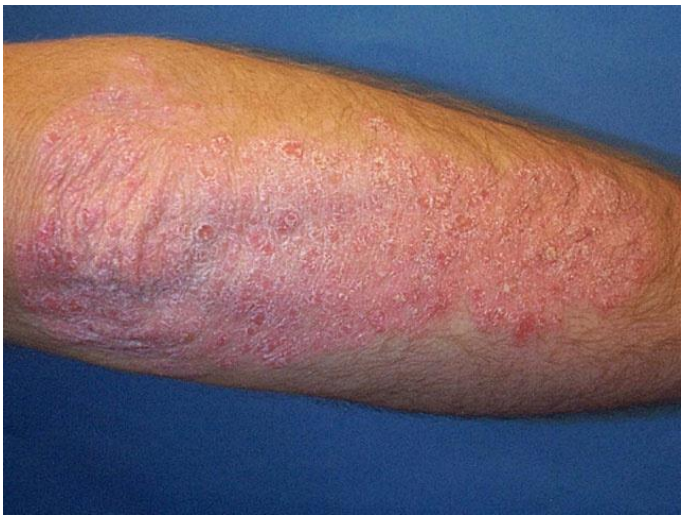
EXPLANATION:
NICE recommend a potent corticosteroid applied once daily plus vitamin D analogue applied once daily (applied separately, one in the morning and the other in the evening) for up to 4 weeks as initial treatment.

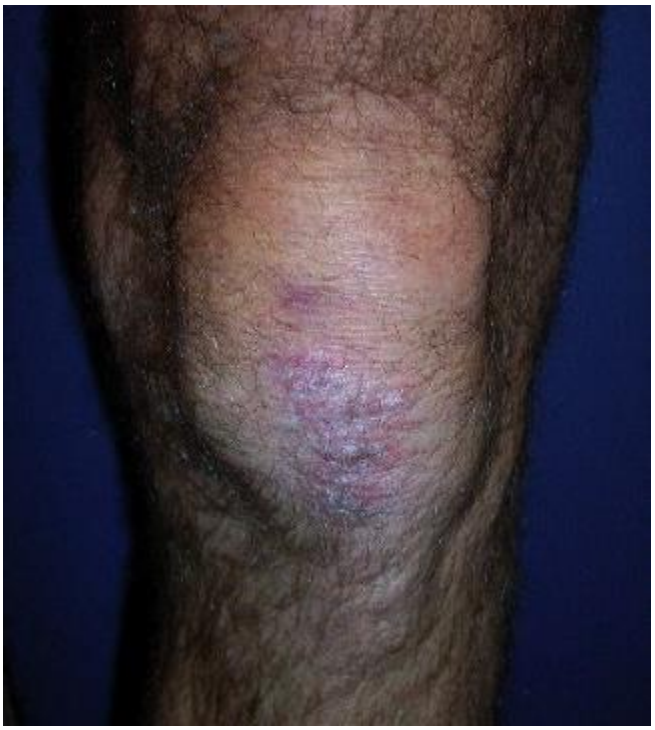
PSORIASIS: MANAGEMENT
NICE released guidelines in 2012 on the management of psoriasis and psoriatic arthropathy. Please see the link for more details.

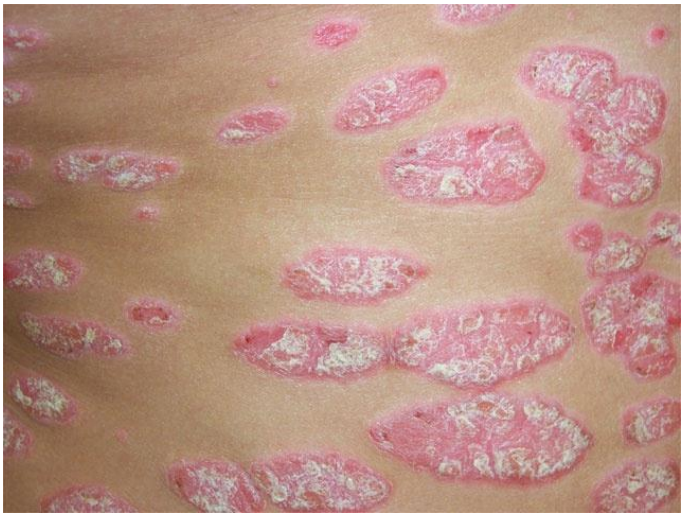
Management of chronic plaque psoriasis

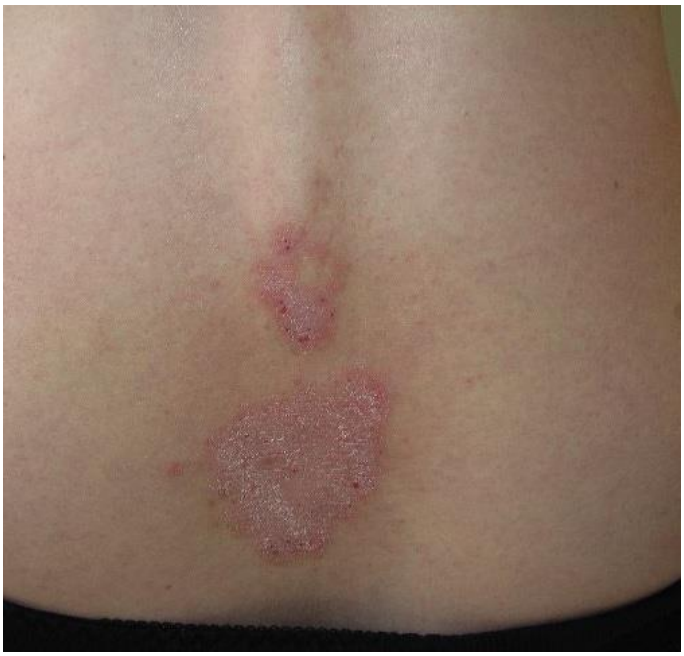
- regular emollients may help to reduce scale loss and reduce pruritus

- first-line: NICE recommend a potent corticosteroid applied once daily plus vitamin D analogue applied once daily (applied separately, one in the morning and the other in the evening) for up to 4 weeks as initial treatment
- second-line: if no improvement after 8 weeks then offer a vitamin D analogue twice daily
- third-line: if no improvement after 8-12 weeks then offer either: a potent corticosteroid applied twice daily for up to 4 weeks or a coal tar preparation applied once or twice daily
- short-acting dithranol can also be used









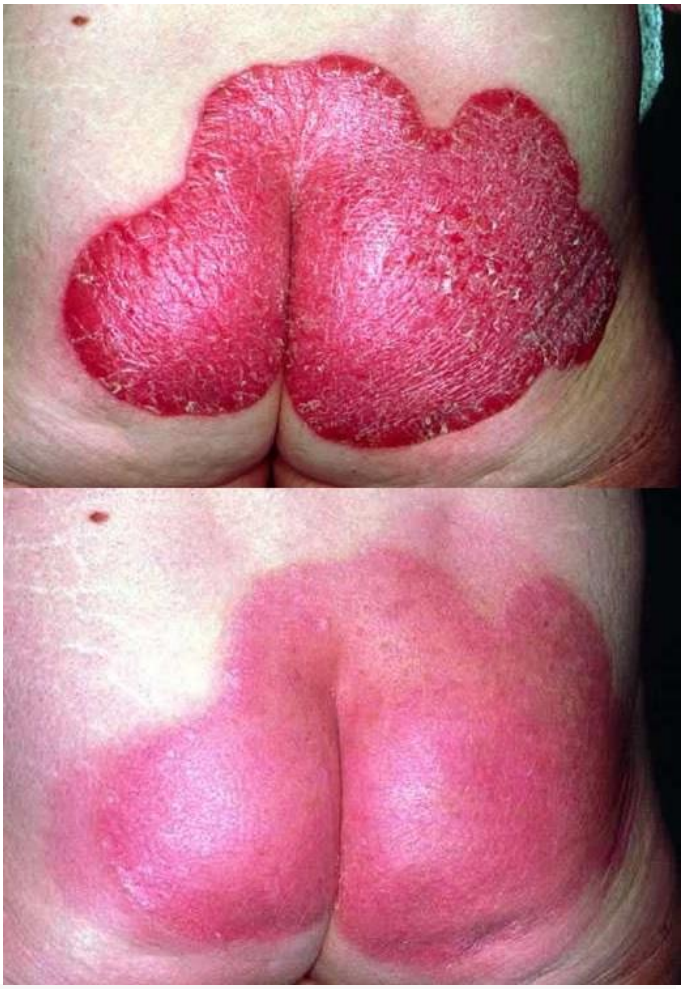
Using topical steroids in psoriasis

- as we know topical corticosteroid therapy may lead to skin atrophy, striae and rebound symptoms
- systemic side-effects may be seen when potent corticosteroids are used on large areas e.g. > 10% of the body surface area
- NICE recommend that we aim for a 4 week break before starting another course of topical corticosteroids
- they also recommend using potent corticosteroids for no longer than 8 weeks at a time and very potent corticosteroids for no longer than 4 weeks at a time

What should I know about vitamin D analogues?

- examples of vitamin D analogues include calcipotriol (Dovonex), calcitriol and tacalcitol
- they work by reducing cell division and differentiation
- adverse effects are uncommon
- unlike corticosteroids they may be used long-term
- unlike coal tar and dithranol they do not smell or stain

- they tend to reduce the scale and thickness of plaques but not the erythema
- they should be avoided in pregnancy
- the maximum weekly amount for adults is 100g



A 'before and after' image showing the effect of 6 weeks of calcipotriol therapy on a large plaque. Note how the scale has improved but the erythema remains

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
- patients should have 4 week breaks between course of topical steroids
- very potent steroids should not be used for longer than 4 weeks at a time. Potent steroids can be used for up to 8 weeks at a time
- the scalp, face and flexures are particularly prone to steroid atrophy so topical steroids should not be used for more than 1-2 weeks/month

Scalp psoriasis

- NICE recommend the use of potent topical corticosteroids used once daily for 4 weeks
- if no improvement after 4 weeks then either use a different formulation of the potent corticosteroid (for example, a shampoo or mousse) and/or a topical agents to remove adherent scale (for example, agents containing salicylic acid, emollients and oils) before application of the potent corticosteroid

Face, flexutal and genital psoriasis

- NICE recommend offering a mild or moderate potency corticosteroid applied once or twice daily for a maximum of 2 weeks

Secondary care management

Phototherapy

- narrow band ultraviolet B light is now the treatment of choice. If possible this should be given 3 times a week
- photochemotherapy is also used - psoralen + ultraviolet A light (PUVA)
- adverse effects: skin ageing, squamous cell cancer (not melanoma)

Systemic therapy

- oral methotrexate is used first-line. It is particularly useful if there is 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

Q-21

Each of the following drugs may be used in psoriasis, except:

A. Interferon alpha
B. Infliximab
C. Retinoids
D. Methotrexate
E. Ciclosporin

ANSWER:
Interferon alpha

EXPLANATION:
Please see Q-20 for Psoriasis: Management

Q-22

A 34-year-old man attends the emergency department with a rash on his legs which he says has been getting worse over the past two weeks. His GP started him on flucloxacillin one week ago. At the weekend he visited the emergency department as the rash was spreading; he was discharged with the addition of clarithromycin.

He has a past medical history of well-controlled asthma. He suffers occasional aches and pains in multiple joints but has never had any formal investigations for this problem. He takes no regular medications.

On examination his observations are stable and he is afebrile. He has a series of raised purple-red lumps on the anterior aspect of both his shins. They are painful and tender to touch.

The results of investigations are as follows:

Hb 144 g/l
Platelets 301 * 109/l
WBC 9.6 * 109/l
CRP 15 mg/L
Na+ 139 mmol/l
K+ 4.5 mmol/l
Ca2+ 2.5 mmol/l

The on call radiologist has authorised this report:

Chest X-ray No focal consolidation seen, clear lung fields. Some bilateral hilar lymphadenopathy.

What is the most likely diagnosis?

A. Sarcoidosis
B. Cellulitis caused by MRSA
C. Necrotising fasciitis
D. Scrofuloderma (cutaneous tuberculosis)
E. Erysipelas

ANSWER:
Sarcoidosis

EXPLANATION:
The description of this gentleman's rash is a classic picture of erythema nodosum. Together with bilateral hilar lymphadenopathy, this makes sarcoid the most plausible diagnosis.

SHIN LESIONS
The differential diagnosis of shin lesions includes the following conditions:

- erythema nodosum
- pretibial myxoedema
- pyoderma gangrenosum
- necrobiosis lipoidica diabeticorum

Below are the characteristic features:

Erythema nodosum
- symmetrical, erythematous, tender, nodules which heal without scarring
- most common causes are streptococcal infections, sarcoidosis, inflammatory bowel disease and drugs (penicillins, sulphonamides, oral contraceptive pill)

Pretibial myxoedema
- symmetrical, erythematous lesions seen in Graves' disease
- shiny, orange peel skin

Pyoderma gangrenosum
- initially small red papule
- later deep, red, necrotic ulcers with a violaceous border
- idiopathic in 50%, may also be seen in inflammatory bowel disease, connective tissue disorders and myeloproliferative disorders

Necrobiosis lipoidica diabeticorum
- shiny, painless areas of yellow/red skin typically on the shin of diabetics
- often associated with telangiectasia

Q-23

A 33-year-old male patient with a history of recurrent nose bleeds, iron-deficiency anaemia and dyspnoea is found to have a pulmonary AV malformation on pulmonary angiography. What is the likely underlying diagnosis?

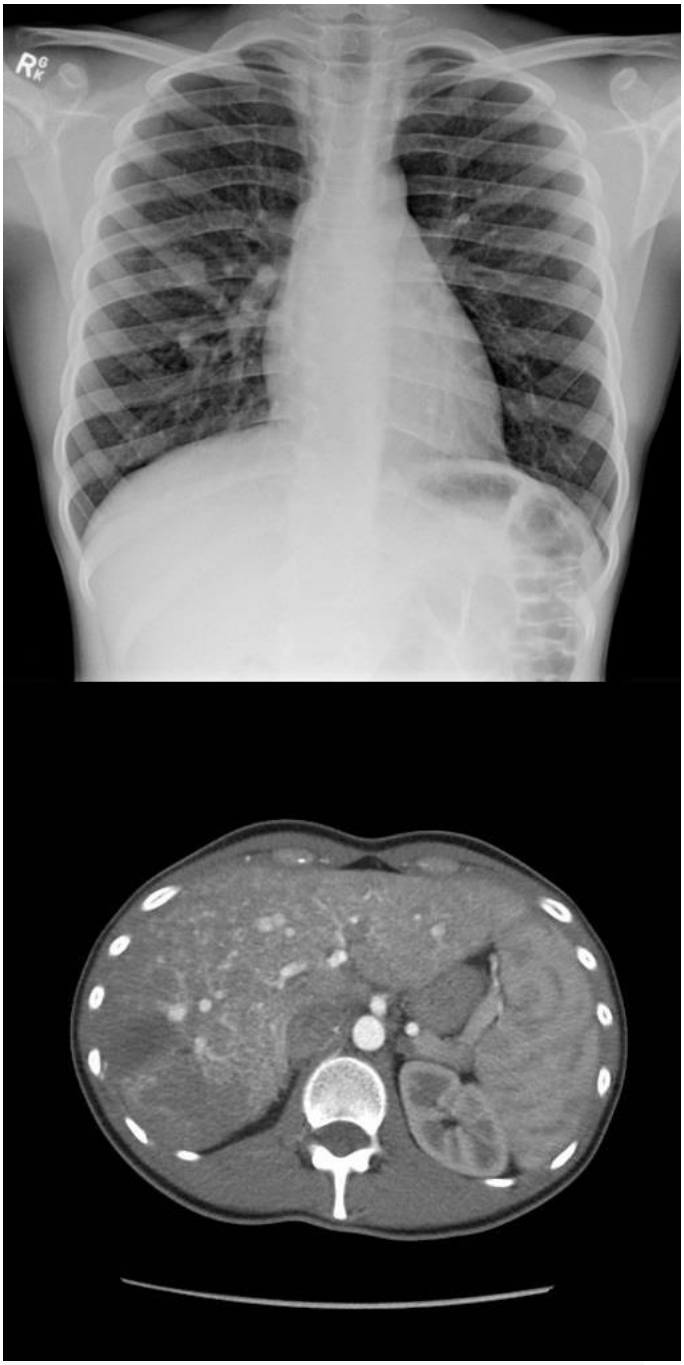
A. Haemophilia A
B. Hereditary haemorrhagic telangiectasia
C. Mantle cell lymphoma
D. Wegener's granulomatosis
E. Down's syndrome

ANSWER:
Hereditary haemorrhagic telangiectasia

EXPLANATION:
HEREDITARY HAEMORRHAGIC TELANGIECTASIA
Also known as Osler-Weber-Rendu syndrome, hereditary haemorrhagic telangiectasia (HHT) is an autosomal dominant condition characterised by (as the name suggests) multiple telangiectasia over the skin and mucous membranes. Twenty percent of cases occur spontaneously without prior family history.

There are 4 main diagnostic criteria. If the patient has 2 then they are said to have a possible diagnosis of HHT. If they meet 3 or more of the criteria they are said to have a definite diagnosis of HHT:

- epistaxis : spontaneous, recurrent nosebleeds
- telangiectases: multiple at characteristic sites (lips, oral cavity, fingers, nose)
- visceral lesions: for example gastrointestinal telangiectasia (with or without bleeding), pulmonary arteriovenous malformations (AVM), hepatic AVM, cerebral AVM, spinal AVM
- family history: a first-degree relative with HHT



The chest x-ray shows multiple pulmonary nodules representing arteriovenous malformations, the largest in the right mid-zone. The CT scan shows multiple hepatic arteriovenous malformations

Q-24

A 14-year-old male is reviewed due to a patch of scaling and hair loss on the right side of his head. A skin scraping is sent which confirms a diagnosis of tinea capitis. Which organism is most likely to be responsible?

A. Trichophyton tonsurans
B. Microsporum distortum
C. Trichophyton verrucosum
D. Microsporum audouinii
E. Microsporum canis

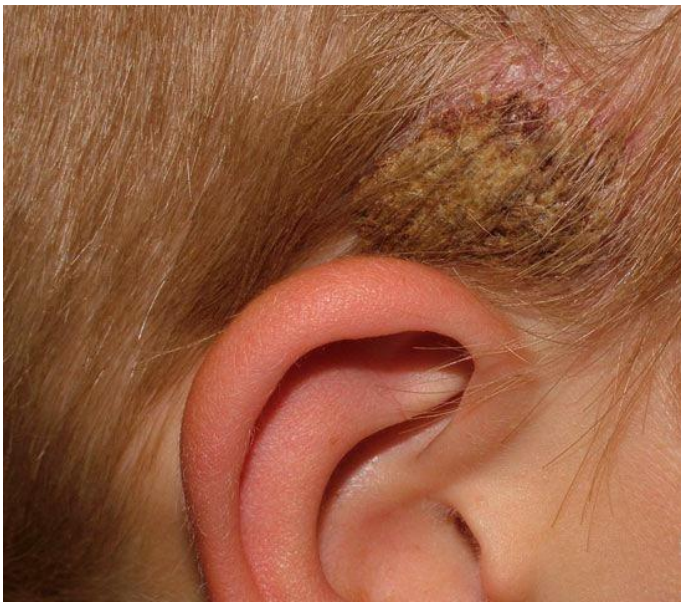
ANSWER:
Trichophyton tonsurans

EXPLANATION:
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 (ringworm)

- 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

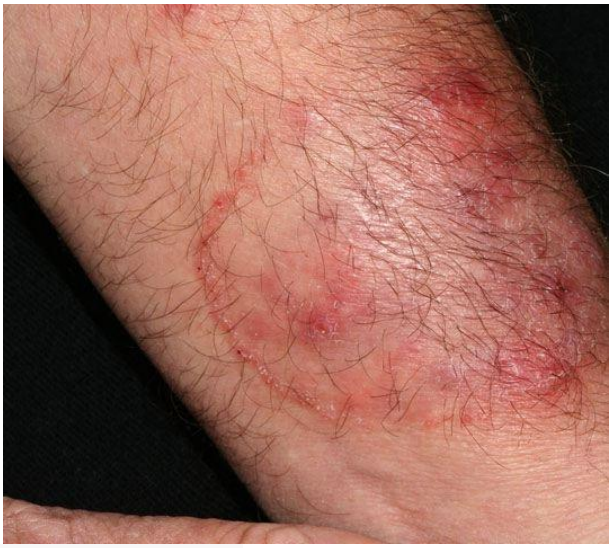


Image showing tinea corporis

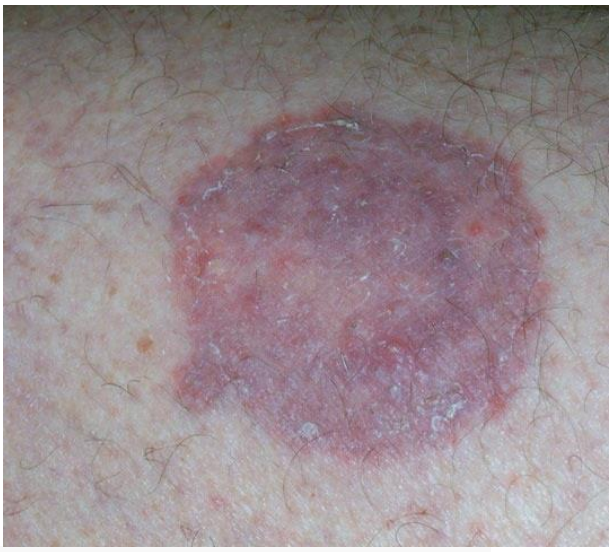


Image showing tinea corporis. Note the well defined border

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

Q-25

A 74-year-old lady with a history of hypothyroidism presents in January with a rash down the right side of her body. On examination an erythematous rash with patches of hyperpigmentation and telangiectasia is found. What is the likely diagnosis?

A. Erythema marginatum
B. Herpes zoster
C. Pretibial myxoedema
D. Erythema ab igne
E. Xanthomata

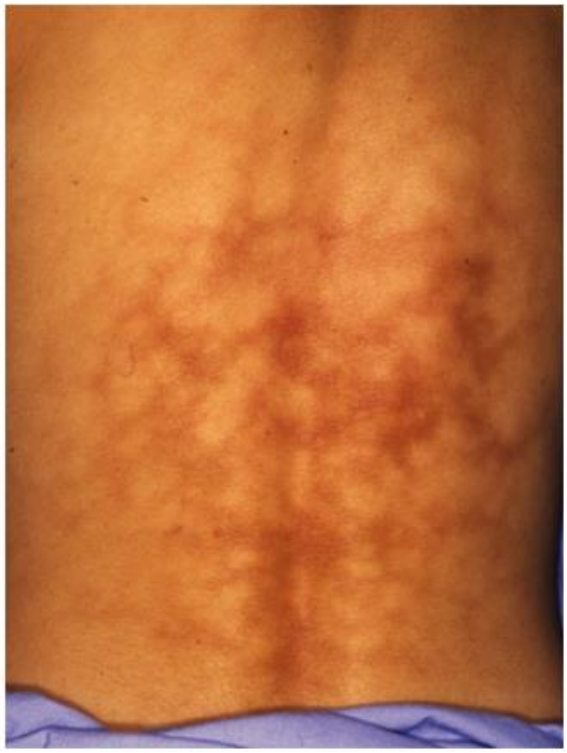
ANSWER:
Erythema ab igne

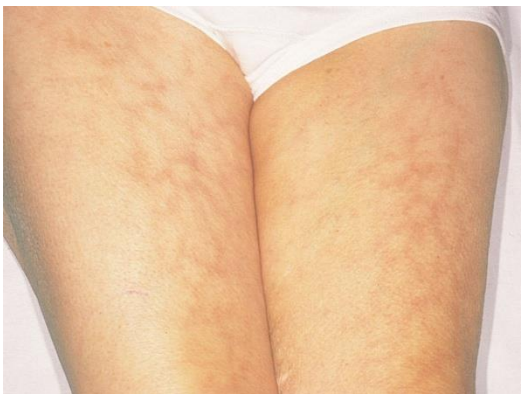
EXPLANATION:
This is a classic presentation of erythema ab igne. Despite the name, pretibial myxoedema is associated with hyperthyroidism rather than hypothyroidism.

Hypothyroidism can make patients feel cold and hence more likely to sit next a heater / fire.

ERYTHEMA AB IGNE
Erythema ab igne is a skin disorder caused by over exposure to infrared radiation. Characteristic features include reticulated, erythematous patches with hyperpigmentation and telangiectasia. A typical history would be an elderly women who always sits next to an open fire.

If the cause is not treated then patients may go on to develop squamous cell skin cancer.





Q-26

A 40-year-old man complains of widespread pruritus for the past two weeks. The itching is particularly bad at night. He has no history of note and works in the local car factory. On examination he has noted to have a number of linear erythematous lesions in between his fingers. What is the most likely diagnosis?

A. Polyurethane dermatitis
B. Fibreglass exposure
C. Cimex lectularius infestation (Bed-bugs)
D. Scabies
E. Langerhans cell histiocytosis

ANSWER:
Scabies

EXPLANATION:
Please see Q-14 for Scabies

Q-27

A 54-year-old man presents with a two month history of a rapidly growing lesion on his right forearm. The lesion initially appeared as a red papule but in the last two weeks has become a crater filled centrally with yellow/brown material. On examination the man has skin type II, the lesion is 4 mm in diameter and is morphologically as described above. What is the most likely diagnosis?

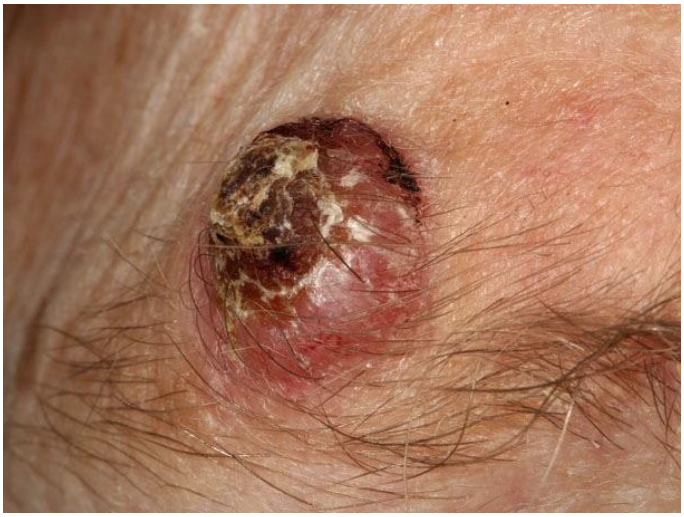
A. Seborrhoeic keratosis
B. Keratoacanthoma
C. Pyoderma gangrenosum
D. Basal cell carcinoma
E. Malignant melanoma

ANSWER:
Keratocanthoma

EXPLANATION:
KERATOACANTHOMA
Keratoacanthoma is a benign epithelial tumour. They are more common with advancing age and rare in young people.

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.



Q-28

A 72-year-old man is investigated for oral ulceration. A biopsy suggests pemphigus vulgaris. This is most likely to be caused by antibodies directed against:

A. Hemidesmosomal BP180
B. Occludin-2
C. Hemidesmosomal BP230
D. Desmoglein
E. Adherens

ANSWER:
Desmoglein

EXPLANATION:
Please see Q-8 for Pemphigus Vulgaris

Q-29

A 67-year-old retired gardener presents to the dermatology department with a suspicious evolving freckle on his face, which he first noticed 10 years ago. On examination, he has a 3cm asymmetric pigmented patch on his cheek, comprised of multiple shades of brown and black, and with asymmetrical thickening of the lesion. Which subtype of melanoma is this gentleman most likely to have?

A. Superficial spreading melanoma
B. Desmoplastic melanoma
C. Lentigo maligna melanoma
D. Acral lentiginous melanoma
E. Nodular melanoma

ANSWER:
Lentigo maligna melanoma

EXPLANATION:
Lentigo maligna melanoma: Suspicious freckle on face or scalp of chronically sun-exposed patients
Lentigo maligna is a precursor to lentigo maligna melanoma. It begins as a suspicious flat freckle which can grow over 5-

20 years to develop into melanoma. It typically occurs in older people on chronically sun-exposed skin (e.g. with a career in gardening) and develops the characteristics of typical melanoma (asymmetry, border irregularity, colour variation, diameter>6mm, evolving). Once it has become melanoma, parts of the lesion may thicken as occurred in this gentleman, there may be increasing numbers of colours, ulceration, bleeding, itching and stinging.

Whilst nodular melanoma also presents on the face and neck, it is less likely given the presentation and the slow growth of the lesion.

Superficial spreading melanoma would also be a differential to consider in this gentleman, however, the location of the lesion and the chronic mild nature of the sun exposure better fits lentigo maligna.

(DermNet NZ)

MALIGNANT MELANOMA

There are four main subtypes of melanoma. Nodular melanoma is the most aggressive whilst the other forms spread more slowly.

	Superficial spreading	Nodular	Lentigo maligna	Acral lentiginous
Frequency	70% of cases	Second commonest	Less common	Rare form
Typically affects	Arms, legs, back and chest, young people	Sun exposed skin, middle-aged people	Chronically sun-exposed skin, older people	Nails, palms or soles, African Americans or Asians
Appearance	A growing moles with diagnostic features listed above	Red or black lump or lump which bleeds or oozes	A growing mole with diagnostic features listed above	Subungual pigmentation (Hutchinson's sign) or of palms or feet

There are other rare forms of melanoma including desmoplastic melanoma, amelanotic melanoma, or melanoma arising in other parts of the body such as ocular melanoma.

The main diagnostic features (major criteria):	Secondary features (minor criteria)
• Change in size • Change in shape • Change in colour	• Diameter >6mm • Inflammation • Oozing or bleeding • Altered sensation

Treatment

- Suspicious lesions should undergo excision biopsy. The lesion should be removed in completely as incision biopsy can make subsequent histopathological assessment difficult.
- Once the diagnosis is confirmed the pathology report should be reviewed to determine whether further re-excision of margins is required (see below):

Margins of excision-Related to Breslow thickness

Lesions 0-1mm thick	1cm
Lesions 1-2mm thick	1- 2cm (Depending upon site and pathological features)
Lesions 2-4mm thick	2-3 cm (Depending upon site and pathological features)
Lesions >4 mm thick	3cm

Q-30

A 24-year-old female with a history of anorexia nervosa presents with red crusted lesions around the corner of her mouth and below her lower lip. What is she most likely to be deficient in?

A. Zinc
B. Tocopherol
C. Pantothenic acid
D. Thiamine
E. Magnesium

ANSWER:
Zinc

EXPLANATION:
Vitamin B2 (riboflavin) deficiency may also cause angular cheilosis.

ZINC DEFICIENCY

Features

- perioral dermatitis: red, crusted lesions
- acrodermatitis
- alopecia
- short stature
- hypogonadism
- hepatosplenomegaly
- geophagia (ingesting clay/soil)
- cognitive impairment

Q-31

A 34-year-old patient who is known to have psoriasis presents with erythematous skin in the groin and genital area. He also has erythematous skin in the axilla. In the past he has expressed a dislike of messy or cumbersome creams. What is the most appropriate treatment?

A. Topical steroid
B. Topical dithranol
C. Topical clotrimazole
D. Coal tar
E. Topical calcipotriol

ANSWER:
Topical steroid

EXPLANATION:
Flexural psoriasis - topical steroid
This patient has flexural psoriasis which responds well to topical steroids. Topical calcipotriol is usually irritant in flexures. Mild tar preparations are an option but may be messy and cumbersome.

Please see Q-20 for Psoriasis: Management

Q-32

Which one of the following statements regarding allergy testing is incorrect?

A. Both irritants and allergens may be tested for using skin patch testing
B. The radioallergosorbent test determines the level of IgE to a specific allergen
C. Skin prick testing is easy to perform and inexpensive
D. Skin prick testing should be read after 48 hours
E. Skin prick testing normally includes a histamine control

ANSWER:
Skin prick testing should be read after 48 hours

EXPLANATION:
Skin prick testing can be read after 15-20 minutes. Skin patch testing is read after 48 hours

Please see Q-19 for Allergy Tests

Q-33

A 67-year-old man with a history of Parkinson's disease presents due to the development of an itchy, red rash on his neck, behind his ears and around the nasolabial folds. He had a similar flare up last winter but did not seek medical attention. What is the most likely diagnosis?

A. Levodopa associated dermatitis
B. Seborrhoeic dermatitis
C. Flexural psoriasis
D. Acne rosacea
E. Fixed drug reaction to ropinirole

ANSWER:
Seborrhoeic dermatitis

EXPLANATION:
Seborrhoeic dermatitis is more common in patients with Parkinson's disease

SEBORRHOEIC DERMATITIS IN ADULTS
Seborrhoeic dermatitis in adults is a chronic dermatitis thought to be caused by an inflammatory reaction related to a proliferation of a normal skin inhabitant, a fungus called Malassezia furfur (formerly known as Pityrosporum ovale). It is common, affecting around 2% of the general population

Features
- eczematous lesions on the sebum-rich areas: scalp (may cause dandruff), periorbital, auricular and nasolabial folds
- otitis externa and blepharitis may develop

Associated conditions include
- HIV
- Parkinson's disease

Scalp disease management
- over the counter preparations containing zinc pyrithione ('Head & Shoulders') and tar ('Neutrogena T/Gel') are first-line
- the preferred second-line agent is ketoconazole
- selenium sulphide and topical corticosteroid may also be useful

Face and body management
- topical antifungals: e.g. Ketoconazole
- topical steroids: best used for short periods
- difficult to treat - recurrences are common

Q-34

A 23-year-old man presents as he is concerned over recent hair loss. Examination reveals a discrete area of hair loss on the left temporal region with no obvious abnormality of the underlying scalp. What is the most likely diagnosis?

A. Telogen effluvium
B. Alopecia areata
C. Tinea capitis
D. Male-pattern baldness
E. Discoid lupus erythematous

ANSWER:
Alopecia areata

EXPLANATION:
ALOPECIA AREATA
Alopecia areata is a presumed autoimmune condition causing localised, well demarcated patches of hair loss. At the edge of the hair loss, there may be small, broken 'exclamation mark' hairs

Hair will regrow in 50% of patients by 1 year, and in 80-90% eventually. Careful explanation is therefore sufficient in many patients. Other treatment options include:
- topical or intralesional corticosteroids
- topical minoxidil
- phototherapy
- dithranol
- contact immunotherapy
- wigs

Q-35

A 78-year-old woman asks you for cream to treat a lesion on her left cheek. It has been present for the past nine months and is asymptomatic. On examination you find a 2 * 3 cm area of flat brown pigmentation with a jagged, irregular edge. The pigmentation on the anterior aspect of the lesion is a darker brown. What is the most likely diagnosis?

A. Solar lentigo
B. Dermatofibroma
C. Lentigo maligna
D. Bowen's disease
E. Seborrhoeic keratosis

ANSWER:
Lentigo maligna

EXPLANATION:
These lesions often present a diagnostic dilemma. The asymmetrical nature of the lesion would however point away from a diagnosis of solar lentigo.

LENTIGO MALIGNA
Lentigo maligna is a type of melanoma in-situ. It typically progresses slowly but may at some stage become invasive causing lentigo maligna melanoma.

Q-36

Which of the following conditions is most associated with onycholysis?

A. Bullous pemphigoid
B. Raynaud's disease
C. Osteogenesis imperfecta
D. Oesophageal cancer
E. Scabies

ANSWER:
Raynaud's disease

EXPLANATION:
Raynaud's disease causes onycholysis, as can any cause of impaired circulation

ONYCHOLYSIS
Onycholysis describes the separation of the nail plate from the nail bed

Causes
- idiopathic
- trauma e.g. Excessive manicuring
- infection: especially fungal
- skin disease: psoriasis, dermatitis
- impaired peripheral circulation e.g. Raynaud's
- systemic disease: hyper- and hypothyroidism

Q-37

A 62-year-old with a history of acne rosacea presents for advice regarding treatment. Which one of the following interventions has the least role in management?

A. Camouflage creams
B. Topical metronidazole
C. Low-dose topical corticosteroids
D. Laser therapy
E. Use of high-factor sun block

ANSWER:
Low-dose topical corticosteroids

EXPLANATION:
Please see Q-1 for Acne Rosacea

Q-38

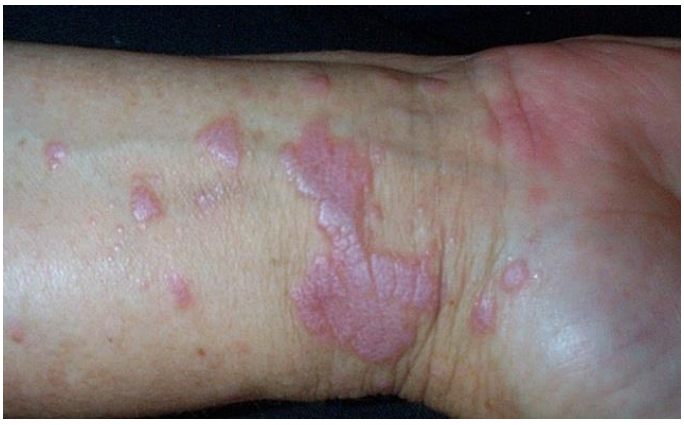
A 50-year-old man presents with shiny, flat-topped papules on the palmar aspect of the wrists. He is mainly bothered by the troublesome and persistent itching. A diagnosis of lichen planus is suspected. What is the most appropriate treatment?

A. Refer for punch biopsy
B. Emollients + oral antihistamine
C. Topical dapsone
D. Topical clotrimazole
E. Topical clobetasone butyrate

ANSWER:
Topical clobetasone butyrate

EXPLANATION:
LICHEN PLANUS
Lichen planus is a skin disorder of unknown aetiology, most probably being immune mediated.

Features
- itchy, papular rash most common on the palms, soles, genitalia and flexor surfaces of arms
- rash often polygonal in shape, 'white-lace' pattern on the surface (Wickham's striae)
- Koebner phenomenon may be seen (new skin lesions appearing at the site of trauma)
- oral involvement in around 50% of patients
- nails: thinning of nail plate, longitudinal ridging

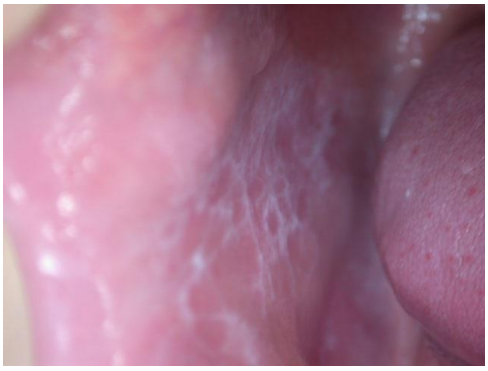


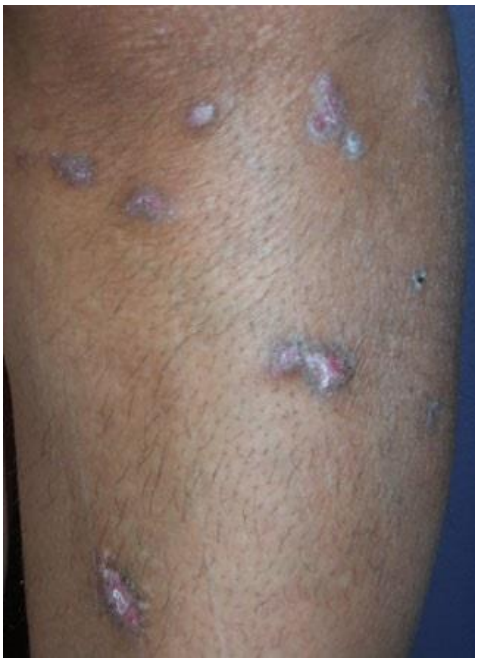
Lichenoid drug eruptions - causes:

- gold
- quinine
- thiazides

Management

- topical steroids are the mainstay of treatment
- benzydamine mouthwash or spray is recommended for oral lichen planus
- extensive lichen planus may require oral steroids or immunosuppression





Q-39

A 45-year-old man has been referred to dermatology clinic due to a new rash. He is a keen gardener and has spent the majority of the summer tending to his outdoor plants. His background is notable for hepatitis C, COPD and hypertension. He notes this rash is worst on his hands, face and shoulders.

On examination you note blisters and erosions on his hands, forehead and upper back.

Which of the following tests would be most helpful in ascertaining a diagnosis?

A. Direct immunofluorescent staining
B. Varicella antibodies
C. Urine uroporphyrinogen
D. Serum porphobilinogen
E. Anti tissue transglutaminase antibodies

ANSWER:
Urine uroporphyrinogen

EXPLANATION:
Hepatitis C may lead to porphyria cutanea tarda
This blistering condition is porphyria cutanea tarda (PCT). It is associated with chronic hepatitis C and results in blisters and erosions in sun exposed areas. High levels of urine uroporphyrinogen are diagnostic. Serum (and urine) porphobilinogen are useful for the diagnosis of acute intermittent porphyria (AIP), an autosomal dominant condition that is characterised by neurological symptoms and abdominal pain.

Other conditions that can cause acantholysis include pemphigus vulgaris (for which answer 1 is useful) and dermatitis herpetiformis (for which answer 5 is useful).

PORPHYRIA CUTANEA TARDA
Porphyria cutanea tarda is the most common hepatic porphyria. It is due to an inherited defect in uroporphyrinogen decarboxylase or caused by hepatocyte damage e.g. alcohol, hepatitis C, oestrogens

Features

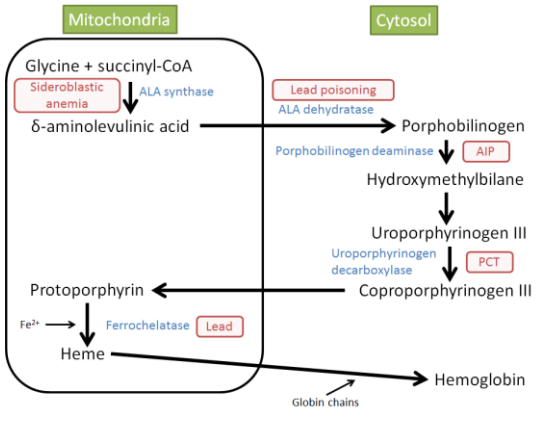
- classically presents with photosensitive rash with blistering and skin fragility on the face and dorsal aspect of hands (most common feature)
- hypertrichosis
- hyperpigmentation

Investigations

- urine: elevated uroporphyrinogen and pink fluorescence of urine under Wood's lamp

Management

- chloroquine
- venesection



Q-40

A 33-year-old woman is reviewed in the dermatology clinic with patchy, well demarcated hair loss on the scalp. This is affecting around 20% of her total scalp, and causing significant psychological distress. A diagnosis of alopecia areata is suspected. Which one of the following is an appropriate management plan?

A. Topical 5-FU cream
B. Autoimmune screen
C. Topical ketoconazole
D. Topical corticosteroid
E. Autoimmune screen + topical ketoconazole

ANSWER:
Topical corticosteroid

EXPLANATION:
Watchful waiting for spontaneous remission is another option. Neither the British Association of Dermatologists or Clinical Knowledge Summaries recommend screening for autoimmune disease

Please see Q-34 for Alopecia Areata

Q-41

A 29-year-old man presents due to the development of 'hard skin' on his scalp. On examination he has a 9cm circular, white, hyperkeratotic lesion on the crown of his head. He has no past history of any skin or scalp disorder. Skin scrapings are reported as follows:

No fungal elements seen

What is the most likely diagnosis?

A. Psoriasis
B. Dissecting cellulitis
C. Kerion
D. Systemic lupus erythematous
E. Seborrhoeic dermatitis

ANSWER:
Psoriasis

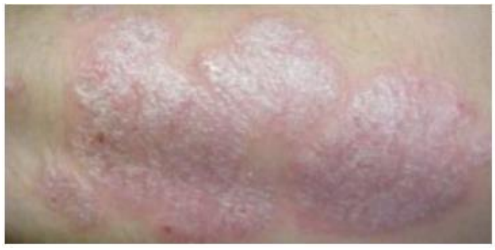
EXPLANATION:
As the skin scraping is negative for fungi the most likely diagnosis is psoriasis. Scalp psoriasis may occur in isolation in patients with no history of psoriasis elsewhere. Please see the link for more information.

The white appearance of the lesion is secondary to the 'silver scale' covering the psoriatic plaque.

PSORIASIS
Psoriasis is a common (prevalence around 2%) and chronic skin disorder. It generally presents with red, scaly patches on the skin although it is now recognised that patients with psoriasis are at increased risk of arthritis and cardiovascular disease.

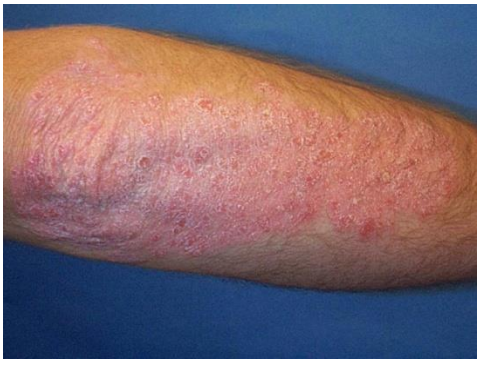
Pathophysiology
- multifactorial and not yet fully understood
- genetic: associated HLA-B13, -B17, and -Cw6. Strong concordance (70%) in identical twins
- immunological: abnormal T cell activity stimulates keratinocyte proliferation. There is increasing evidence this may be mediated by a novel group of T helper cells producing IL-17, designated Th17. These cells seem to be a third T-effector cell subset in addition to Th1 and Th2
- environmental: it is recognised that psoriasis may be worsened (e.g. Skin trauma, stress), triggered (e.g. Streptococcal infection) or improved (e.g. Sunlight) by environmental factors

Recognised subtypes of psoriasis
- plaque psoriasis: the most common sub-type resulting in the typical well demarcated red, scaly patches affecting the extensor surfaces, sacrum and scalp
- flexural psoriasis: in contrast to plaque psoriasis the skin is smooth
- guttate psoriasis: transient psoriatic rash frequently triggered by a streptococcal infection. Multiple red, teardrop lesions appear on the body
- pustular psoriasis: commonly occurs on the palms and soles



Other features
- nail signs: pitting, onycholysis
- arthritis

Complications
- psoriatic arthropathy (around 10%)
- increased incidence of metabolic syndrome
- increased incidence of cardiovascular disease
- increased incidence of venous thromboembolism
- psychological distress



Q-42

A 41-year-old man develops itchy, polygonal, violaceous papules on the flexor aspect of his forearms. Some of these papules have coalesced to form plaques. What is the most likely diagnosis?

A. Lichen planus
B. Scabies
C. Lichen sclerosus
D. Morphea
E. Psoriasis

ANSWER:
Lichen planus

EXPLANATION:
Please see Q-38 for Lichen Planus

Q-43

A 19-year-old student presents with a three day history of a 1 cm golden, crusted lesion on the border of her lower lip. What is the most suitable management?

A. Oral co-amoxiclav
B. Oral penicillin
C. Oral flucloxacillin
D. Oral flucloxacillin + penicillin
E. Topical fusidic acid

ANSWER:
Topical fusidic acid

EXPLANATION:
Impetigo - topical fusidic acid is first-line
This history is typical of impetigo. As the lesion is small and localised topical fusidic acid is recommended

IMPETIGO
Impetigo is a superficial bacterial skin infection usually caused by either Staphylcoccus aureus or Streptococcus pyogenes. It can be a primary infection or a complication of an existing skin condition such as eczema (in this case), scabies or insect bites. Impetigo is common in children, particularly during warm weather.

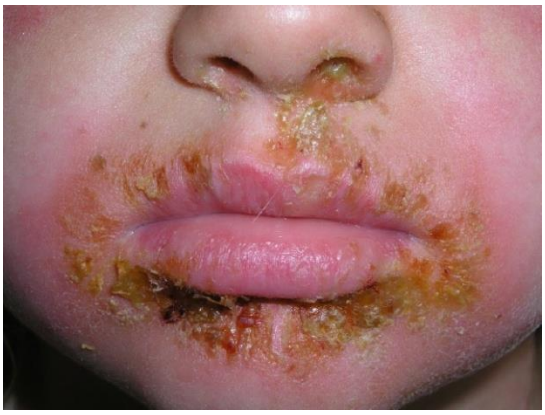
The infection can develop anywhere on the body but lesions tend to occur on the face, flexures and limbs not covered by clothing.

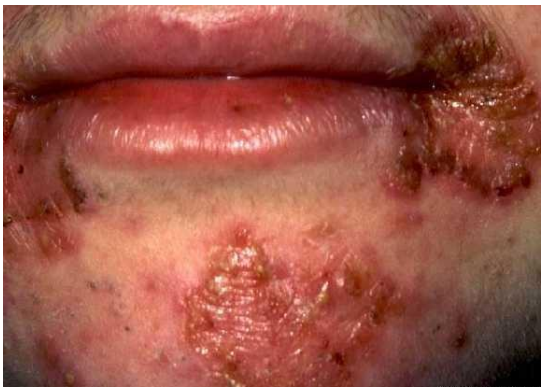
Spread is by direct contact with discharges from the scabs of an infected person. The bacteria invade skin through minor abrasions and then spread to other sites by scratching. Infection is spread mainly by the hands, but indirect spread via toys, clothing, equipment and the environment may occur. The incubation period is between 4 to 10 days.

Features
- 'golden', crusted skin lesions typically found around the mouth
- very contagious

Management
Limited, localised disease
- topical fusidic acid is first-line
- topical retapamulin is used second-line if fusidic acid has been ineffective or is not tolerated
- MRSA is not susceptible to either fusidic acid or retapamulin. Topical mupirocin (Bactroban) should therefore be used in this situation

Extensive disease
- oral flucloxacillin
- oral erythromycin if penicillin allergic
- children should be excluded from school until the lesions are crusted and healed or 48 hours after commencing antibiotic treatment





Q-44

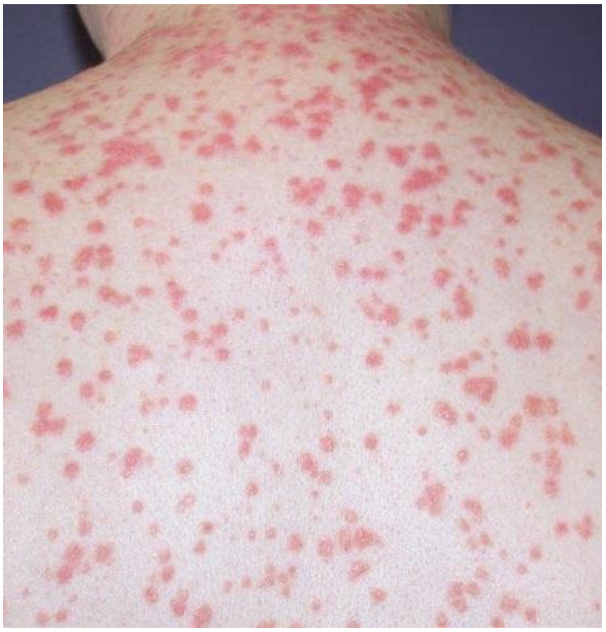
A 25-year-old man presents with a widespread rash over his body. The torso and limbs are covered with multiple erythematous lesions less than 1 cm in diameter which in parts are covered by a fine scale. You note that two weeks earlier he was seen with a sore throat when it was noted that he had exudative tonsillitis. Other than a history of asthma he is normally fit and well. What is the most likely diagnosis?

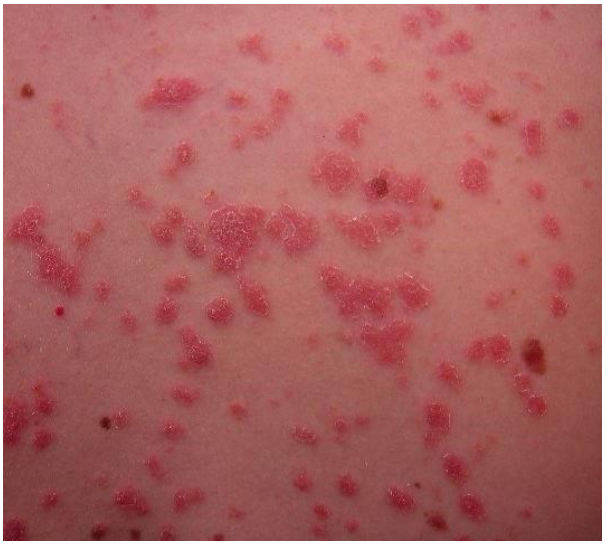
A. **Pityriasis rosea**
B. **Pityriasis versicolor**
C. **Syphilis**
D. **Discoid eczema**
E. **Guttate psoriasis**

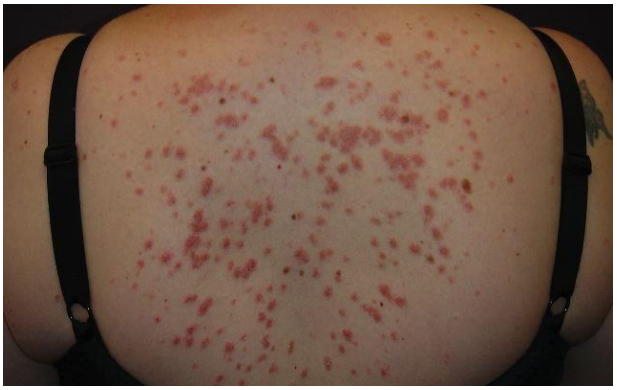
ANSWER:
Guttate psoriasis

EXPLANATION:
PSORIASIS: GUTTATE
Guttate psoriasis is more common in children and adolescents. It may be precipitated by a streptococcal infection 2-4 weeks prior to the lesions appearing.

Features
- tear drop papules on the trunk and limbs







Management
- most cases resolve spontaneously within 2-3 months
- there is no firm evidence to support the use of antibiotics to eradicate streptococcal infection
- topical agents as per psoriasis
- UVB phototherapy
- tonsillectomy may be necessary with recurrent episodes

Differentiating guttate psoriasis and pityriasis rosea

	Guttate psoriasis	Pityriasis rosea
Prodrome	Classically preceded by a streptococcal sore throat 2-4 weeks	Many patients report recent respiratory tract infections but this is not common in questions
Appearance	'Tear drop', scaly papules on the trunk and limbs	Herald patch followed 1-2 weeks later by multiple erythematous, slightly raised oval lesions with a fine scale confined to the outer aspects of the lesions. May follow a characteristic distribution with the longitudinal diameters of the oval lesions running parallel to the line of Langer. This may produce a 'fir-tree' appearance
Treatment / natural history	Most cases resolve spontaneously within 2-3 months Topical agents as per psoriasis UVB phototherapy	Self-limiting, resolves after around 6 weeks

Q-45

Each one of the following is associated with yellow nail syndrome except:

A. **Chronic sinus infections**
B. **Bronchiectasis**
C. **Azoospermia**
D. **Congenital lymphoedema**
E. **Pleural effusions**

ANSWER:
Azoospermia

EXPLANATION:

YELLOW NAIL SYNDROME

Slowing of the nail growth leads to the characteristic thickened and discoloured nails seen in yellow nail syndrome.

Associations

- congenital lymphoedema
- pleural effusions
- bronchiectasis
- chronic sinus infections

Q-46

A 54-year-old man with significant psoriasis and related arthritis comes to the rheumatology clinic for review. despite both NSAIDs and corticosteroids, his symptoms continue to worsen. On examination you can see both extensive plaque psoriasis, and deforming polyarthropathy leading to significant loss of function affecting both hands.

Investigations

Hb	**123 g/l**	**Na+**	**140 mmol/l**
Platelets	**321 * 109/l**	**K+**	**4.2 mmol/l**
WBC	**10.1 * 109/l**	**Urea**	**6.7 mmol/l**
Neuts	**6.1 * 109/l**	**Creatinine**	**105 µmol/l**
Lymphs	**1.9 * 109/l**	**CRP**	**104 mg/l**
Eosin	**# * 109/l**	**ESR**	**70 mm/hr**

Which of the following is the most appropriate next step?

A. Azathioprine
B. Brodalumab
C. Etanercept
D. Rituximab
E. Toclizumab

ANSWER:

Etanercept

EXPLANATION:

In this situation with uncontrolled psoriasis and psoriatic arthritis, early instigation of a biological is recommended. TNF alpha is a pro-inflammatory cytokine closely linked to the severity of psoriasis, and etanercept, a TNF alpha antagonist is the most appropriate intervention. Tuberculosis and viral hepatitis should be ruled out prior to starting therapy.

Although azathioprine does impact on disease severity in psoriasis, in this situation it's more important to gain disease control early, and therefore etanercept is the preferred intervention. Brodalumab is an anti-IL17 monoclonal antibody which has completed registration trials for psoriasis. It's likely to be reserved however for patients who fail to gain control on other interventions. Rituximab is an anti-CD20 antibody more commonly used in the treatment of rheumatoid arthritis, as is toclizumab which targets IL6.

Please see Q-20 for Psoriasis: Management

Q-47

A 17-year-old man presents with a 2 week history of abdominal pain, diarrhoea and repeated episodes of flushing. Examination reveals urticarial skin lesions on the trunk. What test is most likely to reveal the diagnosis?

A. Chest x-ray
B. Urinary catecholamines
C. Serum amylase
D. Urinary 5-HIAA
E. Urinary histamine

ANSWER:

Urinary 5-HIAA

EXPLANATION:

Urinary histamine is used to diagnose systemic mastocytosis Given the history of diarrhoea and flushing a diagnosis of carcinoid syndrome should be considered, which would be investigated with urinary 5-HIAA levels. This would not however explain the urticarial skin lesions. In a young person a diagnosis of systemic mastocytosis should be considered. Another factor against carcinoid syndrome is the age of the patient - the average age of a patient with a carcinoid tumour is 61 years

SYSTEMIC MASTOCYTOSIS

Systemic mastocytosis results from a neoplastic proliferation of mast cells

Features

- urticaria pigmentosa - produces a wheal on rubbing (Darier's sign)
- flushing
- abdominal pain
- monocytosis on the blood film

Diagnosis

- raised serum tryptase levels
- urinary histamine

Q-48

A 20-year-old man presents with acute gingivitis associated with oral ulceration. A diagnosis of primary herpes simplex infection is suspected. Which one of the following types of rash is he most likely to go an develop?

A. Erythema ab igne
B. Erythema nodosum
C. Erythema chronicum migrans
D. Erythema marginatum
E. Erythema multiforme

ANSWER:
Erythema chronicum migrans

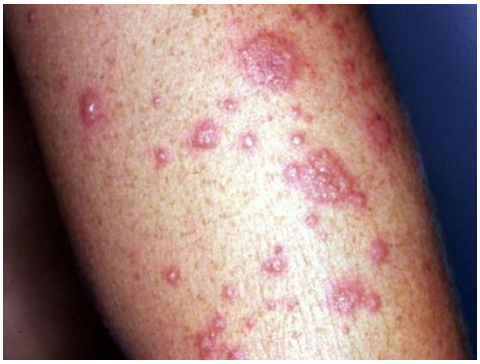
EXPLANATION:
ERYTHEMA MULTIFORME

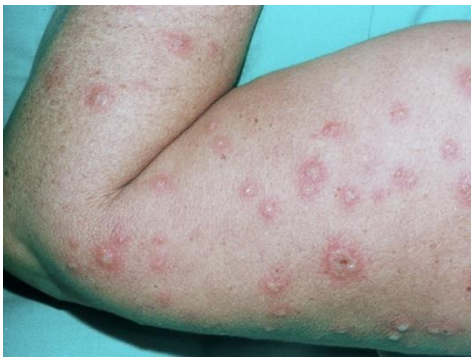
Erythema multiforme is a hypersensitivity reaction which is most commonly triggered by infections. It may be divided into minor and major forms.

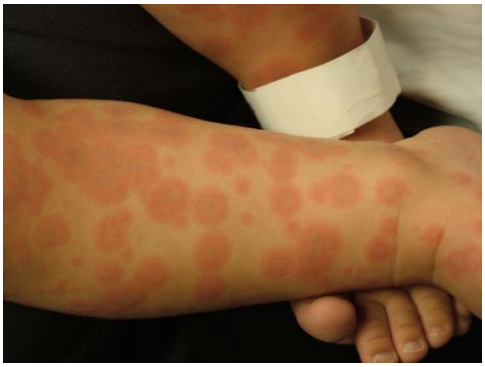
Previously it was thought that Stevens-Johnson syndrome (SJS) was a severe form of erythema multiforme. They are now however considered as separate entities.

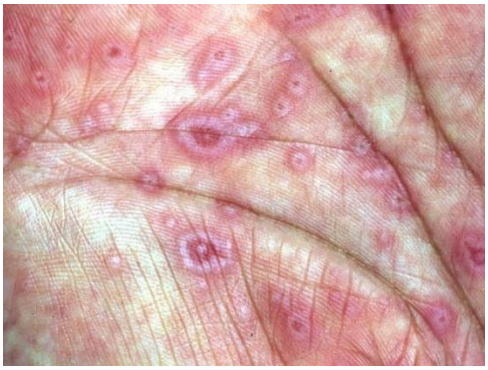
Features
- target lesions
- initially seen on the back of the hands / feet before spreading to the torso
- upper limbs are more commonly affected than the lower limbs
- pruritus is occasionally seen and is usually mild

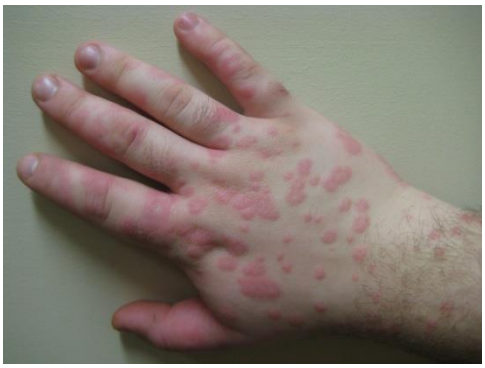
Causes
- viruses: herpes simplex virus (the most common cause), Orf*
- idiopathic
- bacteria: Mycoplasma, Streptococcus
- drugs: penicillin, sulphonamides, carbamazepine, allopurinol, NSAIDs, oral contraceptive pill, nevirapine
- connective tissue disease e.g. Systemic lupus erythematosus
- sarcoidosis
- malignancy



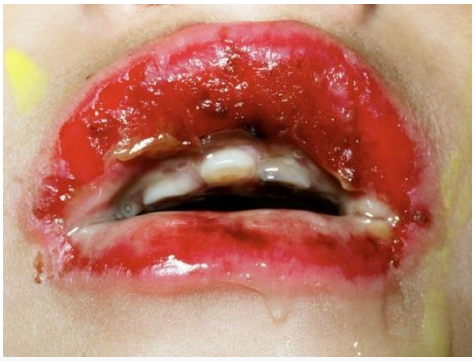








Erythema multiforme major
The more severe form, erythema multiforme major is associated with mucosal involvement.



Example of mucosal involvement in erythema multiforme major

*Orf is a skin disease of sheep and goats caused by a parapox virus

Q-49

A 54-year-old woman is prescribed topical fusidic acid for a small patch of impetigo around her nose. She has recently been discharged from hospital following varicose vein surgery. Seven days after starting treatment there has been no change in her symptoms. Examination reveals a persistent small, crusted area around the right nostril. Whilst awaiting the results of swabs, what is the most appropriate management?

A. Oral vancomycin
B. Oral erythromycin
C. Topical metronidazole
D. Topical mupirocin
E. Oral flucloxacillin

ANSWER:
Topical mupirocin

EXPLANATION:
MRSA should be considered given the recent hospital stay and lack of response to fusidic acid. Topical mupirocin is therefore the most appropriate treatment.

Please see Q-43 for Impetigo

Q-50

A 25-year-old man presents with a pruritic skin rash. This has been present for the past few weeks and has responded poorly to an emollient cream. The pruritus is described as 'intense' and has resulted in him having trouble sleeping. On inspecting the skin you notice a combination of papules and vesicles on his buttocks and the extensor aspect of the knees and elbows. What is the most likely diagnosis?

A. Lichen planus
B. Chronic plaque psoriasis
C. Henoch-Schonlein purpura
D. Dermatitis herpetiformis
E. Scabies

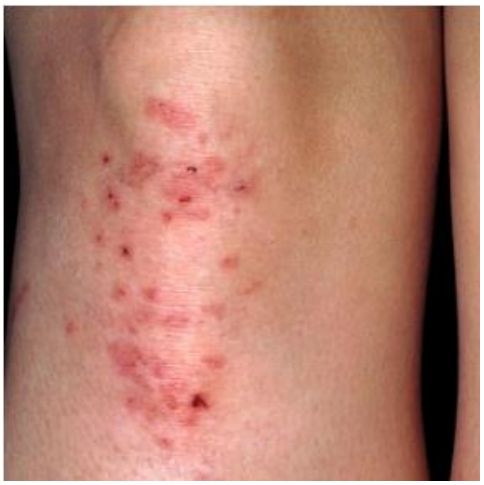
ANSWER:
Dermatitis herpetiformis

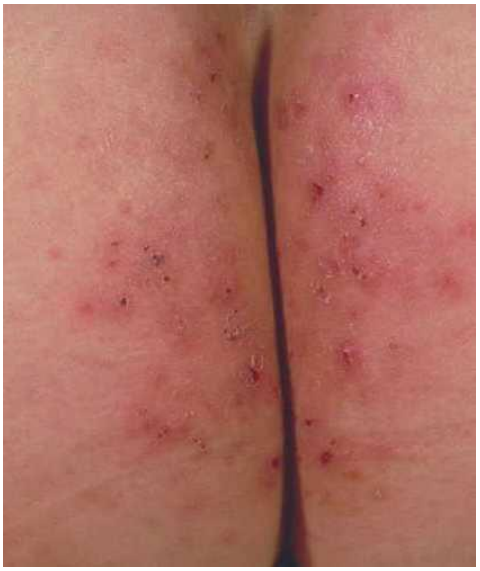
EXPLANATION:
DERMATITIS HERPETIFORMIS
Dermatitis herpetiformis is an autoimmune blistering skin disorder associated with coeliac disease. It is caused by deposition of IgA in the dermis.

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





Q-51

Pellagra is caused by a deficiency in:

A. Vitamin B12
B. Thiamine
C. Nicotinic acid
D. Vitamin B2
E. Vitamin B6

ANSWER:
Nicotinic acid

EXPLANATION:
Please see Q-4 for Pellagra

Q-52

A 17-year-old male is reviewed six weeks after starting an oral antibiotic for acne vulgaris. He stopped taking the drug two weeks ago due to perceived alteration in his skin colour, and denies been exposed to strong sunlight for the past six months. On examination he has generalised increased skin pigmentation, including around the buttocks. Which one of the following antibiotics was he likely to be taking?

A. Doxycycline
B. Oxytetracycline
C. Tetracycline
D. Erythromycin
E. Minocycline

ANSWER:
Minocycline

EXPLANATION:
Minocycline can cause irreversible skin pigmentation and is now considered a second line drug in acne. Photosensitivity secondary to tetracycline/doxycycline is less likely given the generalised distribution of the pigmentation and the failure to improve following drug withdrawal

Please see Q-9 for Acne Vulgaris: Management

Q-53

A 21-year-old woman who is 16 weeks pregnant present with worsening acne which she is finding distressing. She is currently using topical benzyl peroxide with limited effect. On examination there is widespread non-inflammatory lesions and pustules on her face. What is the most appropriate next management step?

A. Oral trimethoprim
B. Oral lymecycline
C. Oral erythromycin
D. Topical retinoid
E. Oral doxycycline

ANSWER:
Oral erythromycin

EXPLANATION:
Acne vulgaris in pregnancy - use oral erythromycin if treatment needed
Oral erythromycin may be used for acne in pregnancy. The other drugs are contraindicated

Please see Q-9 for Acne Vulgaris: Management

Q-54

A 50-year-old man with a history of ulcerative colitis comes for review. Six years ago he had an ileostomy formed which has been functioning well until now. Unfortunately he is currently suffering significant pain around the stoma site. On examination a deep erythematous ulcer is noted with a ragged edge. The surrounding skin is erythematous and swollen. What is the most likely diagnosis?

A. Munchausen's syndrome
B. Irritant contact dermatitis
C. Pyoderma gangrenosum
D. Dermatitis artefacta
E. Stomal granuloma

ANSWER:
Pyoderma gangrenosum

EXPLANATION:
Pyoderma gangrenosum is associated with inflammatory bowel disease and may be seen around the stoma site. Treatment is usually with immunosuppressants as surgery may worsen the problem

A differential diagnosis would be malignancy and hence lesions should be referred for specialist opinion to evaluate the need for a biopsy. Irritant contact dermatitis is common but would not be expected to cause such a deep ulcer.

Please see Q-2 for Pyoderma Gangrenosum

Q-55

Which one of the following factors would predispose a patient to forming keloid scars?

A. Having white skin
B. Incisions along relaxed skin tension lines
C. Being aged 20-40 years
D. Being female
E. Having a wound on the lower back

ANSWER:
Being aged 20-40 years

EXPLANATION:
Keloid scars - more common in young, black, male adults

Please see Q-12 for Keloid Scars

Q-56

A 22-year-old male sex worker comes to the Emergency department with an erythematous skin rash. He tells you that it began on his scalp, and is now spreading to involve his face, neck, and the flexor surfaces of his arms and legs. He has no significant past medical history and takes no regular medication. Blood pressure, pulse and temperature are all normal. Respiratory and abdominal examination is unremarkable. There are extensive erythematous scaly plaques, the overlying skin is greasy and there are areas of yellow / brown crusted material.

Which of the following tests is most important in this situation?

A. **Autoimmune profile**
B. **Herpes PCR**
C. **HIV testing**
D. **Skin scrapings for microscopy and culture**
E. **Syphilis serology**

ANSWER:
HIV testing

EXPLANATION:
This man's presentation is consistent with seborrhoeic dermatitis, and given his occupation as a male sex worker, there is a high risk this may be associated with HIV infection. p24 antigen testing may be useful in the early stages of HIV infection for screening, in the later stages of infection serology for anti-HIV antibodies is most useful.

The extensive plaques count against this being a fungal infection, which would usually be confined to one area, ruling out taking skin scrapings as being useful. Seborrhoeic dermatitis may be associated with autoimmune thyroid disease, although we're given no evidence to support a diagnosis of thyroid dysfunction here. Syphilis is unlikely given there is no history of primary syphilis infection, and herpes PCR is not useful in determining the underlying cause of seborrhoeic dermatitis.

Please see Q-33 for Seborrhoeic Dermatitis in Adults

Q-57

A 26-year-old lady presents to you distressed due to the presence of a rash over her thorax and abdomen for the last three weeks. On examination, you note numerous teardrop lesions on her body.

She has no known past medical history and denies exposure to any new irritants. She states that she is going to be married in 2 weeks and wants to know if there is anything that can be done to hasten the disappearance of her rash.

Which therapy could this lady be commenced on?

A. **Photochemotherapy (PUVA) A**
B. **Oral prednisolone**
C. **Dermovate**
D. **Ultraviolet B phototherapy**
E. **Methotrexate**

ANSWER:
Ultraviolet B phototherapy

EXPLANATION:
This patient has a classic description of guttate psoriasis. Whilst this will usually self-resolve, ultraviolet B phototherapy has been known to accelerate resolution. The other treatments have no role in the acute management of guttate psoriasis.

Please see Q-44 for Psoriasis: Guttate

Q-58

An 84-year-old woman with a history of ischaemic heart disease is reviewed in the dermatology clinic. Her current medication includes aspirin, simvastatin, bisoprolol, ramipril and isosorbide mononitrate. She has developed tense blistering lesions on her legs. Each lesion is around 1 to 3 cm in diameter and she reports that they are slightly pruritic. Examination of her mouth and vulva is unremarkable. What is the most likely diagnosis?

A. **Pemphigus**
B. **Drug reaction to aspirin**
C. **Epidermolysis bullosa**
D. **Scabies**
E. **Bullous pemphigoid**

ANSWER:
Bullous pemphigoid

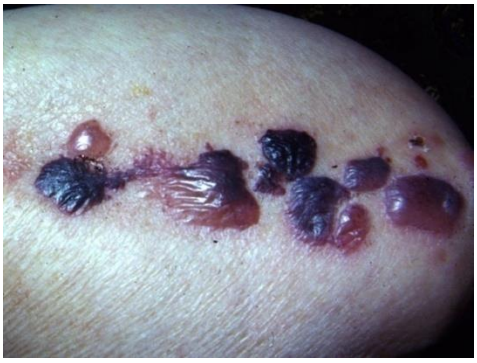
EXPLANATION:
Blisters/bullae
- ***no mucosal involvement (in exams at least*): bullous pemphigoid***
- ***mucosal involvement: pemphigus vulgaris***

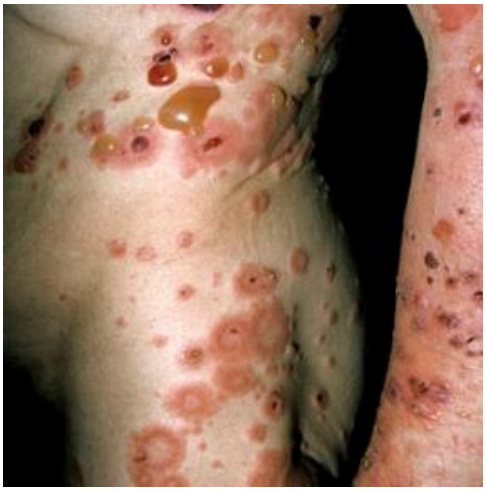
BULLOUS PEMPHIGOID
Bullous pemphigoid is an autoimmune condition causing sub-epidermal blistering of the skin. This is secondary to the development of antibodies against hemidesmosomal proteins BP180 and BP230

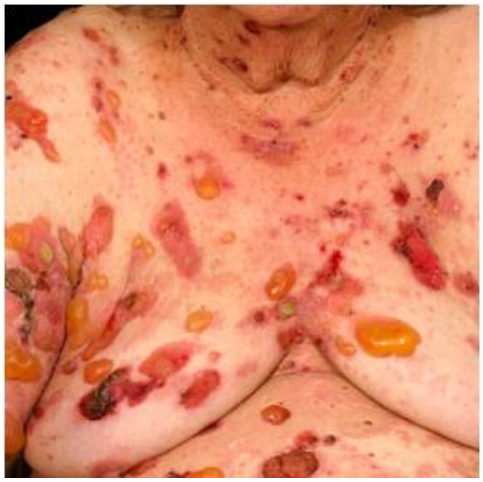
Bullous pemphigoid is more common in elderly patients.
Features include
- itchy, tense blisters typically around flexures
- the blisters usually heal without scarring
- mouth is usually spared*

Skin biopsy
- immunofluorescence shows IgG and C3 at the dermoepidermal junction

Management
- referral to dermatologist for biopsy and confirmation of diagnosis
- oral corticosteroids are the mainstay of treatment
- topical corticosteroids, immunosuppressants and antibiotics are also used







*in reality around 10-50% of patients have a degree of mucosal involvement. It would however be unusual for an exam question to mention mucosal involvement as it is seen as a classic differentiating feature between pemphigoid and pemphigus.

Q-59

A 52-year-old African-American woman presents to the dermatology department. She has noticed a patch of pigmented skin on her toe, which has been slowly enlarging over the past five months. On examination, she has pigmentation of the nail bed of her great toe, affecting the adjacent cuticle and proximal nail fold. Which subtype of melanoma would you expect to present in this manner?

A. Superficial spreading melanoma
B. Acral lentiginous melanoma
C. Lentigo maligna melanoma
D. Nodular melanoma
E. Amelanotic melanoma

ANSWER:
Acral lentiginous melanoma

EXPLANATION:
Acral lentiginous melanoma: Pigmentation of nail bed affecting proximal nail fold suggests melanoma (Hutchinson's sign)
Acral lentiginous melanoma is the rarest form of melanoma overall, but the commonest form of melanoma in people with darker skin. Hence it is important to be able to recognise.

Acral lentiginous melanoma mostly affects people over the age of 40 and is equally common in males and females. It is not related to sun exposure. It typically presents as an enlarging discoloured skin patch on the palms, fingers, soles or toes with the characteristics of other flat forms of melanoma. It can arise in the nail unit, appearing as general discolouration or irregular pigmented bands running longitudinally along the nail plate and is called subungual melanoma when it arises in the matrix.

This patient has subungual acral lentiginous melanoma with an important clinical clue of this called 'Hutchinson's nail sign'. This sign is characterised by extension of the nail bed, matrix and nail plate pigmentation to the adjacent cuticle and proximal or lateral nail folds.

The other forms of melanoma are less likely to present in this way and are described in more detail in the notes below

(DermNet NZ)

Please see Q-29 for Malignant Melanoma

Q-60

Which one of the following side-effects is least recognised in patients taking isotretinoin?

A. Hypertension
B. Teratogenicity
C. Nose bleeds
D. Depression
E. Raised triglycerides

ANSWER:
Hypertension

EXPLANATION:
Isotretinoin adverse effects
- ***teratogenicity - females MUST be taking contraception***
- ***low mood***
- ***dry eyes and lips***
- ***raised triglycerides***
- ***hair thinning***
- ***nose bleeds***

Hypertension is not listed in the British National Formulary as a side-effect

ISOTRETINOIN

Isotretinoin is an oral retinoid used in the treatment of severe acne. Two-thirds of patients have a long-term remission or cure following a course of oral isotretinoin.

Adverse effects

- teratogenicity: females should ideally be using two forms of contraception (e.g. Combined oral contraceptive pill and condoms)
- dry skin, eyes and lips/mouth: the most common side-effect of isotretinoin
- low mood*
- raised triglycerides
- hair thinning
- nose bleeds (caused by dryness of the nasal mucosa)
- intracranial hypertension: isotretinoin treatment should not be combined with tetracyclines for this reason
- photosensitivity

*whilst this is a controversial topic, depression and other psychiatric problems are listed in the BNF

Q-61

Each one of the following is associated with hypertrichosis, except:

A. Anorexia nervosa
B. Porphyria cutanea tarda
C. Psoriasis
D. Minoxidil
E. Ciclosporin

ANSWER:

Psoriasis

EXPLANATION:

HIRSUTISM AND HYPERTRICHOSIS

Hirsutism is often used to describe androgen-dependent hair growth in women, with hypertrichosis being used for androgen-independent hair growth

Polycystic ovarian syndrome is the most common causes of hirsutism. Other causes include:

- Cushing's syndrome
- congenital adrenal hyperplasia
- androgen therapy
- obesity: due to peripheral conversion oestrogens to androgens
- adrenal tumour
- androgen secreting ovarian tumour
- drugs: phenytoin, corticosteroids

Assessment of hirsutism

- Ferriman-Gallwey scoring system: 9 body areas are assigned a score of 0 - 4, a score > 15 is considered to indicate moderate or severe hirsutism

Management of hirsutism

- advise weight loss if overweight
- cosmetic techniques such as waxing/bleaching - not available on the NHS
- consider using combined oral contraceptive pills such as co-cyprindiol (Dianette) or ethinylestradiol and drospirenone (Yasmin). Co-cyprindiol should not be used long-term due to the increased risk of venous thromboembolism
- facial hirsutism: topical eflornithine - contraindicated in pregnancy and breast-feeding

Causes of hypertrichosis

- drugs: minoxidil, ciclosporin, diazoxide
- congenital hypertrichosis lanuginosa, congenital hypertrichosis terminalis
- porphyria cutanea tarda
- anorexia nervosa

Q-62

A 24-year-old woman presents due to a rash on her neck and forehead. She returned from a holiday in Cyprus 1 week ago and had her hair dyed 2 days ago. On examination there is a weepy, vesicular rash around her hairline although the scalp itself is not badly affected. What is the most likely diagnosis?

A. Cutaneous leishmaniasis
B. Irritant contact dermatitis
C. Allergic contact dermatitis
D. Syphilis
E. Photocontact dermatitis

ANSWER:

Allergic contact dermatitis

EXPLANATION:

CONTACT DERMATITIS

There are two main types of contact dermatitis

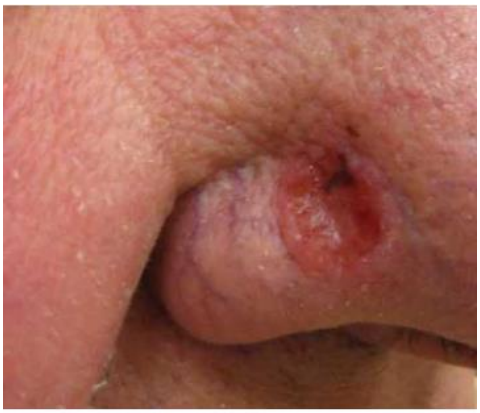
- irritant contact dermatitis: common - non-allergic reaction due to weak acids or alkalis (e.g. detergents). Often seen on the hands. Erythema is typical, crusting and vesicles are rare
- allergic contact dermatitis: type IV hypersensitivity reaction. Uncommon - often seen on the head following hair dyes. Presents as an acute weeping eczema which predominately affects the margins of the hairline rather than the hairy scalp itself. Topical treatment with a potent steroid is indicated

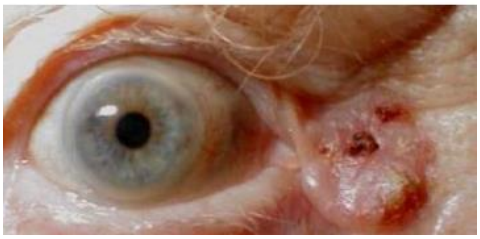
Cement is a frequent cause of contact dermatitis. The alkaline nature of cement may cause an irritant contact dermatitis whilst the dichromates in cement also can cause an allergic contact dermatitis

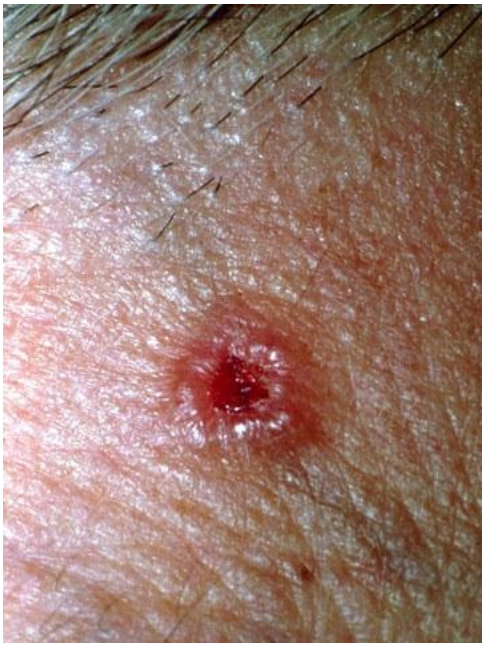
Q-63

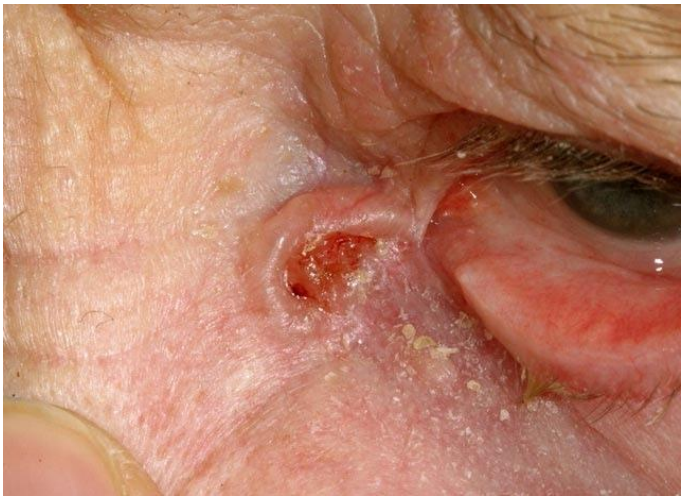
You are working in dermatology. A 72-year-old lady has been referred to you by the GP. She says she can feel a firm patch of roughened skin overlying the left cheek which has been getting gradually larger in size. She thinks it has been there for at least a year. Her GP was not able to see any external features of ulceration, but felt there was a rough area over the left cheek. On examination there is a firm waxy area about 3 x 3 cm in size overlying the left cheek with ill-defined edges. How would you manage this lesion?

A. Mohs surgery
B. Radiotherapy
C. Excision biopsy
D. Reassure the patient and discharge her back to the GP
E. Monitor in clinic every six months









ANSWER:
Mohs surgery

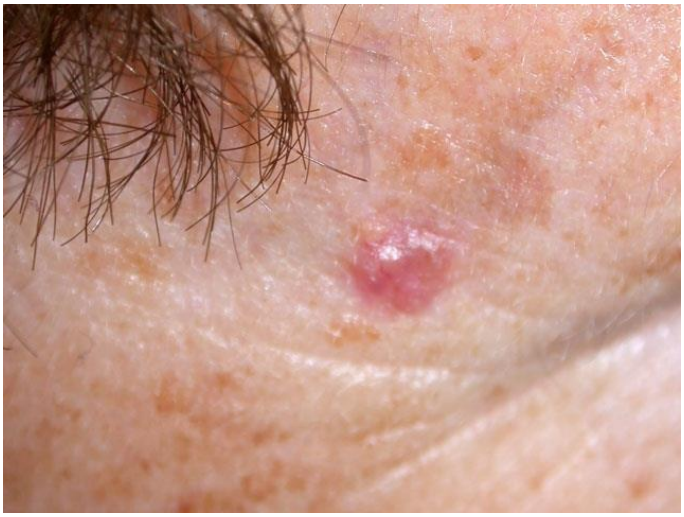
EXPLANATION:
The diagnosis is a morphoeic basal cell carcinoma. These are a type of BCC which present with firm/rough/waxy patches often on the cheeks. They often have poorly defined edges. Whilst radiotherapy can be used to manage some basal or squamous cell carcinomas, Mohs surgery is the gold standard for treating these lesions.

As this lesion is a basal cell carcinoma it should be removed. Therefore answers 4 and 5 are wrong. An excision biopsy is not necessary as it is a clinical diagnosis. Mohs surgery will also confirm this diagnosis as well as treat the lesion by removing it fully until clear margins are present.

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



Q-64

A man presents with an area of dermatitis on his left wrist. He thinks he may be allergic to nickel. Which one of the following is the best test to investigate this possibility?

A. Skin patch test
B. Radioallergosorbent test (RAST)
C. Nickel IgG levels
D. Skin prick test
E. Nickel IgM levels

ANSWER:
Skin patch test

EXPLANATION:
Please see Q-19 for Allergy Tests

Q-65

A 26-year-old male presents with a rash. Examination reveals erythematous oval lesions on his back and upper arms which have a slight scale just inside the edge. They vary in size from 1 to 5 cm in diameter. What is the most likely diagnosis?

A. Lichen planus
B. Guttate psoriasis
C. Lichen sclerosus
D. Pityriasis rosea
E. Pityriasis versicolor

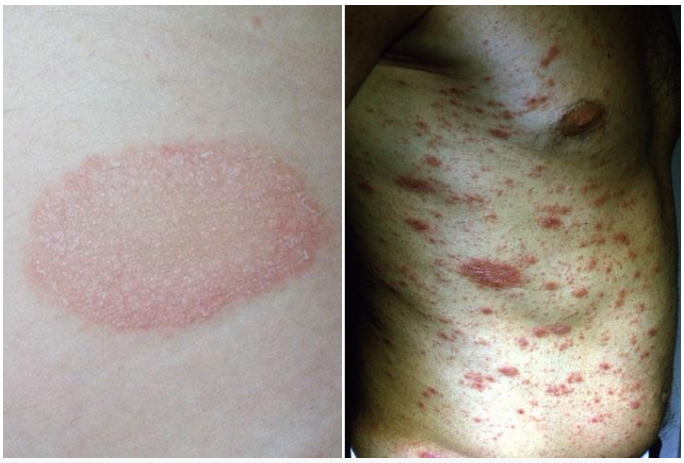
ANSWER:
Pityriasis rosea

EXPLANATION:
The skin lesions seen in pityriasis rosea are generally larger than those found in guttate psoriasis and scaling is typically confined to just inside the edges

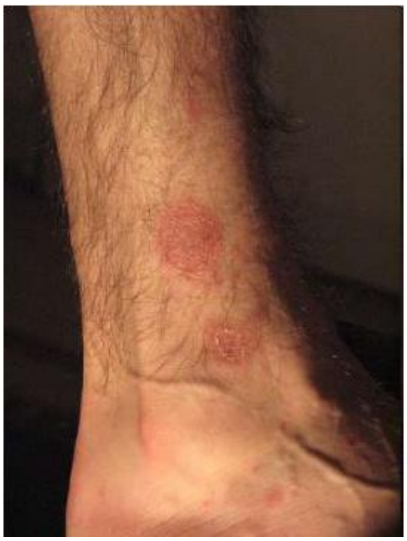
PITYRIASIS ROSEA
Pityriasis rosea describes an acute, self-limiting rash which tends to affect young adults. The aetiology is not fully understood but is thought that herpes hominis virus 7 (HHV-7) may play a role.

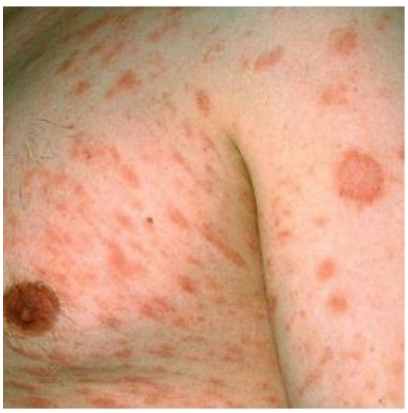
Features
- herald patch (usually on trunk)
- followed by erythematous, oval, scaly patches which follow a characteristic distribution with the longitudinal diameters of the oval lesions running parallel to the line of Langer. This may produce a 'fir-tree' appearance

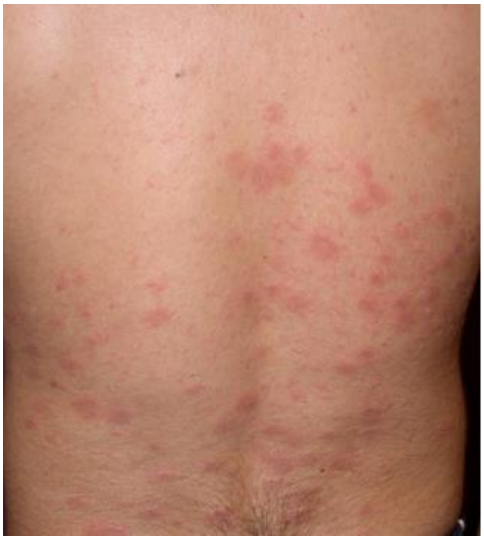
Management
- self-limiting, usually disappears after 4-12 weeks



On the left a typical herald patch is seen. After a few days a more generalised 'fir-tree' rash appears







Differentiating guttate psoriasis and pityriasis rosea

	Guttate psoriasis	Pityriasis rosea
Prodrome	Classically preceded by a streptococcal sore throat 2-4 weeks	Many patients report recent respiratory tract infections but this is not common in questions
Appearance	'Tear drop', scaly papules on the trunk and limbs	Herald patch followed 1-2 weeks later by multiple erythematous, slightly raised oval lesions with a fine scale confined to the outer aspects of the lesions. May follow a characteristic distribution with the longitudinal diameters of the oval lesions running parallel to the line of Langer. This may produce a 'fir-tree' appearance
Treatment / natural history	Most cases resolve spontaneously within 2-3 months Topical agents as per psoriasis UVB phototherapy	Self-limiting, resolves after around 6 weeks

Q-66

Which one of the following antibiotics is most associated with the development of Stevens-Johnson syndrome?

A. Co-trimoxazole
B. Ethambutol
C. Chloramphenicol
D. Ciprofloxacin
E. Gentamicin

ANSWER:
Co-trimoxazole

EXPLANATION:
STEVENS-JOHNSON SYNDROME
Stevens-Johnson syndrome is a severe systemic reaction affecting the skin and mucosa that is almost always caused by a drug reaction.

Previously it was thought that Stevens-Johnson syndrome (SJS) was a severe form of erythema multiforme. They are now however considered as separate entities.

Features
- rash is typically maculopapular with target lesions being characteristic. May develop into vesicles or bullae
- mucosal involvement
- systemic symptoms: fever, arthralgia

Causes
- penicillin
- sulphonamides
- lamotrigine, carbamazepine, phenytoin
- allopurinol
- NSAIDs
- oral contraceptive pill

Management
- hospital admission is required for supportive treatment

Q-67

A 22-year-old male is referred to dermatology clinic with a longstanding problem of bilateral excessive axillary sweating. He is otherwise well but the condition is affecting his confidence and limiting his social life. What is the most appropriate management?

A. Non-sedating antihistamine
B. Topical hydrocortisone 1%
C. Perform thyroid function tests
D. Topical aluminium chloride
E. Trial of desmopressin

ANSWER:
Topical aluminium chloride

EXPLANATION:
HYPERHIDROSIS
Hyperhidrosis describes the excessive production of sweat

Management options include
- topical aluminium chloride preparations are first-line. Main side effect is skin irritation
- iontophoresis: particularly useful for patients with palmar, plantar and axillary hyperhidrosis
- botulinum toxin: currently licensed for axillary symptoms
- surgery: e.g. Endoscopic transthoracic sympathectomy. Patients should be made aware of the risk of compensatory sweating

Q-68

A 62-year-old female is referred to dermatology due to a lesion over her shin. It initially started as a small red papule which later became a deep, red, necrotic ulcer with a violaceous border. What is the likely diagnosis?

A. **Necrobiosis lipoidica diabeticorum**
B. **Syphilis**
C. **Erythema nodosum**
D. **Pretibial myxoedema**
E. **Pyoderma gangrenosum**

ANSWER:
Pyoderma gangrenosum

EXPLANATION:
This is a classic description of pyoderma gangrenosum

Please see Q-22 for Shin Lesions

Q-69

A 81-year-old man is investigated after he develops a number of itchy blisters on his trunk. A skin biopsy suggests a diagnosis bullous pemphigoid. This is most likely to be caused by antibodies directed against:

A. **Adherens**
B. **Desmoglein-3**
C. **Hemidesmosomal BP antigens**
D. **Occludin-2**
E. **Desmoglein-1**

ANSWER:
Hemidesmosomal BP antigens

EXPLANATION:
Please see Q-58 for Bullous Pemphigoid

Q-70

A 26-year-old man who is HIV positive is noted to have developed seborrhoeic dermatitis. Which of the following two complications are most associated with this condition?

A. **Alopecia and otitis externa**
B. **Blepharitis and otitis externa**
C. **Photosensitivity and alopecia**
D. **Photosensitivity and blepharitis**
E. **Blepharitis and alopecia**

ANSWER:
Blepharitis and otitis externa

EXPLANATION:
Alopecia is not commonly seen in seborrhoeic dermatitis, but may develop if a severe secondary infection develops

Please see Q-33 for Seborrhoeic Dermatitis in Adults

Q-71

A 45-year-old man develops toxic epidermal necrolysis following a change in his epilepsy medication. He is systemically unwell and is admitted to ITU for supportive care. What is the most appropriate treatment?

A. **Intravenous immunoglobulin**
B. **Cyclophosphamide**
C. **Supportive care only**
D. **Pulsed methylprednisolone**
E. **Plasmapheresis**

ANSWER:
Intravenous immunoglobulin

EXPLANATION:
TOXIC EPIDERMAL NECROLYSIS
Toxic epidermal necrolysis (TEN) is a potentially life-threatening skin disorder that is most commonly seen secondary to a drug reaction. In this condition the skin develops a scalded appearance over an extensive area. Some authors consider TEN to be the severe end of a spectrum of skin disorders which includes erythema multiforme and Stevens-Johnson syndrome

Features
- systemically unwell e.g. pyrexia, tachycardic
- positive Nikolsky's sign: the epidermis separates with mild lateral pressure

Drugs known to induce TEN
- phenytoin
- sulphonamides
- allopurinol
- penicillins
- carbamazepine
- NSAIDs

Management
- stop precipitating factor
- supportive care, often in intensive care unit
- intravenous immunoglobulin has been shown to be effective and is now commonly used first-line
- other treatment options include: immunosuppressive agents (ciclosporin and cyclophosphamide), plasmapheresis

Q-72

Which one of the following conditions is least associated with pruritus?

A. **Pemphigus vulgaris**
B. **Iron-deficiency anaemia**
C. **Polycythaemia**
D. **Chronic renal failure**
E. **Scabies**

ANSWER:
Pemphigus vulgaris

EXPLANATION:
Pemphigus vulgaris is an autoimmune bullous disease of the skin. It is not commonly associated with pruritus

PRURITUS

The table below lists the main characteristics of the most important causes of pruritus

Condition	Notes
Liver disease	History of alcohol excess Stigmata of chronic liver disease: spider naevi, bruising, palmar erythema, gynaecomastia etc Evidence of decompensation: ascites, jaundice, encephalopathy
Iron deficiency anaemia	Pallor Other signs: koilonychia, atrophic glossitis, post-cricoid webs, angular stomatitis
Polycythaemia	Pruritus particularly after warm bath 'Ruddy complexion' Gout Peptic ulcer disease
Chronic kidney disease	Lethargy & pallor Oedema & weight gain Hypertension
Lymphoma	Night sweats Lymphadenopathy Splenomegaly, hepatomegaly Fatigue

Other causes:

- hyper- and hypothyroidism
- diabetes
- pregnancy
- 'senile' pruritus
- urticaria
- skin disorders: eczema, scabies, psoriasis, pityriasis rosea

Q-73

A 54-year-old lady attends with a rash. She describes a facial rash present for several weeks associated with flushing. On examination, there is erythematous papulopustular rash with telangiectasia across both cheeks and nose. Given the likely diagnosis, which associated complication may she also have?

A. Blepharitis
B. Parotitis
C. Vulvovaginitis
D. Pancreatitis
E. Pericarditis

ANSWER:
Blepharitis

EXPLANATION:
Acne rosacea

- *chronic skin condition which causes persistent facial flushing, erythema, telangiectasia, pustules, papules and rhinophyma*
- *It can also affect the eyes causing blepharitis, keratitis, conjunctivitis*
- *It is treated with topical antibiotics e.g. metronidazole gel or oral tetracycline (especially if ocular symptoms).*

Please see Q-1 for Acne Rosacea

Q-74

A 48-year-old presents with diarrhoea and confusion. He is known to be alcohol dependent, having previously had several admission with alcohol toxicity. He consumes 45 units of alcohol per week, and has had previous admissions for aspiration pneumonia. He denies head trauma. On examination he appears confused and anxious, and there is a rash around his neck which appears to be in sun exposed areas. It appears pigmented. A CT scan of the head is normal. What deficiency would most likely explain his presentation?

A. Thiamine
B. Vitamin A
C. Vitamin C
D. Niacin
E. Riboflavin

ANSWER:
Niacin

EXPLANATION:
The correct answer is niacin. Niacin deficiency, or pellagra, typically presents as the triple combination of dementia, diarrhoea and dermatitis. The dermatitis is a photosensitive pigmented dermatitis. The significant alcohol history makes niacin deficiency very likely. Thiamine deficiency causes beriberi and Wernicke-Korsakoff syndrome, neither which would explain his rash. Vitamin C deficiency causes scurvy which is associated with bleeding and gum ulceration.

Please see Q-4 for Pellagra

Q-75

A 49-year-old man is reviewed in the dermatology clinic complaining of losing hair. Examination reveals generalised scalp hair loss that does not follow the typical male-pattern distribution. Which one of the following medications is least likely to be responsible?

A. Colchicine
B. Cyclophosphamide
C. Heparin
D. Carbimazole
E. Phenytoin

ANSWER:
Phenytoin

EXPLANATION:
Phenytoin is a recognised cause of hirsutism, rather than alopecia

Please see Q-10 for Alopecia

Q-76

A 54-year-old man presents with a brown velvety rash on the back of his neck around his axilla. A clinical diagnosis of acanthosis nigricans is made. Which one of the following conditions is most associated with this kind of rash?

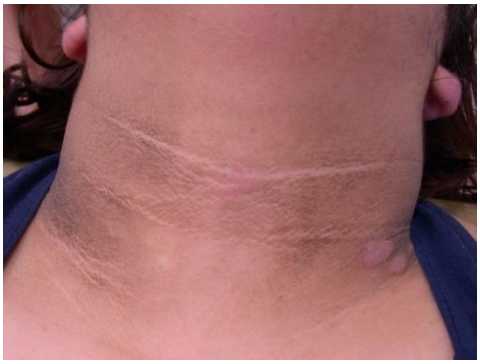
A. Hypothyroidism
B. Psoriasis
C. Tuberculosis
D. Ulcerative colitis
E. Acute pancreatitis

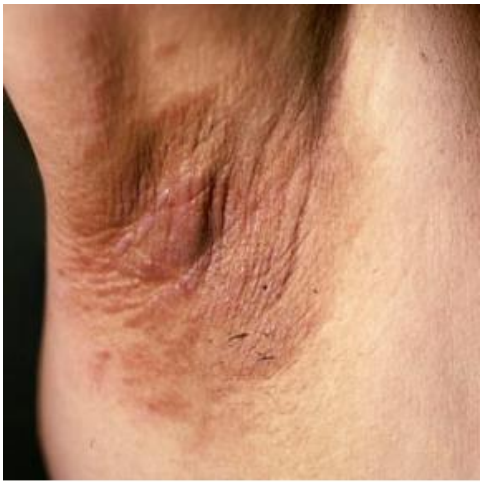
ANSWER:
Hypothyroidism

EXPLANATION:
ACANTHOSIS NIGRICANS
Describes symmetrical, brown, velvety plaques that are often found on the neck, axilla and groin

Causes

- gastrointestinal cancer
- diabetes mellitus
- obesity
- polycystic ovarian syndrome
- acromegaly
- Cushing's disease
- hypothyroidism
- familial
- Prader-Willi syndrome
- drugs: oral contraceptive pill, nicotinic acid





Q-77

A patient who is suspected of having dermatitis herpetiformis undergoes a skin biopsy. Which one of the following antibodies is most likely to be found in the dermis?

A. IgM
B. IgA
C. IgD
D. IgE
E. IgG

ANSWER:
IgA

EXPLANATION:
Dermatitis herpetiformis - caused by IgA deposition in the dermis

Please see Q-50 for Dermatitis Herpetiformis

Q-78

A 19-year-old man is started on isotretinoin for severe nodulo-cystic acne. Which one of the following side-effects is most likely to occur?

A. Low mood
B. Thrombocytopaenia
C. Raised plasma triglycerides
D. Reversible alopecia
E. Dry skin

ANSWER:
Dry skin

EXPLANATION:
Dry skin is the most common side-effect of isotretinoin

Please see Q-60 for Isotretinoin

Q-79

A 23-year-old student is investigated following an anaphylactic reaction suspected to be secondary to a wasp sting. Which one of the following is the most appropriate first-line test to investigate the cause of the reaction?

A. Hair analysis
B. Radioallergosorbent test (RAST)
C. Desensitization therapy
D. Skin patch test
E. Skin prick test

ANSWER:
30%

EXPLANATION:
Given the history of anaphylaxis it would not be appropriate to perform a skin prick test

Please see Q-19 for Allergy Tests

Q-80

A 72-year-old woman is diagnosed with a number of erythematous, rough lesions on the back of her hands. A diagnosis of actinic keratoses is made. What is the most appropriate management?

A. Reassurance
B. Urgent referral to a dermatologist
C. Topical fluorouracil cream
D. Review in 3 months
E. Topical betnovate

ANSWER:
Topical fluorauracil cream

EXPLANATION:
ACTINIC KERATOSES
Actinic, or solar, keratoses (AK) is a common premalignant skin lesion that develops as a consequence of chronic sun exposure

Features
- small, crusty or scaly, lesions
- may be pink, red, brown or the same colour as the skin
- typically on sun-exposed areas e.g. temples of head
- multiple lesions may be present

Management options include
- prevention of further risk: e.g. sun avoidance, sun cream
- fluorouracil cream: typically a 2 to 3 week course. The skin will become red and inflamed - sometimes topical hydrocortisone is given following fluorouracil to help settle the inflammation
- topical diclofenac: may be used for mild AKs. Moderate efficacy but much fewer side-effects
- topical imiquimod: trials have shown good efficacy
- cryotherapy
- curettage and cautery

Q-81

A 58-year-old woman presents with a persistent erythematous rash on her cheeks and a 'red nose'. She describes occasional episodes of facial flushing. On examination erythematous skin is noted on the nose and cheeks associated with occasional telangiectasia. What is the most appropriate management?

A. Topical metronidazole
B. Topical isotretinoin
C. Benzyl peroxide
D. Daktacort
E. Topical hydrocortisone

ANSWER:
Topical metronidazole

EXPLANATION:
Acne rosacea treatment:
- ***mild/moderate: topical metronidazole***
- ***severe/resistant: oral tetracycline***

Given that this woman has mild symptoms, topical metronidazole should be used first line

Please see Q-1 for Acne Rosacea

Q-82

A 45-year-old woman presents for review. She has noticed a number of patches of 'pale skin' on her hands over the past few weeks. The patient has tried using an emollient and topical hydrocortisone with no result. On examination, you note a number of depigmented patches on the dorsum of both hands. Her past medical history includes thyrotoxicosis for which she takes carbimazole and thyroxine.

What is the most likely cause of her symptoms?

A. Vitiligo
B. Carbimazole-induced hypopigmentation
C. Leukopaenia-induced fungal infection
D. Idiopathic guttate hypomelanosis
E. Addison disease

ANSWER:
Vitiligo

EXPLANATION:
Vitiligo is more common in patients with known autoimmune conditions such as thyrotoxicosis. There is nothing else in the history to suggest Addison's disease.

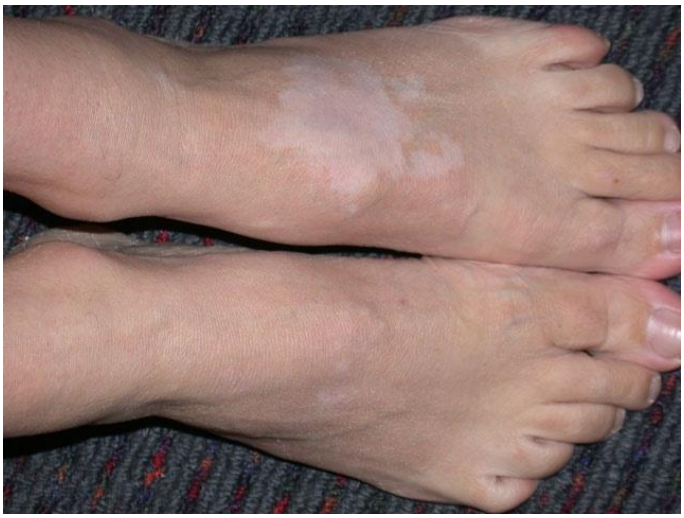
VITILIGO
Vitiligo is an autoimmune condition which results in the loss of melanocytes and consequent depigmentation of the skin. It is thought to affect around 1% of the population and symptoms typically develop by the age of 20-30 years.

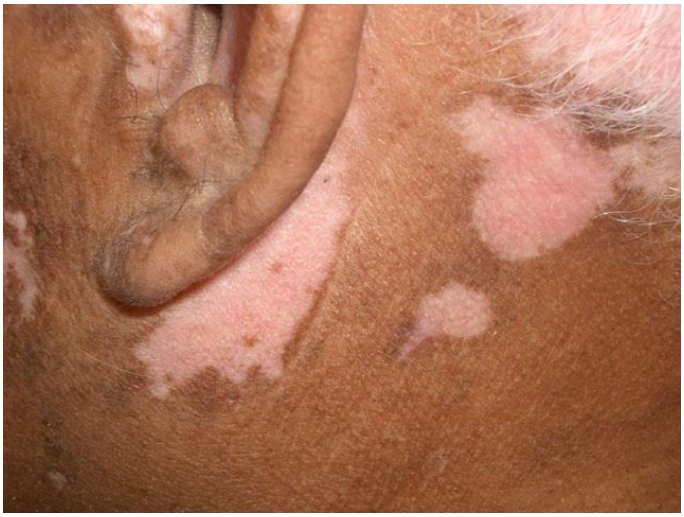
Features
- well demarcated patches of depigmented skin
- the peripheries tend to be most affected
- trauma may precipitate new lesions (Koebner phenomenon)

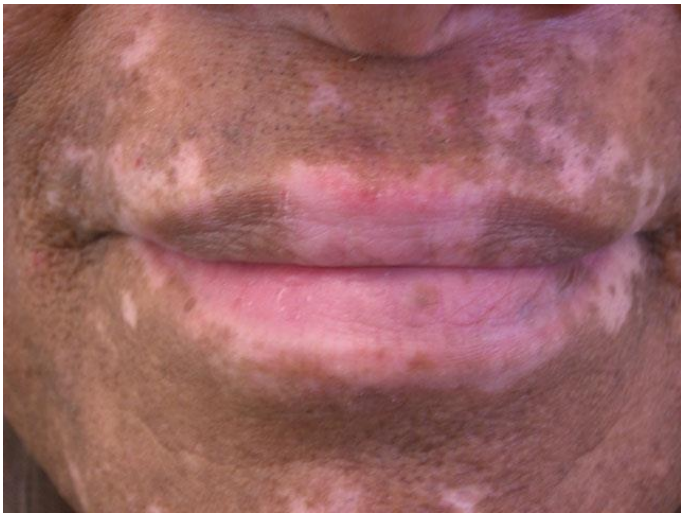
Associated conditions
- type 1 diabetes mellitus
- Addison's disease
- autoimmune thyroid disorders
- pernicious anaemia
- alopecia areata

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







Q-83

A 17-year-old female originally from Nigeria presents due to a swelling around her earlobe. She had her ears pierced around three months ago and has noticed the gradual development of an erythematous swelling since. On examination a keloid scar is seen. What is the most appropriate management?

A. Intralesional diclofenac
B. Advise no treatment is available
C. Intralesional triamcinolone
D. Advise will spontaneously regress within 4-6 months
E. Intralesional sclerotherapy

ANSWER:
Intralesional triamcinolone

EXPLANATION:
Please see Q-12 for Keloid Scars

Q-84

A woman presents with painful erythematous lesions on her shins. Which one of the following is least associated with this presentation?

A. Pregnancy
B. Behcet's syndrome
C. Streptococcal infection
D. Penicillin
E. Amyloidosis

ANSWER:
Amyloidosis

EXPLANATION:
Please see Q-13 for Erythema Nodosum

Q-85

A 30-year-old man presents with painful, purple coloured lesions on his shins. Some of these lesions have started to heal and no evidence of scarring is seen. These have been present for the past 2 weeks. There is no past medical history of note and he takes no regular medications. What is the most useful next investigation?

A. Liver function tests
B. Anti-nuclear antibody
C. ECG
D. HIV test
E. Chest x-ray

ANSWER:
Chest x-ray

EXPLANATION:
The likely diagnosis here is erythema nodosum (EN). All these tests may have a place but a chest x-ray is important as it helps exclude sarcoidosis and tuberculosis, two important cause of EN

Please see Q-13 for Erythema Nodosum

Q-86

A 25-year-old male presents with extensive patches of altered pigmentation on his front, back, face and thighs. There is mild pruritus. A diagnosis of extensive pityriasis versicolor is made. What is the most appropriate management?

A. Oral metronidazole
B. Topical terbinafine
C. Oral itraconazole
D. Topical selenium sulphide
E. Oral terbinafine

ANSWER:
Oral itraconazole

EXPLANATION:
Given the extensive nature of the lesions systemic therapy is indicated in this case

PITYRIASIS VERSICOLOR
Pityriasis versicolor, also called tinea versicolor, is a superficial cutaneous fungal infection caused by Malassezia furfur (formerly termed Pityrosporum ovale)

Features
- most commonly affects trunk
- patches may be hypopigmented, pink or brown (hence versicolor). May be more noticeable following a suntan
- scale is common
- mild pruritus

Predisposing factors
- occurs in healthy individuals
- immunosuppression
- malnutrition
- Cushing's

Management
- topical antifungal. NICE Clinical Knowledge Summaries advise ketoconazole shampoo as this is more cost effective for large areas
- if extensive disease or failure to respond to topical treatment then consider oral itraconazole

Q-87

A 47-year-old lorry driver presents following the development of a widespread urticarial rash. This is associated with pruritus. What is the most appropriate medication to help relieve the itch?

A. Cetirizine
B. Loratadine
C. Chlorphenamine
D. Ranitidine
E. Alimemazine

ANSWER:
Loratadine

EXPLANATION:
The obvious concern in a lorry driver is drowsiness. Of the non-sedating antihistamines there is some evidence that cetirizine causes more drowsiness than loratadine

ANTIHISTAMINES
Antihistamines (H1 inhibitors) are of value in the treatment of allergic rhinitis and urticaria.

Examples of sedating antihistamines
- chlorpheniramine

As well as being sedating these antihistamines have some antimuscarinic properties (e.g. urinary retention, dry mouth).

Examples of non-sedating antihistamines
- loratidine
- cetirizine

Of the non-sedating antihistamines there is some evidence that cetirizine may cause more drowsiness than other drugs in the class.

Q-88

A 29-year-old man consults you regarding a rash he has noticed around his groin. It has been present for the past 3 months and is asymptomatic. On examination, a symmetrical rash around the groin is noted consisting of well-defined pink/brown patches with fine scaling and superficial fissures.

What is the most likely diagnosis?

A. Erythrasma
B. Pityriasis versicolor
C. Secondary syphilis
D. Acanthosis nigricans
E. Candida intertrigo

ANSWER:
Erythrasma

EXPLANATION:
ERYTHRASMA
Erythrasma is a generally asymptomatic, flat, slightly scaly, pink or brown rash usually found in the groin or axillae. It is caused by an overgrowth of the diphtheroid Corynebacterium minutissimum

Examination with Wood's light reveals a coral-red fluorescence.

Topical miconazole or antibacterial are usually effective. Oral erythromycin may be used for more extensive infection

Q-89

A 35-year-old female presents tender, erythematous nodules over her forearms. Blood tests reveal:

Calcium 2.78 mmol/l

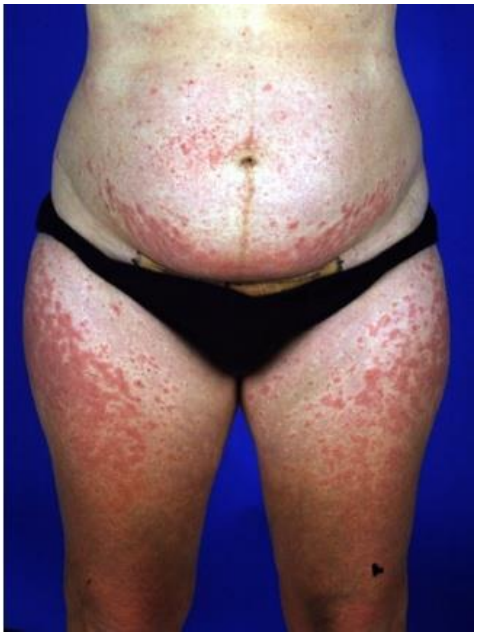
What is the most likely diagnosis?

A. Granuloma annulare
B. Erythema nodosum
C. Lupus pernio
D. Erythema multiforme
E. Necrobiosis lipoidica

ANSWER:
Erythema nodosum

EXPLANATION:
The likely underlying diagnosis is sarcoidosis

Please see Q-13 for Erythema Nodosum



Q-90

A 33-year-old lady presents complaining of facial discolouration. She is 26 weeks pregnant. So far it has been an uncomplicated pregnancy. She has a background of rheumatoid arthritis but has been off treatment for 2 years.

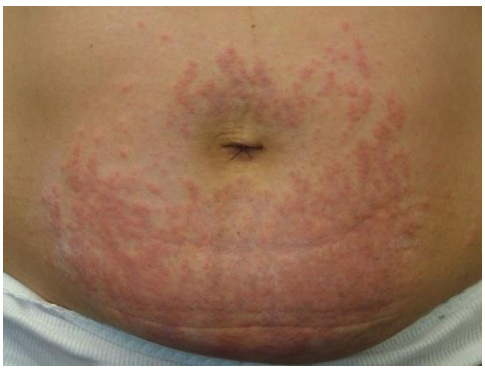
On examination she has a large, flat, symmetrical, brown-pigmented patch across her cheeks, forehead, nose and upper lip.

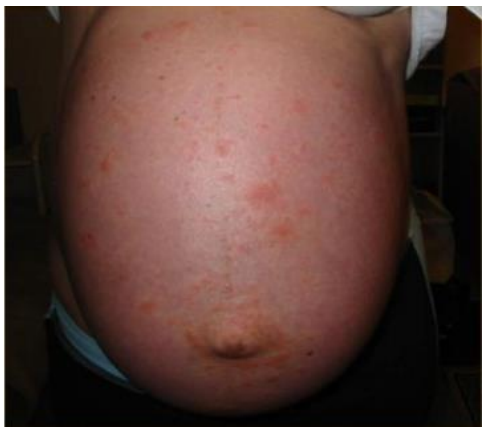
What is the most likely diagnosis?

A. Systemic Lupus Erythematosus (SLE)
B. Melasma
C. Polymorphic eruption of pregnancy
D. Rosacea
E. Vitiligo

ANSWER:
Melasma

EXPLANATION:
Melasma is a benign but relatively common skin condition which can appear in pregnancy. In this situation it may resolve a few months after delivery.

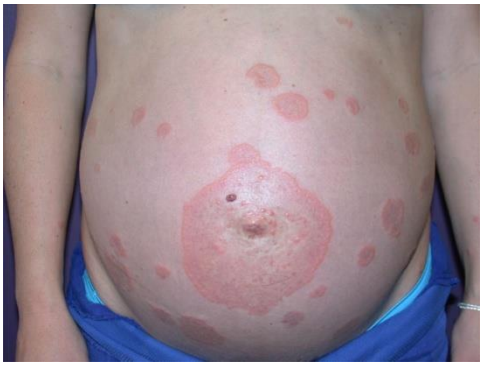


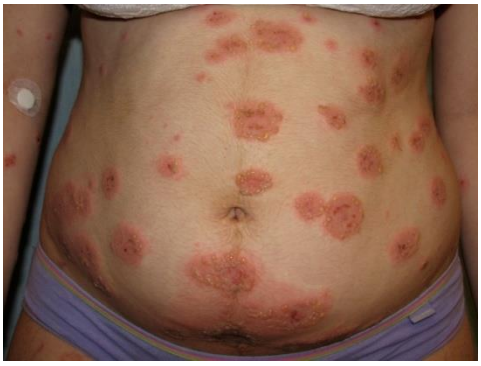


SKIN DISORDERS ASSOCIATED WITH PREGNANCY

Polymorphic eruption of pregnancy
- pruritic condition associated with last trimester
- lesions often first appear in abdominal striae
- management depends on severity: emollients, mild potency topical steroids and oral steroids may be used

Pemphigoid gestationis
- pruritic blistering lesions
- often develop in peri-umbilical region, later spreading to the trunk, back, buttocks and arms
- usually presents 2nd or 3rd trimester and is rarely seen in the first pregnancy
- oral corticosteroids are usually required





Q-91

Which one of the following complications is most associated with psoralen + ultraviolet A light (PUVA) therapy?

A. **Squamous cell cancer**
B. **Osteoporosis**
C. **Basal cell cancer**
D. **Dermoid cysts**
E. **Malignant melanoma**

ANSWER:
Squamous cell cancer

EXPLANATION:
The most significant complication of PUVA therapy for psoriasis is squamous cell skin cancer.

Please see Q-20 for Psoriasis: Management

Q-92

A 9-year-old child with a history of atopic eczema presents with a sudden worsening of her skin. Her eczema is usually well controlled with emollients but her parents are concerned as the facial eczema has got significantly worse overnight. She now has painful clustered blisters on both cheeks, around her mouth on her neck. Her temperature is 37.9ºC. What is the most appropriate management?

A. **Advise paracetamol + emollients and reassure**
B. **Intravenous aciclovir**
C. **Potent topical steroid**
D. **Intravenous flucloxacillin**
E. **Oral fluconazole**

ANSWER:
Intravenous aciclovir

EXPLANATION:
ECZEMA HERPETICUM
Eczema herpeticum describes a severe primary infection of the skin by herpes simplex virus 1 or 2. It is more commonly seen in children with atopic eczema. As it is potentially life threatening children should be admitted for IV aciclovir

Q-93

A 78 year-old woman presents with a poorly healing area of skin on her ankle. She has a history of deep vein thrombosis 20 years ago following a hip replacement. She currently takes Adcal D3, and no other medications. On examination there is a shallow ulcer anterior to the medial malleolus. She is otherwise very well.

What investigation would be most useful in determining further management?

A. **Serum calcium**
B. **Ankle-brachial pressure index**
C. **CT venogram**
D. **C-reactive protein**
E. **Lower limb doppler**

ANSWER:
Ankle-brachial pressure index

EXPLANATION:
This patient has the classic appearances of a venous ulcer. She is systemically well with no evidence to suggest infection. The most appropriate management of venous ulcers is with compression dressings, however it is important to make sure the patient's arterial supply is good enough to allow some compression.

VENOUS ULCERATION
Venous ulceration is typically seen above the medial malleolus

Investigations
- ankle-brachial pressure index (ABPI) is important in non-healing ulcers to assess for poor arterial flow which could impair healing
- a 'normal' ABPI may be regarded as between 0.9 - 1.2. Values below 0.9 indicate arterial disease. Interestingly, values above 1.3 may also indicate arterial disease, in the form of false-negative results secondary to arterial calcification (e.g. In diabetics)

Management
- compression bandaging, usually four layer (only treatment shown to be of real benefit)
- oral pentoxifylline, a peripheral vasodilator, improves healing rate
- small evidence base supporting use of flavinoids

- little evidence to suggest benefit from hydrocolloid dressings, topical growth factors, ultrasound therapy and intermittent pneumatic compression

Q-94

A 38-year-old woman with a history of rheumatoid arthritis and epilepsy presents with generalised increased hair growth over her trunk and arms. Which one of the following drugs is associated with hypertrichosis?

A. Sodium valproate
B. Prednisolone
C. Phenytoin
D. Ciclosporin
E. Methotrexate

ANSWER:
Ciclosporin

EXPLANATION:
Please see Q-61 for Hirsutism and Hypertrichosis

Q-95

A 26-year-old man with a history of hereditary haemorrhagic telangiectasia is planning to start a family. What is the mode of inheritance?

A. Autosomal dominant with incomplete penetrance
B. Autosomal codominant
C. Autosomal recessive with incomplete penetrance
D. Autosomal dominant
E. Autosomal recessive

ANSWER:
Autosomal dominant

EXPLANATION:
Hereditary haemorrhagic telangiectasia - autosomal dominant

Please see Q-23 for Hereditary Haemorrhagic Telangiectasia

Q-96

A 45-year-old woman presents with itchy, violaceous papules on the flexor aspects of her wrists. She is normally fit and well and has not had a similar rash previously. Given the likely diagnosis, what other feature is she most likely to have?

A. Onycholysis
B. Raised ESR
C. Mucous membrane involvement
D. Pain in small joints
E. Microscopic haematuria

ANSWER:
Mucous membrane involvement

EXPLANATION:
Please see Q-38 for Lichen Planus

Q-97

An elderly, frail woman is admitted to the ward following a fall at home. What is the most appropriate way to assess her risk of developing a pressure sore?

A. PSST-6 score
B. PAST score
C. MUST score
D. Waterlow score
E. Honeywell score

ANSWER:
Waterlow score

EXPLANATION:
Waterlow score - used to identify patients at risk of pressure sores

PRESSURE ULCERS
The following is based on a 2009 NHS Best Practice Statement. Please see the link for further details. Some selected points are listed below. NICE also published guidelines in 2014.

Pressure ulcers develop in patients who are unable to move parts of their body due to illness, paralysis or advancing age. They typically develop over bony prominences such as the sacrum or heel. The following factors predispose to the development of pressure ulcers:

- malnourishment
- incontinence
- lack of mobility
- pain (leads to a reduction in mobility)

The Waterlow score is widely used to screen for patients who are at risk of developing pressure areas. It includes a number of factors including body mass index, nutritional status, skin type, mobility and continence.

Grading of pressure ulcers - the following is taken from the European Pressure Ulcer Advisory Panel classification system.

Grade	Findings
Grade 1	Non-blanchable erythema of intact skin. Discolouration of the skin, warmth, oedema, induration or hardness may also be used as indicators, particularly on individuals with darker skin
Grade 2	Partial thickness skin loss involving epidermis or dermis, or both. The ulcer is superficial and presents clinically as an abrasion or blister
Grade 3	Full thickness skin loss involving damage to or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia.
Grade 4	Extensive destruction, tissue necrosis, or damage to muscle, bone or supporting structures with or without full thickness skin loss

Management

- a moist wound environment encourages ulcer healing. Hydrocolloid dressings and hydrogels may help facilitate this. The use of soap should be discouraged to avoid drying the wound
- wound swabs should not be done routinely as the vast majority of pressure ulcers are colonised with bacteria. The decision to use systemic antibiotics should be taken on a clinical basis (e.g. Evidence of surrounding cellulitis)
- consider referral to the tissue viability nurse
- surgical debridement may be beneficial for selected wounds

Q-98

A 55-year-old female is referred to dermatology due to a lesions over both shins. On examination symmetrical erythematous lesions are found with an orange peel texture. What is the likely diagnosis?

A. Pretibial myxoedema
B. Pyoderma gangrenosum
C. Necrobiosis lipoidica diabeticorum
D. Erythema nodosum
E. Syphilis

ANSWER:
Pretibial myxoedema

EXPLANATION:
Please see Q-22 for Shin Lesions

Q-99

A 35-year-old man presents with an itchy, scaly rash that has gradually developed over the past few months. He is normally fit and well and the only past medical history of note is generalised anxiety disorder. On examination he has a number of ill-defined, pink coloured patches with a yellow/brown scale.The main affected areas are the sternum, eyebrows and the nasal bridge. What is the most likely diagnosis?

A. Acne rosacea
B. Atopic dermatitis
C. Seborrhoeic dermatitis
D. Pityriasis rosea
E. Psoriasis

ANSWER:
Seborrhoeic dermatitis

EXPLANATION:
The distribution is very typical for seborrhoeic dermatitis. Atopic dermatitis presents more commonly in the flexural areas and does not have the same characteristic scale.

Pityriasis rosea typically presents with a herald patch (usually on trunk) followed by erythematous, oval, scaly patches which follow a characteristic distribution with the longitudinal diameters of the oval lesions running parallel to the line of Langer. This may produce a 'fir-tree' appearance.

Please see Q-33 for Seborrhoeic Dermatitis in Adults

Q-100

A 41-year-old man presents with a persistent itch rash that has been present for the past few weeks. On examination he has erythematous, scaly lesions underneath the eyebrows, around the nose and at the top of his chest. He also has a history of dandruff which is well controlled with over the counter shampoos. What is the most appropriate treatment for his face and trunk lesions?

A. Topical metronidazole
B. Oral oxytetracycline
C. Oral isotretinoin
D. Topical ketoconazole
E. Topical hydrocortisone

ANSWER:
Topical ketoconazole

EXPLANATION:
Seborrhoeic dermatitis - first-line treatment is topical ketoconazole
The combination of a peri-orbital and nasolabial scaly rash associated dandruff is a classical history for seborrhoeic dermatitis.

Please see Q-33 for Seborrhoeic Dermatitis in Adults

Q-101

A 78-year-old man is admitted from a nursing home with multi-infarct dementia, chronic obstructive pulmonary disease and biventricular failure. You are asked to assess his risk of pressure sores and need for referral to the tissue viability team during his inpatient stay.

Which of the following is most useful in determining the risk of pressure sores?

A. Glasgow criteria
B. Rankin scale
C. Ransom criteria
D. Waterlow scale
E. Townsend scale

ANSWER:
Waterlow scale

EXPLANATION:
The Waterlow scale was developed in 1985 to assess the risk of pressure sore development, helping to drive level of nursing intervention and use of special mattresses to reduce risk. Potential scores range from 1-64. A score greater than

10 indicates an increased risk of pressure sore development, with scores >15 indicating high risk and >20 indicating very high risk. A number of factors are taken into account when assessing patients using the scale including body habitus, continence status, malnutrition, mobility, neurological status and presence of major trauma.

The Glasgow and Ransom criteria were drawn up to stratify risk in patients presenting with acute pancreatitis, with respect to identifying those at increased risk of mortality, and those who need to be treated in a high dependency area.

The Rankin scale relates to the degree of disability in patients post stroke, and the Townsend scale is an indicator of deprivation.

Please see Q-97 for Pressure Ulcers

Q-102

A 34-year-old female is reviewed in the dermatology clinic with a skin rash under her new wrist watch. An allergy to nickel is suspected. What is the best investigation?

A. Skin prick test
B. Skin patch test
C. Skin biopsy
D. Serum IgE
E. Serum nickel antibodies

ANSWER:
Skin patch test

EXPLANATION:
NICKEL DERMATITIS
Nickel is a common cause allergic contact dermatitis and is an example of a type IV hypersensitivity reaction. It is often caused by jewellery such as watches

It is diagnosed by a skin patch test

Q-103

A 36-year-old female with a history of ulcerative colitis is diagnosed as having pyoderma gangrenosum. She presented 4 days ago with a 1 cm lesion on her right shin which rapidly ulcerated and is now painful. What is the most appropriate management?

A. Topical hydrocortisone
B. Oral prednisolone
C. Surgical debridement
D. Topical tacrolimus
E. Infliximab

ANSWER:
Oral prednisolone

EXPLANATION:
Topical therapy does have a role in pyoderma gangrenosum and it may seem intuitive to try this first before moving on to systemic treatment. However, pyoderma gangrenosum has the potential to evolve rapidly and for this reason oral prednisolone is usually given as initial treatment.

Please see Q-2 for Pyoderma Gangrenosum

Q-104

A 69-year-old woman with a history of learning difficulties is reviewed in clinic. She is known to have erythema ab igne on her legs but according to her carer still spends long hours in front of her electric fire. Which one of the following skin lesions is she at risk of developing?

A. Squamous cell carcinoma
B. Cutaneous T-cell lymphoma of the skin
C. Dermatofibrosarcoma protuberans
D. Basal cell carcinoma
E. Malignant melanoma

ANSWER:
Squamous cell carcinoma

EXPLANATION:
Please see Q-25 for Erythema Ab Igne

Q-105

A 34-year-old man presents with a three week history of an intensely itchy rash on the back of his elbows. On examination he has a symmetrical vesicular rash on the extensor aspects of his arms. Which one of the following antibodies is most likely to be positive?

A. Anti-mitochondrial antibody
B. Anti-gliadin antibody
C. Anti-nuclear antibody
D. Anti-neutrophil cytoplasmic antibody
E. Anti-Jo-1 antibody

ANSWER:
Anti-gliadin antibody

EXPLANATION:
Please see Q-50 for Dermatitis Herpetiformis

Q-106

A 34-year-old man presents to dermatology clinic with an itchy rash on his palms. He has also noticed the rash around the site of a recent scar on his forearm. Examination reveals papules with a white-lace pattern on the surface. Some isolated white streaks are also noted on the mucous membranes of the mouth. What is the diagnosis?

A. Lichen planus
B. Scabies
C. Lichen sclerosus
D. Morphea
E. Pityriasis rosea

ANSWER:
Lichen planus

EXPLANATION:
Please see Q-38 for Lichen Planus

Q-107

A 65-year-old woman with blistering lesions on her leg is diagnosed as having bullous pemphigoid. What is the most appropriate initial management?

A. Reassurance
B. Topical corticosteroids
C. Oral itraconazole
D. Screen for solid-tumour malignancies
E. Oral corticosteroids

ANSWER:
Oral corticosteroids

EXPLANATION:
Please see Q-58 for Bullous Pemphigoid

Q-108

A 26-year-old newly qualified nurse presents as she has developed a bilateral erythematous rash on both hands. She has recently emigrated from the Philippines and has no past medical history of note. A diagnosis of contact dermatitis is suspected. What is the most suitable to test to identify the underlying cause?

A. Radioallergosorbent test (RAST)
B. Latex IgM levels
C. Skin prick test
D. Urinary porphyrins
E. Skin patch test

ANSWER:
Skin patch test

EXPLANATION:
The skin patch test is useful in this situation as it may also identify for irritants, not just allergens

Please see Q-19 for Allergy Tests

Q-109

A 67-year-old man who is a retired builder presents following the development of a number of red, scaly lesions on his left temple. These were initially small and flat but are now erythematous and rough to touch. What is the most likely diagnosis?

A. Pityriasis versicolor
B. Seborrhoeic keratosis
C. Polymorphous light eruption
D. Actinic keratoses
E. Malignant melanoma

ANSWER:
Actinic keratoses

EXPLANATION:
Please see Q-80 for Actinic Keratoses

Q-110

A 25-year-old female patient presents to the dermatology clinic complaining of distressing symptoms of excessive facial hair growth. She has a history of the polycystic ovarian syndrome and has been on Yasmin. She has not found it to have significant benefit in her facial hair growth. This has caused her to lose her self-esteem greatly.

What medication would you recommend?

A. Topical minoxidil
B. Oral metformin
C. Topical eflornithine
D. Topical spironolactone
E. Topical psoralen

ANSWER:
Topical eflornithine

EXPLANATION:
Topical eflornithine is the treatment of choice for facial hirsutism
Topical eflornithine is the treatment of choice for facial hirsutism.

Minoxidil causes hypertrichosis.

Oral metformin does not affect hirsutism.

Spironolactone can be used to treat hirsutism but usually in oral form.

Psoralen is not used to treat hirsutism.

Please see Q-61 for Hirsutism and Hypertrichosis

Q-111

Which one of the following features is least likely to be seen in a patient with pellagra?

A. Diarrhoea
B. Depression
C. Dysphagia
D. Dermatitis
E. Dementia

ANSWER:
Dysphagia

EXPLANATION:
Depression is quite a common early finding in patients with pellagra

Please see Q-4 for Pellagra

Q-112

A 39-year-old female has a pigmented mole removed from her leg which histology shows to be a malignant melanoma. What is the single most important prognostic marker?

A. Number of episodes of sunburn before the age of 18 years
B. Age of patient
C. Diameter of melanoma
D. Depth of melanoma
E. Mutation in the MC1R gene

ANSWER:
Depth of melanoma

EXPLANATION:
Melanoma: the invasion depth of the tumour is the single most important prognostic factor

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%

Q-113

A 34-year-old man comes for review. Over the past two weeks he has developed a number of painful, erythematous lesions on his shins. He has no dermatological history of note and is usually fit and well. On examination the lesions are consistent with erythema nodosum. You arrange some baseline investigations. He asks what is likely to happen. What is the most appropriate response?

A. Heal without scarring if steroids are given within 2 weeks
B. Heal without scarring within 6-12 months
C. Heal without scarring within 1-2 months
D. Heal with scarring within 1-2 months
E. Heal with scarring within 6-12 months

ANSWER:
Heal without scarring within 1-2 months

EXPLANATION:
Please see Q-13 for Erythema Nodosum

Q-114

A 43-year-old woman is referred to psychiatry following repeated episodes of hypomaniac behaviour interspersed with periods of depression. Her past medical history includes psoriasis and a deep vein thrombosis 11 years ago. Which one of the following medications is most likely to worsen her psoriasis?

A. Sodium valproate
B. Quetiapine
C. Lithium
D. Valproaic acid
E. Fluoxetine

ANSWER:
Lithium

EXPLANATION:
Psoriasis: common triggers are beta-blockers and lithium

PSORIASIS: EXACERBATING FACTORS
The following factors may exacerbate psoriasis:

- trauma
- alcohol
- drugs: beta blockers, lithium, antimalarials (chloroquine and hydroxychloroquine), NSAIDs and ACE inhibitors, infliximab
- withdrawal of systemic steroids

Streptococcal infection may trigger guttate psoriasis.

Q-115

A 50-year-old chronic alcoholic presents with a persistent skin rash on his hands, arms, neck and face. The rash is red-brown in colour, symmetrical and scaly. He also complains of a poor appetite, nausea and diarrhoea. Which vitamin deficiency is most likely to have caused his symptoms?

A. Niacin
B. Folic acid
C. Thiamine
D. Vitamin B6
E. Zinc

ANSWER:
Niacin

EXPLANATION:
Please see Q-4 for Pellagra

Q-116

Which of the following skin conditions is not associated with diabetes mellitus?

A. **Necrobiosis lipoidica**
B. **Sweet's syndrome**
C. **Granuloma annulare**
D. **Vitiligo**
E. **Lipoatrophy**

ANSWER:
Sweet's syndrome

EXPLANATION:
Sweet's syndrome is also known as acute febrile neutrophilic dermatosis has a strong association with acute myeloid leukaemia. It is not associated with diabetes mellitus

SKIN DISORDERS ASSOCIATED WITH DIABETES
Note whilst pyoderma gangrenosum can occur in diabetes mellitus it is rare and is often not included in a differential of potential causes

Necrobiosis lipoidica
- shiny, painless areas of yellow/red/brown skin typically on the shin
- often associated with surrounding telangiectasia

Infection
- candidiasis
- staphylococcal

Neuropathic ulcers

Vitiligo

Lipoatrophy

Granuloma annulare*
- papular lesions that are often slightly hyperpigmented and depressed centrally

*it is not clear from recent studies if there is actually a significant association between diabetes mellitus and granuloma annulare, but it is often listed in major textbooks

Q-117

A 63-year-old gentleman presents to his general practitioner. He has recently been diagnosed with melanoma after being referred to the dermatologist with a suspicious red lump on his face. He is awaiting further imaging to see if the melanoma has metastasised. After being told his subtype of melanoma, he researched further online. He is now very concerned as he has read that his subtype is the most aggressive subtype and that it metastasises early. Which subtype of melanoma is he likely to have?

A. **Actinic keratosis**
B. **Lentigo maligna**
C. **Acral lentiginous**
D. **Nodular**
E. **Superficial spreading**

ANSWER:
Nodular

EXPLANATION:
Nodular melanoma: Invade aggressively and metastasise early
The presentation of this lesion is most consistent with nodular melanoma. Nodular melanoma is the most aggressive form of melanoma. This is because it tends to grow rapidly, downwards into the deeper layers of skin, increasing in thickness faster than in diameter.

The other forms of melanoma typically take longer to grow and metastasise. These are described in further detail in the notes below. Actinic keratosis is not a form of melanoma, but rather a pre-cancerous lesion.

(DermNet NZ)

Please see Q-29 for Malignant Melanoma

Q-118

A 26-year-old female, of Han Chinese origin, with newly diagnosed partial epilepsy is commenced on carbamazepine and has an HLA B*1502. Two weeks later, she develops a maculopapular rash, purpuric macules and targetoid lesions; full-thickness epidermal necrosis, and mucous membrane involvement.. What is the predominant cell type involved in this reaction?

A. **T cells**
B. **IgG**
C. **Complement**
D. **IgE**
E. **B cells**

ANSWER:
T cells

EXPLANATION:
HLA allele B*1502 as a marker for carbamazepine-induced Stevens-Johnson syndrome and toxic epidermal necrolysis in Han Chinese. Stevens-Johnson syndrome and toxic epidermal necrolysis is a delayed-hypersensitivity reaction, thus involving T-cells.

Please see Q-66 for Stevens-Johnson Syndrome

Q-119

Which one of the following statements regarding acne vulgaris is incorrect?

A. **Follicular epidermal hyperproliferation results in obstruction of the pilosebaceous follicle**
B. **Acne vulgaris affects at least 80% of teenagers**
C. **Propionibacterium acnes is an anaerobic bacterium**
D. **Typical lesions include comedones and pustules**
E. **Beyond the age of 25 years acne vulgaris is more common in males**

ANSWER:
Beyond the age of 25 years acne vulgaris is more common in males

EXPLANATION:
Acne is actually more common in females after the age of 25 years

ACNE VULGARIS
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 follicle with keratin plugs which results in comedones, inflammation and pustules.

Epidemiology
- affects around 80-90% of teenagers, 60% of whom seek medical advice
- acne may also persist beyond adolescence, with 10-15% of females and 5% of males over 25 years old being affected

Pathophysiology is multifactorial
- follicular epidermal hyperproliferation resulting in the formation of a keratin plug. This in turn causes obstruction of the pilosebaceous follicle. Activity of sebaceous glands may be controlled by androgen, although levels are often normal in patients with acne
- colonisation by the anaerobic bacterium Propionibacterium acnes
- inflammation

Q-120
Which one of the following features is least associated with zinc deficiency?

A. Acrodermatitis
B. Alopecia
C. Short stature
D. Perioral dermatitis
E. Gingivitis

ANSWER:
Gingivitis

EXPLANATION:
Gingivitis is more commonly seen in vitamin C deficiency

Please see Q-30 for Zinc Deficiency

Q-121
A 54-year-old man is referred to the dermatology outpatient department due to a facial rash which has persisted for the past 12 months. On examination there is a symmetrical rash consisting of extensive pustules and papules which affects his nose, cheeks and forehead. What is the most appropriate treatment?

A. Ciprofloxacin
B. Isotretinoin
C. Oxytetracycline
D. Hydroxychloroquine
E. Prednisolone

ANSWER:
Oxytetracycline

EXPLANATION:
Acne rosacea treatment:
- ***mild/moderate: topical metronidazole***
- ***severe/resistant: oral tetracycline***

As there is extensive involvement oral oxytetracycline should probably be used rather than topical metronidazole

Please see Q-1 for Acne Rosacea

Q-122
A 78-year-old nursing home resident is reviewed due to the development of an intensely itchy rash. On examination red linear lesions are seen on the wrists and elbows, and red papules are present on the penis. What is the most appropriate management?

A. Topical permethrin
B. Referral to GUM clinic
C. Topical betnovate
D. Topical ketoconazole
E. Topical selenium sulphide

ANSWER:
Topical permethrin

EXPLANATION:
Lichen planus may give a similar picture but the intense itching is more characteristic of scabies. It is also less common for lichen planus to present in the elderly - it typical affects patients aged 30-60 years.

Please see Q-14 for Scabies

Q-123
A 55-year-old man presents with multiple erythematous target lesions two days after starting a new medication. Which one of the following drugs is most likely to have been started?

A. Levetiracetam
B. Olanzapine
C. Carbamazepine
D. Fluoxetine
E. Diazepam

ANSWER:
Carbamazepine

EXPLANATION:
This patient appears to have erythema multiforme which is a known complication of carbamazepine use

Please see Q-48 for Erythema Multiforme

Q-124

A 15-year-old male returns to the dermatology clinic for review. He has a past history of acne and is currently treated with oral lymecycline. There has been no response to treatment and examination reveals evidence of scarring on his face. What is the most suitable treatment?

A. Oral doxycycline
B. Oral cyproterone acetate
C. Oral isotretinoin
D. IV retinoin
E. Topical retinoids

ANSWER:
Oral isotretinoin

EXPLANATION:
Please see Q-9 for Acne Vulgaris: Management

Q-125

A 24-year-old student presents due to some lesions on his lower abdomen. These have been present for the past six weeks. Initially, there was one lesion but since that time more lesions have appeared. On examination around 10 lesions are seen; they are raised, around 1-2mm in diameter and have an umbilicated appearance. What is the most likely diagnosis?

A. Genital warts
B. Lichen planus
C. Keratosis pilaris
D. Molluscum contagiosum
E. Folliculitis

ANSWER:
Molluscum contagiosum

EXPLANATION:
This is a classical description of molluscum contagiosum, although it is most commonly seen in children.

Please see Q-7 for Molluscum Contagiosum

Q-126

A 59-year-old patient presents to dermatology outpatients clinic with a three-month history of discolouration of the skin on his back. On examination, there are patchy areas of mild hypopigmentation covering large areas of the back. You suspect a diagnosis of pityriasis versicolor. What is the likely causative organism?

A. Epidermophyton
B. Histoplasma capsulatum
C. Micosporum
D. Trichophyton
E. Malassezia

ANSWER:
Malassezia

EXPLANATION:
Pityriasis versicolour is caused by infection with Malassezia fungus. Initial treatment is with topical anti-fungals such as ketoconazole shampoo.

Microsporum, Trichophyton and Epidermophyton are dermatophytes and cause fungal nail infections and ringworm. Histoplasma is a fungi that can cause pneumonia in immuno-compromised patients.

Please see Q-86 for Pityriasis Versicolor

Q-127

A 78-year-old man asks you to look at a lesion on the right side of nose which has been getting slowly bigger over the past 2-3 months. On examination you observe a round, raised, flesh coloured lesion which is 3mm in diameter and has a central depression. The edges of the lesion appear rolled and contain some telangiectasia.

What is the single most likely diagnosis?

A. Molluscum contagiosum
B. Actinic keratosis
C. Squamous cell carcinoma
D. Malignant melanoma
E. Basal cell carcinoma

ANSWER:
Basal cell carcinoma

EXPLANATION:
This is a classic description of a basal cell carcinoma.

Please see Q-63 for Basal Cell Carcinoma

Q-128

A 62-year-old female is referred due to a long-standing ulcer above the right medial malleolus. Ankle-brachial pressure index readings are as follows:

Right 0.95
Left 0.95

To date it has been managed by the District Nurse with standard dressings. What is the most appropriate management to maximize the likelihood of the ulcer healing?

A. Compression bandaging
B. Intermittent pneumatic compression
C. Hydrocolloid dressings
D. Refer to vascular surgeon
E. Topical flucloxacillin

ANSWER:
Compression bandaging

EXPLANATION:
Management of venous ulceration - compression bandaging
The ankle-brachial pressure index readings indicate a reasonable arterial supply and suggest the ulcers are venous in nature.

Please see Q-93 for Venous Ulceration

Q-129

A 62-year-old male is referred to dermatology with a lesion over his shin. On examination shiny, painless areas of yellow skin over the shin are found with abundant telangiectasia. What is the most likely diagnosis?

A. Pretibial myxoedema
B. Necrobiosis lipoidica diabeticorum
C. Erythema nodosum
D. Pyoderma gangrenosum
E. Syphilis

ANSWER:
Necrobiosis lipoidica diabeticorum

EXPLANATION:
Please see Q-22 for Shin Lesions

Q-130

A 43-year-old man is admitted to the Emergency Department with a rash and feeling generally unwell. He is known to have epilepsy and his medication was recently changed to phenytoin three weeks ago. Around one week ago he started to develop mouth ulcers associated with malaise and a cough. Two days ago he started to develop a widespread red rash which has now coalesced to form large fluid-filled blisters, covering around 30% of his body area. The lesions separate when slight pressure is applied. On examination his temperature is 38.3ºC and pulse 126 / min. Blood results show:

Na+	144 mmol/l
K+	4.2 mmol/l
Bicarbonate	19 mmol/l
Urea	13.4 mmol/l
Creatinine	121 µmol/l

What is the most likely diagnosis?

A. Phenytoin-induced neutropaenia
B. Drug-induced lupus
C. Kawasaki disease
D. Toxic epidermal necrolysis
E. Staphylococcal Scalded Skin syndrome

ANSWER:
Toxic epidermal necrolysis

EXPLANATION:
Please see Q-71 for Toxic Epidermal Necrolysis

Q-131

A 22-year-old woman presents due to hypopigmented skin lesions on her chest and back. She has recently returned from the south of France and has tanned skin. On examination the lesions are slightly scaly. What is the most likely diagnosis?

A. Tinea corporis
B. Pityriasis versicolor
C. Porphyria cutanea tarda
D. Lyme disease
E. Psoriasis

ANSWER:
Pityriasis versicolor

EXPLANATION:
Please see Q-86 for Pityriasis Versicolor

Q-132

You review a 50-year-old man who has a history of ischaemic heart disease and psoriasis. Over the past two weeks he has experienced a significant worsening of the plaque psoriasis affecting his elbows and knees. His medications have recently been altered at the cardiology clinic. Which one of the following medications is most likely to have exacerbated his psoriasis?

A. Nicorandil
B. Simvastatin
C. Verapamil
D. Atenolol
E. Isosorbide mononitrate

ANSWER:
Atenolol

EXPLANATION:
Psoriasis: common triggers are beta-blockers and lithium

Please see Q-114 for Psoriasis: Exacerbating Factors

Q-133

A 64-year-old female is referred to dermatology due to a non-healing skin ulcer on her lower leg. This has been present for around 6 weeks and the appearance didn't improve following a course of oral flucloxacillin. What is the most important investigation to perform first?

A. **MRI**
B. **Rheumatoid factor titres**
C. **Ankle-brachial pressure index**
D. **Swab of ulcer for culture and sensitivity**
E. **X-ray**

ANSWER:
Ankle-brachial pressure index

EXPLANATION:
An ankle-brachial pressure index measurement would help exclude arterial insufficiency as a contributing factor. If this was abnormal then a referral to the vascular surgeons should be considered.

If the ulcer fails to heal with active management (e.g. Compression bandaging) then referral for consideration of biopsy to exclude a malignancy should be made.

Ongoing infection is not a common cause of non-healing leg ulcers.

Please see Q-93 for Venous Ulceration

Q-134

A 65-year-old woman presents with bullae on her forearms following a recent holiday in Spain. She also notes that the skin on her hands is extremely fragile and tears easily. In the past the patient has been referred to dermatology due to troublesome hypertrichosis. What is the most likely diagnosis?

A. **Pellagra**
B. **Pemphigus vulgaris**
C. **Epidermolysis bullosa**
D. **Bullous pemphigoid**
E. **Porphyria cutanea tarda**

ANSWER:
Porphyria cutanea tarda

EXPLANATION:
Porphyria cutanea tarda
- ***blistering photosensitive rash***
- ***hypertrichosis***
- ***hyperpigmentation***

Please see Q-39 for Porphyria Cutanea Tarda

Q-135

A 45-year-old man who presented with itchy lesions on his hands is diagnosed with scabies. It is decided to treat him with permethrin 5%. You have explained the need to treat all members of the household and hot wash all bedding and clothes. What advice should be given about applying the cream?

A. **From neck down + leave for 12 hours**
B. **All skin including scalp + leave for 12 hours + retreat in 2 days**
C. **All skin including scalp + leave for 12 hours + retreat in 7 days**
D. **From neck down + leave for 4 hours**
E. **From neck down + leave for 12 hours + retreat in 7 days**

ANSWER:
All skin including scalp + leave for 12 hours + retreat in 7 days

EXPLANATION:
Scabies - permethrin treatment: all skin including scalp + leave for 12 hours + retreat in 7 days
The BNF advises to apply the insecticide to all areas, including the face and scalp, contrary to the manufacturer's recommendation (and common practice).

Please see Q-14 for Scabies

Q-136

A 35-year-old man presents with anaemia. On further questioning, you find that he has a lifelong history of recurrent, severe nosebleeds and characteristic erythematous spots around his lips, which blanch when pressed. What is the most likely diagnosis?

A. **von Hippel-Lindau**
B. **Peutz-Jeghers syndrome**
C. **Neurofibromatosis type 1**
D. **Hereditary haemorrhagic telangiectasia**
E. **Granulomatosis with polyangiitis**

ANSWER:
Hereditary haemorrhagic telangiectasia

EXPLANATION:
The key is in the recognition of the telangiectasias, which are often found on the skin of the lips, nose and fingers. With this and the epistaxis, two of the three criteria to diagnose Hereditary Haemorrhagic Telangiectasia (HHT) are met. Anaemia is a common complaint in those with HHT. It is due to epistaxis or otherwise asymptomatic GI tract bleeding. Another finding could be hypoxia due to pulmonary arteriovenous malformations. The exact features vary, depending on where the arteriovenous malformations are located.

Von Hippel-Lindau disease is caused by a faulty tumour suppressor gene resulting in the development of multiple unusual tumours including haemangioblastoma, phaeochromocytoma or renal cell carcinoma. At least two tumours must be present to make the diagnosis in someone without a family history (compared to just one when a family history is present).

Peutz Jeghers syndrome is a disorder causing large numbers of polyps in the intestine which become cancerous in a majority of patients. They have pigmented lesions around the lips which are not telangiectasia. There is no history of epistaxis.

Neurofibromatosis Type 1 is benign tumour disorder. Despite the non-malignant nature of the tumours, they can have severe consequences depending on the location. Optic gliomas can lead to blindness, neurofibromas (found in the peripheral nervous system) can lead to learning disabilities and epilepsy. Other characteristic findings include caf-au-lait spots (flat, hyperpigmented, brown cutaneous lesions), axillary freckling, Lisch nodules (on the iris) and dermal neurofibromas (small, rubbery, cutaneous lumps).

Granulomatosis with polyangiitis is a small- and medium-vessel vasculitis which primarily affects the sinuses, kidneys and lungs. Sinus dysfunction is the most common initial symptom causing nasal congestion or epistaxis. If a rash is present, it is usually made up of palpable purpura from small vessel inflammation.

Please see Q-23 for Hereditary Haemorrhagic Telangiectasia

Q-137

Which one of the following statements regarding vitiligo is true?

A. It is seen in around 0.1% of patients
B. The average age of onset is 40-50 years
C. Skin trauma may precipitate new skin lesions
D. It is rare in Caucasian people
E. The torso tends to be affected first

ANSWER:
Skin trauma may precipitate new skin lesions

EXPLANATION:
This is known as the Koebner phenomenon

Please see Q-82 for Vitiligo

Q-138

A 30-year-old female in her third trimester of pregnancy mentions during an antenatal appointment that she has noticed an itchy rash around her umbilicus. This is her second pregnancy and she had no similar problems in her first pregnancy. Examination reveals blistering lesions in the peri-umbilical region and on her arms. What is the likely diagnosis?

A. Seborrhoeic dermatitis
B. Pompholyx
C. Polymorphic eruption of pregnancy
D. Lichen planus
E. Pemphigoid gestationis

ANSWER:
Pemphigoid gestationis

EXPLANATION:
Polymorphic eruption of pregnancy is not associated with blistering
Pemphigoid gestationis is the correct answer. Polymorphic eruption of pregnancy is not associated with blistering

Please see Q-90 for Skin Disorders Associated with Pregnancy

Q-139

A 62-year-old woman mentions in diabetes clinic that she has a 'volcano' like spot on her left cheek, which has appeared over the past 3 months. She initially thought it may be a simple spot but it has not gone away. On examination she has a 5 mm red, raised lesion with a central keratin filled crater. A clinical diagnosis of probable keratoacanthoma is made. What is the most suitable management?

A. Reassure will spontaneously involute within 3 months
B. Urgent referral to dermatology
C. Topical 5-FU
D. Non-urgent referral to dermatology
E. Oral prednisolone

ANSWER:
Urgent referral to dermatology

EXPLANATION:
Whilst keratoacanthoma is a benign lesion it is difficult clinically to exclude squamous cell carcinoma so urgent excision is advised

Please see Q-27 for Keratocanthoma

Q-140

Which one of the following is least recognised as a cause of erythroderma in the UK?

A. Lymphoma
B. Drug eruption
C. Lichen planus
D. Psoriasis
E. Eczema

ANSWER:
Lichen planus

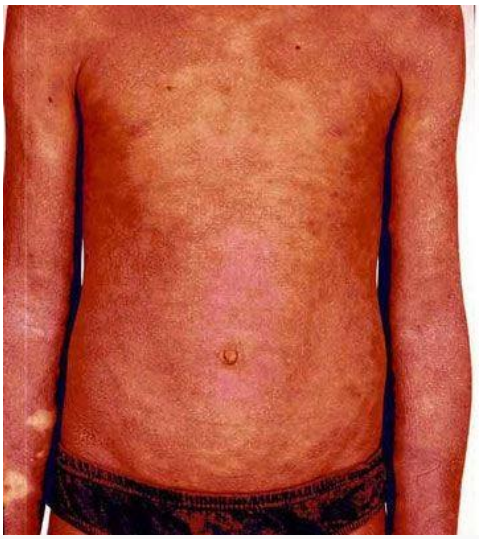
EXPLANATION:
ERYTHRODERMA
Erythroderma is a term used when more than 95% of the skin is involved in a rash of any kind.

Causes of erythroderma
- eczema

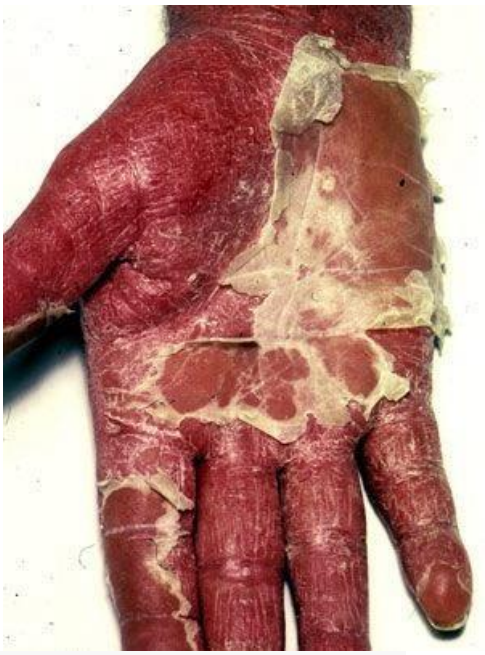
- psoriasis
- drugs e.g. gold
- lymphomas, leukaemias
- idiopathic

Erythrodermic psoriasis

- may result from progression of chronic disease to an exfoliative phase with plaques covering most of the body. Associated with mild systemic upset
- more serious form is an acute deterioration. This may be triggered by a variety of factors such as withdrawal of systemic steroids. Patients need to be admitted to hospital for management



This image shows the generalised erythematous rash seen in patients with erythroderma, sometimes referred to as 'red man syndrome'



Note the extensive exfoliation seen in this patient

Q-141

A 45-year-old man with a history of seborrhoeic dermatitis presents in late winter due a flare in his symptoms, affecting both his face and scalp. Which one of the following agents is least likely to be beneficial?

A. Topical ketoconazole
B. Selenium sulphide shampoo
C. Topical hydrocortisone
D. Tar shampoo
E. Aqueous cream

NSWER:
Aqueous cream

EXPLANATION:
There is less of a role for emollients in the management of seborrhoeic dermatitis than in other chronic skin disorders

Please see Q-33 for Seborrhoeic Dermatitis in Adults

Q-142

A 74-year-old woman develops tense, itchy blisters on her inner thighs and upper arms. Given the likely diagnosis, what will immunofluorescence of the skin biopsy demonstrate?

A. Loss of fibrinogen at the basement membrane
B. Granular IgG along the basement membrane
C. IgM crystallization at the dermal junctions
D. Linear IgA deposits at the dermoepidermal junction
E. IgG and C3 at the dermoepidermal junction

ANSWER:
IgG and C3 at the dermoepidermal junction

EXPLANATION:
Please see Q-58 for Bullous Pemphigoid