



This month — 11 cases:

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Case 1

Enlarging Plaque

This 61-year-old female presents with a persistent annular plaque on the right side of her forehead. It has been present for approximately three years and has been gradually enlarging. She has no history of melanoma or non-melanoma skin cancer.

What is your diagnosis?

- Granuloma faciale
- Granuloma annulare
- Basal cell carcinoma
- Psoriasis

Answer

The diagnosis is granuloma annulare (**answer b**).

A persistent, solitary plaque on the face has an important clinical differential diagnosis, including basal cell carcinoma. The absence of the characteristic morphologic features of basal cell carcinomas (telangiectasias, rolled border) and the lack of change over time in the lesion makes this diagnosis unlikely. In addition, it is doubtful that her condition is caused by psoriasis, given the absence of scale.

Granuloma annulare is a benign, infiltrative condition of the skin that presents as annular,



infiltrated plaques, as in this patient's case. Histopathology shows palisading granulomatous inflammation. No specific treatment is required. Topical corticosteroids can be used, which is the treatment that was chosen for this patient.

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Case 2

Progressive Eruption

This 53-year-old male presents with a ten-year history of a progressive eruption in the axilla and groin.

What is your diagnosis?

- a. Dermatophytosis (tinea) infection
- b. Psoriasis
- c. Folliculitis
- d. Hidradenitis suppurativa

Answer

The correct diagnosis is hidradenitis suppurativa (**answer d**), which is a chronic scarring condition typically involving the axilla, anogenital region, inguinal region, and occasionally the scalp. This is a difficult, and at times, devastating disease marked by pain, abscess formation, and scarring in the noted regions. The lesions can be tender with nodules that can heal with scarring, often forming characteristic double comedones. Abscess may form along with sinus tracts, hypertrophic scars, and, possibly, contractures. This has been associated with the so-called follicular occlusion syndrome with nodulocystic acne and pilonidal sinuses. Patients may also have associated obesity.



In mild disease, topical antibiotics and intralesional corticosteroids can be used. Chronic, persistent disease may require oral antibiotics; tetracyclines and minocyclines are some of the most commonly used agents. For more severe disease, medical therapy includes systemic retinoids and, more recently, TNF antagonists (infliximab, adalimumab). Surgical excision is used in more severe cases.

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Case 3

Posterior Shoulder Lesion

This 40-year-old man presents with a lesion on his posterior shoulder of six-months duration. It has been static in size and remains asymptomatic.

What is your diagnosis?

- a. Cutaneous focal mucinosis
- b. Basal cell carcinoma
- c. Epidermoid cyst
- d. Neurofibroma
- e. Amelanotic melanoma

Answer

There are many skin lesions that mimic each other. As a result, they can not be identified without a biopsy. Cutaneous focal mucinosis (**answer a**) is



one such benign lesion. It can occur anywhere on the body or oral cavity and can be asymptomatic. It is skin-coloured, less than 1 cm in size, and involves adults. Treatment by excision or electrocautery is curative.

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Case 4

Skin Lesions on the Back

This 75-year-old, male patient presents with various skin lesions on his back during his yearly physical examination.

What is your diagnosis?

- a. Basal cell carcinoma
- b. Cherry angiomas
- c. Seborrheic keratosis
- d. Seborrheic dermatitis

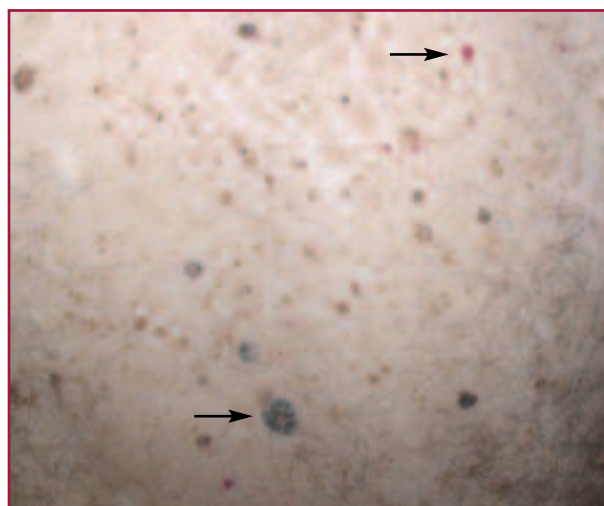
Answer

The brown spots are seborrheic keratoses and the bright red lesions are cherry angiomas (**answers b and c**).

Seborrheic keratosis is common in adulthood with most people developing at least one at some point in their lifetime. It is a brown, black, or pale growth that appears on the face, chest, shoulders, or back. A seborrheic keratosis has a waxy, scaly, slightly elevated appearance. It can present as a single lesion, but multiple growths are more common.

Seborrheic keratosis is often described as having a “stuck on” appearance, because the edge of the seborrheic keratosis is not attached to the underlying skin. In fact, it looks as though it could be removed by picking it off with your fingers, and it only develops in the epidermis rather than within deeper layers of the skin.

Treatment is not usually required unless the growths become irritated or are cosmetically displeasing. If treatment is needed, growths may be surgically removed or cryotherapy can be used.



A cherry angioma (Campbell de Morgan spots/Senile angioma) is a skin tumour that is cherry-red to purple in colour. Their origin is unknown. They are most common in persons over 40. Cherry angiomas can occur almost anywhere on the skin, but they are most commonly found on the torso.

Treatment is not required unless they are deemed a cosmetic nuisance. They respond well to pulsed dye laser at 585 nm or, alternatively, to cauterization or electrofulguration.

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Case 5

A Lesion Changing in Pigmentation

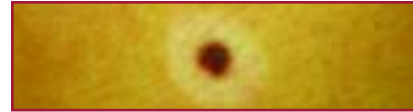
A 22-year-old male with no other medical history apart from scoliosis presents for assessment regarding a changing pigmented lesion on his abdomen. There is no personal or family history of melanoma. His skin is phototype III with no history of blistering, sunburn, or other risk factors for melanoma.

What is your diagnosis?

- a. Melanoma
- b. Tinea versicolor
- c. Halo nevus
- d. Dysplastic nevus

Answer

A halo nevus (**answer c**) is a benign, melanocytic lesion that typically presents as a white halo surrounding a pre-existing nevus. The condition occurs as a result of an immunological reaction against



melanocytes. It may remain as a halo with a central nevus, or, in certain cases, the nevus itself may resolve due to the intense immune reaction. The only issue of clinical significance is that, occasionally, melanomas may present in a similar fashion. This should be particularly suspected when the pigmented lesion in the central portion appears atypical clinically or by dermoscopy and when older patients present in this setting. In the case of this patient, the pigmented lesion in the centre of the halo is benign in appearance, and no treatment is required.

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**Case 6**

Dry, Scaly Feet

An eight-year-old girl presents with an 8- to 10-month history of dry, scaly feet. There is sparing of the interdigital spaces.

What is your diagnosis?

- a. Juvenile plantar dermatosis
- b. Tinea pedis
- c. Pityriasis rubra pilaris
- d. Psoriasis
- e. Reiter syndrome

Juvenile plantar dermatosis (JPD) (**answer a**) presents as erythema and fissuring of the weight-bearing surfaces of the feet. It most often affects boys four- to eight-years-of-age. Foot friction and sweating are important contributory factors, and JPD is more common among atopic children and in warm weather. The distal aspects of the soles and toes (particularly the great toes) are most commonly involved, but JPD characteristically spares the interdigital spaces. Affected regions have a smooth, erythematous, and glazed appearance, with fine scaling and fissuring under the toes and on the ball of the foot. JPD generally resolves by puberty, but steps can be taken to ameliorate the condition, including using greasy moisturizers to lubricate dry skin, avoiding synthetic material in footwear, and using topical corticosteroids (short-term) during inflammatory periods.

Tinea pedis may present with scaling and erythema on the plantar surfaces of the foot, but the interdigital spaces are also involved. This fungal infection mostly afflicts young adult men, and common predisposing factors include hyperhidrosis and occlusive footwear. Clinical presentations may vary from patchy and dry scaling to vesicular and pustular eruptions and maceration in the toe web spaces.

Pityriasis rubra pilaris is a chronic skin condition best characterized by 1 mm follicular-based papules with a central keratotic plug. These papules progress to form disseminated islands of well-defined, reddish-



orange, scaly plaques amidst normal skin, and such manifestations are body-wide. Foot involvement, in the form of palmoplantar keratoderma, is usually present but consists of diffuse and sharply-demarcated, salmon-orange hyperkeratotic plaques.

Psoriasis characteristically presents as symmetrical-ly distributed, well-demarcated, salmon-red plaques with a silvery micaceous scale that results in fine punctate bleeding when removed (Auspitz's sign). Psoriasis can affect the feet, but other regions of the body would also typically be involved.

Reiter syndrome mostly occurs in men aged 20- to 40-years, but it has been reported in children as young as nine-months. In children, it most likely develops after an acute bacterial enteric infection, and diarrhea, fever, anorexia, weight loss, and malaise are common observations. Keratoderma blennorrhagica is a classic cutaneous manifestation of Reiter syndrome, and it presents as psoriasiform scaling and inflammatory papules, pustules, and plaques on weight-bearing areas of the palms and soles.

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Case 7

A Circular Rash on the Cheek

A four-year-old boy presents with a one-week history of a pruritic, well-circumscribed, circular rash on his left cheek.

What is your diagnosis?

- Impetigo
- Tinea faciei
- Cellulitis
- Discoid lupus

Answer

Tinea faciei (**answer b**) is characterized by an erythematous, often circular, scaly patch or plaque with a well-defined border on the face. The lesion is often unilateral. As the lesion spreads peripherally, the centre often clears and produces the classic annular lesion that is responsible for the designation of ringworm. Tinea faciei occurs in children, often as a result of contact with domestic pets. The most common causative organisms are *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*, *Microsporum canis* and, rarely, *Microsporum gypseum*. Microscopic examination of the scales under potassium hydroxide preparation shows septate hyphae.

Topical antifungal agents, such as miconazole, ketoconazole, econazole, naftifine, clotrimazole, ciclopirox olamine, and terbinafine are the treatment of choice for



tinea faciei. Oral antifungal agents, such as itraconazole, fluconazole, and terbinafine can be considered for extensive lesions or lesions that are resistant to topical antifungal treatment. Treatment with topical corticosteroids/calcineurin inhibitors should be avoided, as this will change the morphological features of the rash, resulting in a condition known as tinea incognita.

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Case 8

Calor, Dolor, Tumor, and Rubor

An 84-year-old man is admitted to the internal medicine teaching service with a one-day history of fever, chills, and left arm pain. Physical examination reveals tachycardia and a temperature of 39.8°C. Initial examination of the upper extremities reveals left arm warmth, swelling, and tenderness. Several days after admission, the patient's left arm becomes erythematous.

What is your diagnosis?

- a. Cellulitis
- b. Erysipelas
- c. Necrotizing fasciitis
- d. Herpes zoster

Answer

Cellulitis (**answer a**) is an acute infection of the lower dermis and subcutaneous tissue. It occurs when bacteria breaches the protective skin barrier. The diagnosis is clinical, and cellulitis often presents with fever and malaise along with the classic signs of inflammation: warmth (calor), pain (dolor), swelling (tumor), and erythema (rubor). The causative organisms in the majority of cases are *Staphylococcus aureus* and *Streptococcus pyogenes*.

Patients with diabetes, obesity, venous insufficiency, pre-existing lymphedema, peripheral vascular disease, insect bites, and trauma are at higher risk of developing cellulitis. Dependant areas (e.g., lower extremities) are more commonly involved.

Cellulitis can be distinguished from erysipelas, as the latter involves only the upper dermis and has a well-demarcated, indurated, and uniformly erythematous area of involvement. The presence of rapid progression, clinical deterioration, foul-smelling wound drainage, a blue-grey skin discoloration, or crepitations on palpation should lead one to consider a necrotizing infection.



Herpes zoster is distinguished by the presence of erythematous papules and vesicles that typically occupy a single dermatomal distribution with an associated painful sensory prodrome.

The management of cellulitis includes analgesia, elevation of the affected limb to reduce swelling, optimizing the management of any underlying predisposing factors, and the initiation of antibiotic therapy. The borders of the involved area should be marked and assessed frequently. Blood cultures are appropriate in patients who appear toxic. Some guidelines advocate wound swabs. For the majority of patients, a 7- to 10-day course of an oral penicillin or first-generation cephalosporin is sufficient. Sicker patients may require hospitalization and intravenous antibiotics.

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Case 9

Painful Fingers

This 65-year-old lady presents with painful fingers; she rates her pain as one to two out of 10, though it is worse in the morning. She hardly needs to take any analgesia for the pain, apart from the occasional acetaminophen tablet, which almost fully relieves the pain. She is anxious because she does not know the cause of her gradually-worsening finger deformity. Apart from this, she is in good health and only takes 25 mg hydrochlorothiazide for mildly systolic hypertension.

What is your diagnosis?

- Gout
- Rheumatoid arthritis
- Osteoarthritis

Answer

Nodal generalized osteoarthritis (**answer c**) is a common form of osteoarthritis that has a strong genetic predisposition and is more common in middle-aged women.

Patients develop pain, stiffness, and swelling that affects the finger interphalangeal joints (IPJs) — distal more than proximal.



Affected joints develop swellings that harden to become Heberden's (distal IPJ) and Bouchard's (proximal IPJ) nodes. Involvement of the first carpometacarpal joint is also common.

The condition is associated with good functional prognosis. There is, however, an increased risk of osteoarthritis at other sites (generalized osteoarthritis), especially the knee.

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Case 10

Face and Upper Back Markings

A 16-year-old boy presents with comedones, inflammatory papules, pustules, nodules, and post-inflammatory pigmentation and scarring on the face and upper back.

What is your diagnosis?

- a. Angiofibroma
- b. Mastocytosis
- c. Acne vulgaris
- d. Acne rosacea

Answer

Acne vulgaris (**answer c**) is a highly prevalent, chronic inflammatory disease of pilosebaceous units. Pathogenic factors include increased production of sebum, proliferation of *Propionibacterium acnes* with a resultant increase in chemotactic factors and proinflammatory mediators, which lead to inflammation, release of lipids into the sebaceous duct and follicle, and obstruction of the pilosebaceous canal caused by hyperproliferation and shedding of keratinocytes in clumps. Acne lesions tend to occur on the face, and, to a lesser extent, on the upper back. The pathognomonic lesion of acne is the comedo, which may be either open or closed. Inflammatory acne may take the form of erythematous papules, pustules, nodules, or cysts. Acne can be psychologically traumatic and can severely



compromise quality of life. Depending on the severity of the acne, topical retinoids may be used alone or in combination with another agent, such as a topical antibiotic and benzoyl peroxide. Oral antibiotics are an important therapy for the more inflammatory types of acne lesions, including papules, pustules, cysts, and abscesses. They should be used in combination with a topical retinoid or benzoyl peroxide. Oral isotretinoin should be reserved for resistant or scarring acne.

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Case 11

Random Bald Patches

A 27-year-old male presents with a history of “bald patches” on his scalp. Upon examination, it is noted that there is a solitary, annular patch on the right vertex of his scalp and two similar patches on a hair-bearing area of his beard. A dermoscopic examination of his scalp reveals black hair follicles present in the bald spot.

What is your diagnosis?

- Telogen effluvium
- Cicatricial alopecia
- Chronic cutaneous lupus erythematosus
- Alopecia areata

Answer

Alopecia areata (**answer d**) is characterized by sharply defined, round or oval areas of hair loss that can occur as solitary or multiple patches. Alopecia areata occurs most commonly on the scalp, but it can be found on any hair-bearing area, such as the pubic region, beard, eyebrows, or eyelashes. A distinguishing feature of alopecia areata is that it is non-scarring, meaning that the hair follicles are still intact and the hair can regrow. Due to the non-scarring nature of alopecia areata, prognosis is favourable when involvement is limited, and approximately 50% of patients experience spontaneous regrowth. Poor prognostic factors include extensive hair loss and onset prior to puberty.



Figure 1: A Solitary, Annular Patch on the Right Vertex of the Scalp



Figure 2: Two Similar Patches on the Beard

Alopecia areata is relatively common and is found most frequently in young adults (< 25 years) and children, and there is an association with autoimmune disorders, such as thyroiditis. Hair follicles are unable to progress beyond early anagen, therefore, stopping the normal development of hair but sparing the follicular stem cell. Genetics may play a role in this condition, as 10 to 20% of people with alopecia areata have a familial history of the disorder. For local alopecia areata, the most common treatments are topical or intralesional steroids.

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