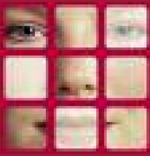

DermCase

Test your knowledge with multiple-choice cases

This month – 11 cases:

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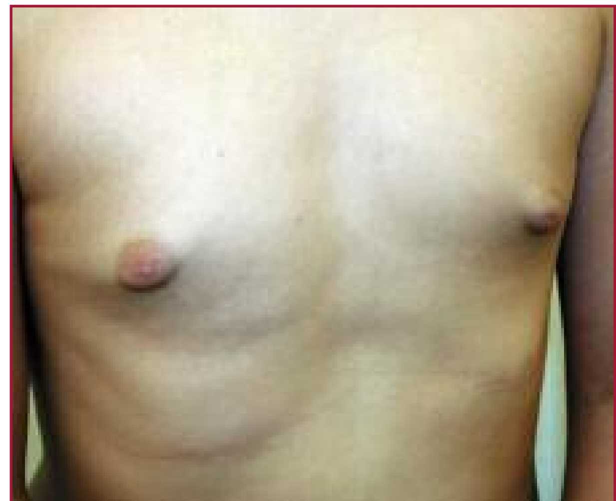
Case 1

Breast Growth in a Pubertal Boy

A 14-year-old boy presents with a nontender enlargement of his right breast.



What is your diagnosis?

a. Right breast cyst
b. Right breast lipoma
c. Right breast lymphatic obstruction
d. Pubertal gynecomastia

Answer

Pubertal gynecomastia **(answer d)** is not an unusual condition. It is very common for boys to have enlargement of one or both breasts around puberty because of all the hormonal changes taking place around this time of life. Most commonly, soon after a boy shows signs of puberty, small, firm plaques of breast tissue develop right under the nipples. These can be quite tender. In some boys there is also fatty development around the nipple, this is more likely to occur and be more prominent in boys who are overweight.

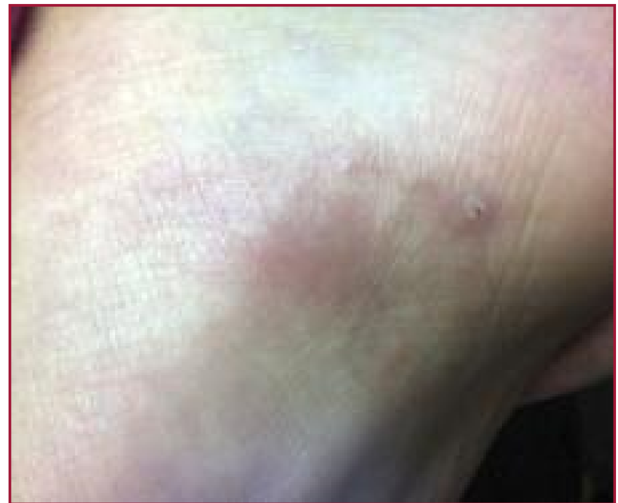
Such breast development is completely harmless. The breasts usually return to normal size without any special treatment.

Jerzy K. Pawlak, MD, MSc, PhD, is a General Practitioner in Winnipeg, Manitoba.

Case 2

An Intensely Pruritic Eruption

A 13-year-old girl presents with a one-week history of an intensely pruritic eruption on her left foot that developed after a trip to Barbados.



What is your diagnosis?

a. Insect bites
b. Contact dermatitis
c. Cutaneous larva migrans
d. Skin impetigo

Answer

This patient has cutaneous larva migrans **(answer c)** Cutaneous larva migrans (CLM) is caused by the migration of hookworm larvae in human skin. It is most commonly caused by the hookworm that infect dogs and cats. The parasite's eggs are passed from animal feces into warm, moist soil or sand, where the larvae hatch. Transmission occurs when skin comes in direct contact with contaminated soil or sand. In humans, the larvae are unable to penetrate the basement membrane to invade the dermis, so disease remains limited to the epidermis. The lesions caused by cutaneous larva migrans are characteristic of this parasitic infection, and, when combined with the patient's history of possible exposure, the picture is very diagnostic. The larvae can travel very rapidly, sometimes appearing or disappearing at different locations. Pruritis can be quite persistent throughout the infection, and the patient might experience pain, itchiness, local swelling, and sometimes fever. Vesicles with serous fluid often appear, systemic signs include peripheral eosinophilia and elevated levels of IgE. In very rare cases of CLM, usually in infections with a large number of parasites, pneumonitis (Loeffler syndrome) may occur, and myotis may also develop from skin lesions. Sometimes, the larvae even manage to migrate to the small intestine and cause severe eosinophilic enteritis (inflammation). If left untreated, the CLM larvae will usually die in the epidermis after several weeks or months, because they are unable to complete their lifecycles in accidental human hosts.

Management involves cryotherapy, such as ethyl chloride sprayed at advancing track edge, local tiabendazole cream or mebendazole 100 mg b.i.d. for three days.

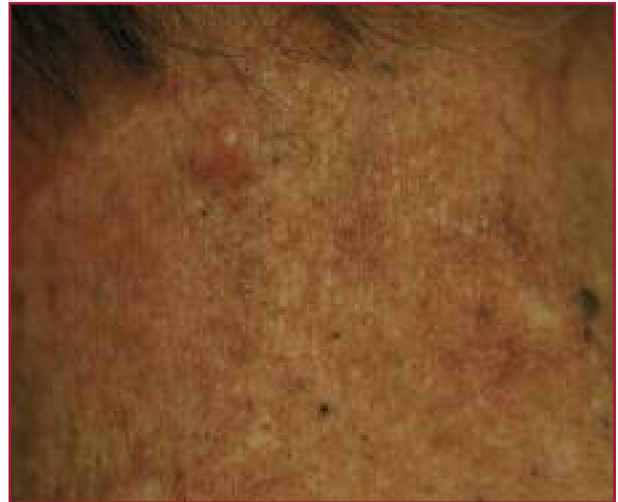
Dr. Aleksandra Makojnik is a Family Physician at Springfield House Medical Centre in Oldham, United Kingdom.

Jerzy K. Pawlak, MD, MSc PhD, is a General Practitioner in Winnipeg, Manitoba.

Case 3

Ugly Neck Lesions

An older patient complains of ugly lesions on his neck despite regular skin care and good hygiene.



What is your diagnosis?

a. Favre-Racouchot syndrome
b. Herpes simplex
c. Macular amyloidosis
d. Lichen nitidus

Answer

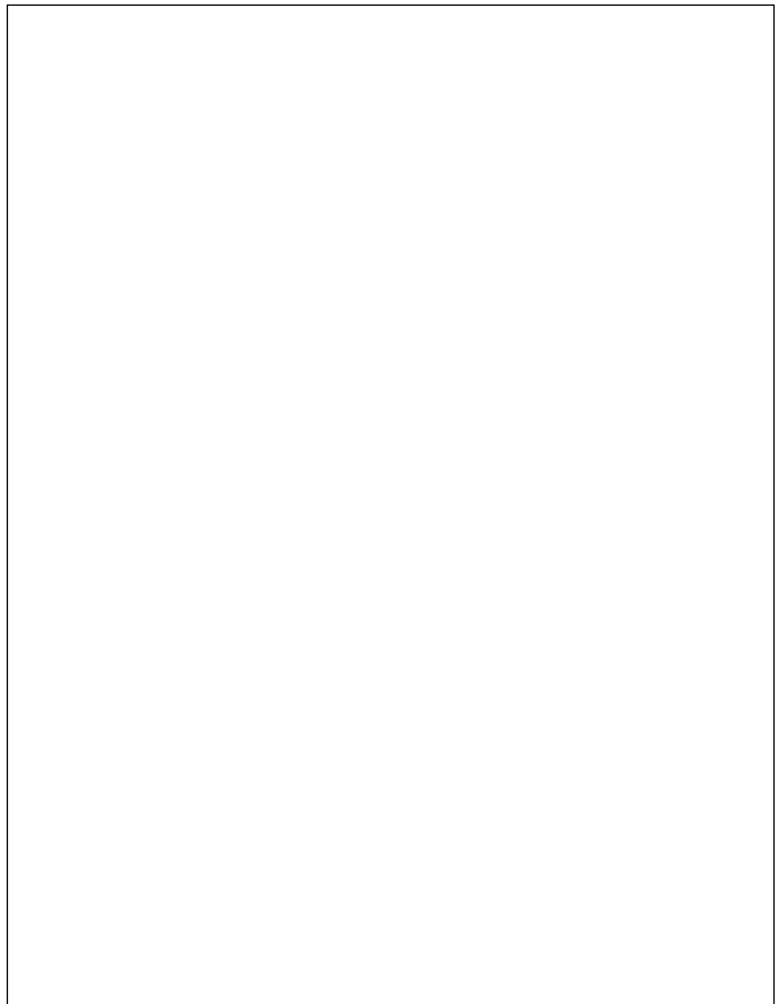
Favre-Racouchot syndrome (FRS) **(answer a)** is a relatively common cutaneous disorder observed in greater than 5% of patients over the age of fifty. It is also known as Favre-Racouchot disease, as well as nodular elastosis with cysts and comedones.

FRS occurs due to chronic, sun damaged skin (dermatoheliosis). It is characterized by the presence of open and closed comedones on a background of actinic-damaged skin consisting of deep wrinkles (rhytides) and furrows, as well as yellowish nodules. In contradistinction to acne vulgaris, there is no inflammation, nor pustular formation. Sites of predilection include the sun exposed areas of the upper body, especially the periorbital region of the face. It is seen with a higher incidence in smokers as well as indoor sun tanners.

Clinical findings are sufficient for diagnosis. Medical treatment consists of patient education regarding sun protection and reduction of sun exposure. Sunscreen use is of paramount importance. Patients should be counselled on the cessation of smoking.

Individual comedones may be extracted. Topical retinoids, such as tretinoin, adapalene, or tazarotene, may reduce and prevent formation of new lesions. Options include chemical peels and laser resurfacing for severe cases. Patients should also be closely monitored for the development of skin cancer elsewhere on the body.

Simon Lee, MD, FRCPC, is a Dermatologist who practices in Richmond Hill, Ontario.



Case 4

An Unwanted Souvenir

A 34-year-old male, who recently travelled to rural Ethiopia to visit friends and family, returned with a fast growing, itchy lesion under his big toe.

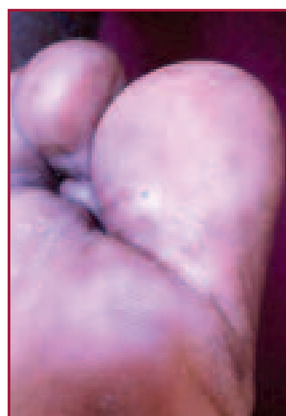


Figure 1: Before Treatment

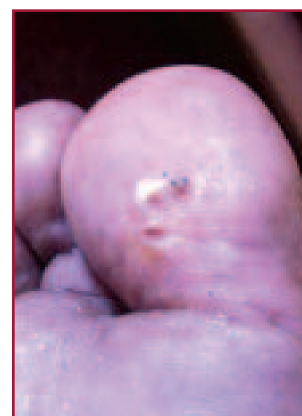


Figure 2: Post-removal — Successful Treatment Involves Removal of the Whole Content

What is your diagnosis?

a. Cellulitis
b. Scabies
c. Tungiasis
d. Wart
e. Callus

Answer

Tungiasis **(answer c)** is an ectoparasitic infestation by *Tunga penetrans* (female sand flea). It is widely endemic in Africa, India, South America, and the Caribbean. *Tunga penetrans* penetrates exposed parts of the skin, mostly the feet, which are exposed while walking bare foot.

Children in endemic areas are more prone. Depending on the degree of infestation, tungiasis can negatively impact quality of life. It can result in the deformity of nails and loss of function.

The lesion, which starts as a dot, expands as the parasite continues to lay more eggs. It usually is asymptomatic at the beginning, but it then tends to be pruritic and painful.

Diagnosis is clinical — history of travel to endemic areas and appearance of the lesion are the primary diagnostic features. Treatment simply involves removing the whole parasite with all its contents in its own sac. This results in instant relief.

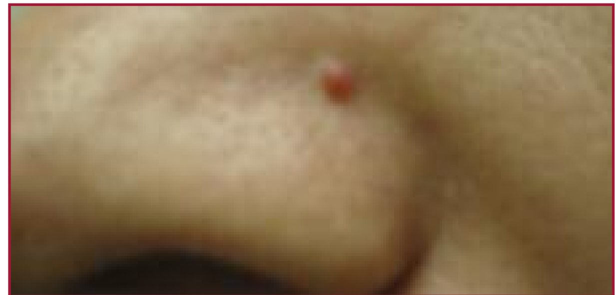
In endemic areas, people treat the condition at home with the use of a needle. In these regions, tungiasis is not considered a "medical condition." In these circumstances, an unsterile needle can result in further complications, including cellulitis and even tetanus. Travellers to endemic areas should be advised to avoid walking barefoot. Prevention is far better than the cure!

Cherinet Seid, MD, LMCC, CCFP, DTM(RCPS Glas), is the Lead Physician of the North Renfrew Family Health Team, Deep River, Ontario, Emergency Physician at Deep River and District Hospital, and Assistant Professor at Northern Ontario School of Medicine, Sudbury, Ontario.

Case 5

Red Nose Papule

This 36-year-old male has had a red papule on his nose for several years.



What is your diagnosis?

a. Pyogenic granuloma
b. Basal cell carcinoma
c. Trichoepithelioma
d. Dermal nevus
e. Angiofibroma

Answer

Angiofibroma **(answer e)** are solitary skin-coloured to red, shiny, dome-shaped papules with a varying degree of vascular proliferation. They occur in adults mainly on the nose and may be confused with any of the above diagnoses.

Multiple facial angiofibromas may be associated with tuberous sclerosis.

A simple shave excision and electrocautery is curative.

Stanley Wine, MD, FRCPC, is a Dermatologist in North York, Ontario.

Case 6

Stubborn Pruritus

A four-year-old male presents with a flare-up due to a pre-existing skin condition. He has significant pruritus, despite the use of hydrocortisone 1% cream, which has worked in the past. Physical exam reveals lesions on bilateral arms, legs, hands, and feet.

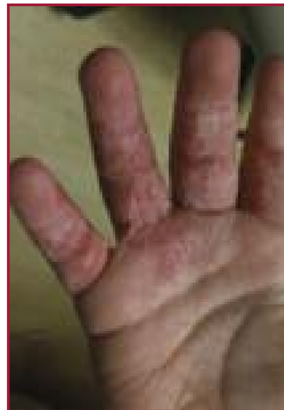


Figure 1: Atopic Dermatitis on the Hand

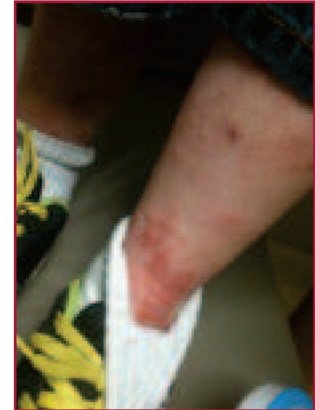


Figure 2: Atopic Dermatitis on the Ankle

What is your diagnosis?

a. Psoriasis
b. Scabies
c. Contact dermatitis
d. Atopic dermatitis
e. Seborrheic dermatitis

Answer

Atopic dermatitis **(answer d)** is a common, chronic, inflammatory skin disorder affecting approximately 10 to 20% of children and 1 to 3% of adults in developed countries. It is often followed by the development of asthma and/or allergic rhinitis — the "atopic march" — in about half of children who develop the condition before age two. Up to 70% of affected children outgrow the disorder before adolescence.

The diagnosis is made clinically, based on the patient's history of significant pruritus as well as characteristic findings on physical examination. Infants typically experience the rash on the extensor surfaces of extremities, as well as on the face, scalp, and trunk. Older children and adults are commonly affected on the flexor surfaces of extremities as well as the hands and feet. A family history of atopy can further support the diagnosis.

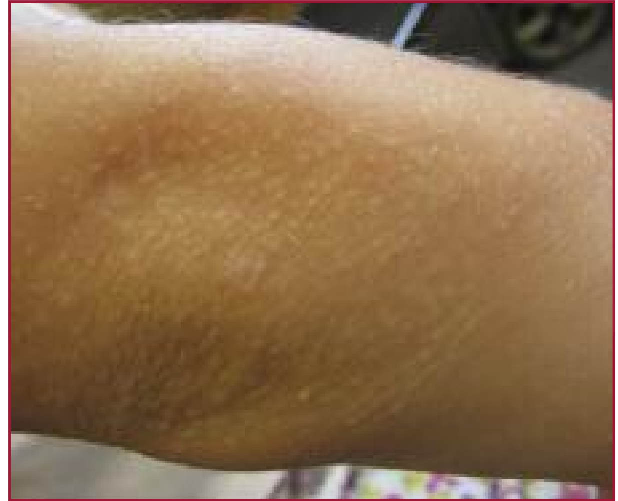
Management of atopic dermatitis begins with patient and caregiver education on the chronicity of the disease and the importance of appropriate skin care practice. Bathing with warm water hydrates the skin. A "soak-and-seal" approach is very effective for a daily regimen. It involves bathing in warm water and patting the skin lightly so that it is still slightly wet. This is followed by liberal application of an emollient, such as petroleum jelly. During acute flare-ups, topical corticosteroids are considered first-line treatment and are available in various potencies, concentrations, and preparations. It is best to apply them to affected areas following a bath, prior to the use of emollients. Topical calcineurin inhibitors (pimecrolimus and tacrolimus) are effective second-line agents for patients experiencing frequent exacerbations who want to avoid the side effects of topical steroids. Antihistamines may also be helpful to alleviate pruritus. UV therapy and systemic corticosteroids may be used in advanced cases.

Ankush Goyal MD, is currently awaiting Residency Training. He's just graduated from Windsor University in St. Kitts.

Kimmy Goyal, MD, CCFP, ABFM, is a Family Doctor in Brampton, Ontario.

Case 7

Non-itchy Elbows



A five-year-old girl presents with an intermittent history of 1 to 2 mm, non-itchy papules located bilaterally on the elbows. They have been present for the last year.

What is your diagnosis?

a. Keratosis pilaris
b. Dermatitis herpetiformis
c. Papular urticaria
d. Frictional lichenoid dermatitis

Answer

Frictional lichenoid dermatitis (FLD) **(answer d)** is characterized by aggregates of discrete 1 to 2 mm lichenoid papules occurring primarily on the elbows, knees, and dorsal hands when such regions are subjected to minor frictional trauma. The papules are erythematous or skin-coloured, and hypopigmentation or pruritus may occur in affected regions. A recurring condition, FLD affects children aged 4- to 12-years-old, particularly boys and those predisposed to atopy. Cases are more frequent in the spring and summer when outdoor activities, such as playing in the sand and grass, increase. Treatment involves avoidance of frictional trauma to affected regions and the use of emollients.

Keratosis pilaris is characterized by keratinous plugs in follicular orifices, with varying amounts of surrounding erythema. The follicular hyperkeratosis is generally not symptomatic and tends to affect children with a history of xerosis or atopic dermatitis. The anatomic distribution of keratosis pilaris is different from FLD, as it mostly involves the cheeks, extensor surfaces of the upper arms, and anterior thighs. Keratosis pilaris is hereditary, affecting multiple family members.

Dermatitis herpetiformis presents as symmetrically distributed, grouped, and intensely pruritic papulovesicles or bullae. The vesicles are 0.3 to 4.0 mm in diameter, clear, tense, and easily ruptured. Frequently affected regions include the elbows, knees, buttocks, and shoulders. This autoimmune disorder is strongly associated with celiac disease and is generally chronic with periods of remission. It is most common among Northern Europeans in the second to fifth decades of life, but it may also occur in infants and children.

Papular urticaria is a papular eruption that results from a hypersensitivity to bites, such as those of mosquitoes, mites, bed bugs, or fleas. The papules are different from those of FLD, as they are bigger (3 to 10 mm in diameter) and possess a central punctum. Common among children, the lesions tend to resolve in one to two weeks but may recur. Affected regions are often very pruritic, and scratching leads to erosions and secondary bacterial infection.

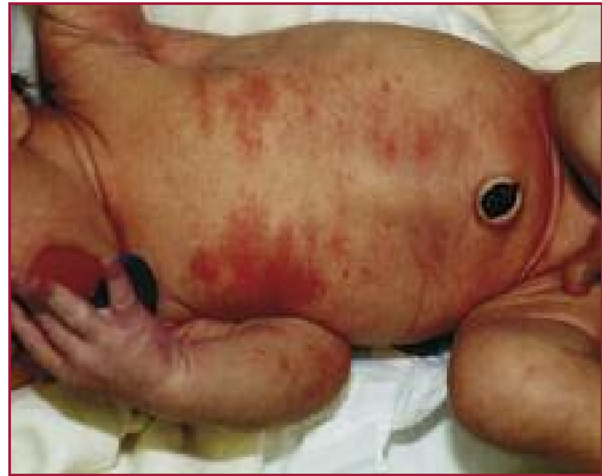
Lawrence Haiducu is a Third Year Medical Student at the University of British Columbia in Vancouver, British Columbia.

Joseph M. Lam is a Clinical Assistant Professor of Pediatrics and Associate Member of the Department of Dermatology and Skin Sciences at the University of British Columbia. He practices in Vancouver, British Columbia.

Case 8

Large, Blotchy Areas of Erythema

A two-day-old infant presents with large, blotchy areas of erythema, studded with erythematous papules on the trunk. The infant is otherwise healthy.



What is your diagnosis?

a. Neonatal pustular melanosis
b. Erythema toxicum neonatorum
c. Miliaria rubra
d. Infantile acropustulosis

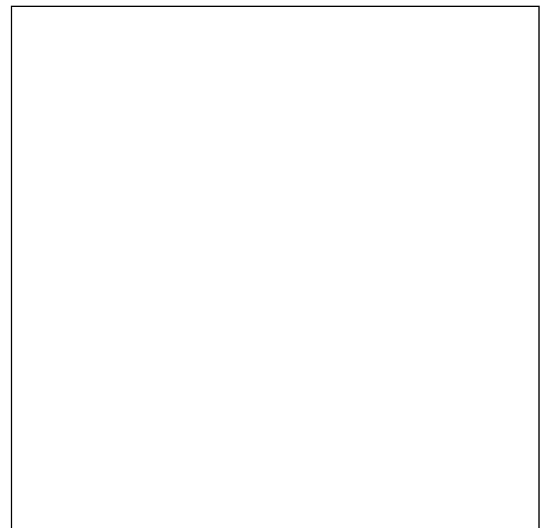
Answer

Erythema toxicum neonatorum **(answer b)** is characterized by blotchy areas of erythema, studded with erythematous or yellowish papules and sometimes pustules. This leads to what is classically described as a "flea-bitten" appearance. The papules and pustules usually measure 1 to 3 mm in diameter, while the surrounding erythema measures 1 to 3 cm in diameter. In the majority of cases, the lesions develop within 24 or 48 hours of birth, but they may appear as late as three weeks later. Rarely, the eruption is present at birth. The trunk is the site of predilection. The face and extremities may also be involved, but the palms, soles, and genitalia are almost always spared. This pattern of involvement might be related to the distribution of hair follicles.

The exact etiology is unknown, but it appears to be an immune system reaction. The papules and pustules are usually discrete and scattered. The number may vary from a few to dozens. The eruption is asymptomatic. Although individual lesions may last for a few hours, the eruption usually persists for several days or, rarely, several weeks. In general, the pustular eruption tends to last longer. There is no residual pigmentary change or scarring. Relapses are rare.

Alexander K.C. Leung, MBBS, FRCPC, FRCP(UK&Irel), FRCPCH, is a Clinical Professor of Pediatrics, at the University of Calgary in Calgary, Alberta.

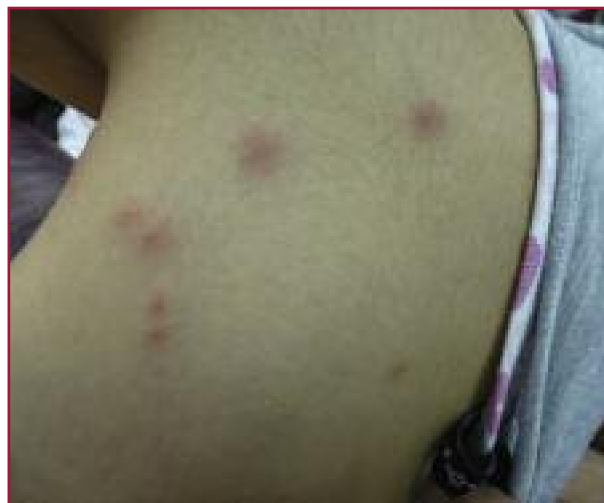
Alex H.C. Wong, MD, CCFP, is a Clinical Assistant Professor of Family Medicine at the University of Calgary in Calgary, Alberta.



Case 9

A Contagious, Itchy Rash

An eight-year-old girl presents with numerous small, red bumps on her neck and upper back. The rash is itchy. Both parents have a similar rash. The family went swimming in an indoor, heated swimming pool the week before.



What is your diagnosis?

a. Pseudomonas folliculitis
b. Acne
c. Keratosis pilaris
d. Insect bites

Answer

Pseudomonas folliculitis **(answer a)** is the result of an infection of hair follicles by *Pseudomonas aeruginosa*, which may occur following immersion in contaminated water found in hot tubs, heated swimming pools, and whirlpools. High water pH (> 7.8), low chlorine content, and high water temperature favour growth of *Pseudomonas aeruginosa*.

Onset may range from eight hours to five days after use of such facilities. Pseudomonas folliculitis typically presents as a red maculopapules that may be pruritic and/or painful. The rash is more commonly seen in a swimsuit-type distribution. The maculopapules may progress to small papulopustules. Other symptoms that may be present include low grade fever, malaise, and fatigue. The condition may be accompanied by otitis externa, conjunctivitis, and mastitis.

Pseudomonas folliculitis is a self limiting infection and may take up to 10 days to resolve. While the rash may be uncomfortable, treatment is usually not needed. Topical antibiotic may hasten the resolution of the lesions. If a persistent infection is present, the patient may benefit from a 7 to 10 day course of oral ciprofloxacin. The infection can be prevented by adequate chlorination and regular cleansing of the hot tub, bath, and pool, and by decreasing the total time spent in heated water.

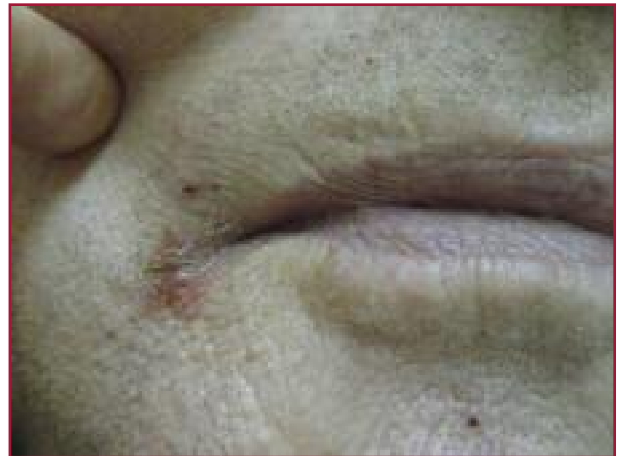
Jeffrey Ng, BN, RN, MSc, is a Medical Student at the University of Calgary in Calgary, Alberta.

Alexander K.C. Leung, MBBS, FRCPC, FRCP(UK&Irel), FRCPCH, is a Clinical Professor of Pediatrics, at the University of Calgary in Calgary, Alberta.

Case 10

Red and Sore Corner of the Mouth

- Mandy is a 69-year-old female with a several month history of redness and soreness at the corner of her mouth
- The affected area is also occasionally pruritic, and feels dry and rough to the touch
- Mandy has been told she needs to wear dentures, but she can't be bothered to do so
- She is a former smoker and has chronic obstructive pulmonary disease



What is your diagnosis?

a. Candidal dermatitis
b. Seborrheic dermatitis
c. Impetigo
d. Eczema
e. Angular cheilitis or perlèche

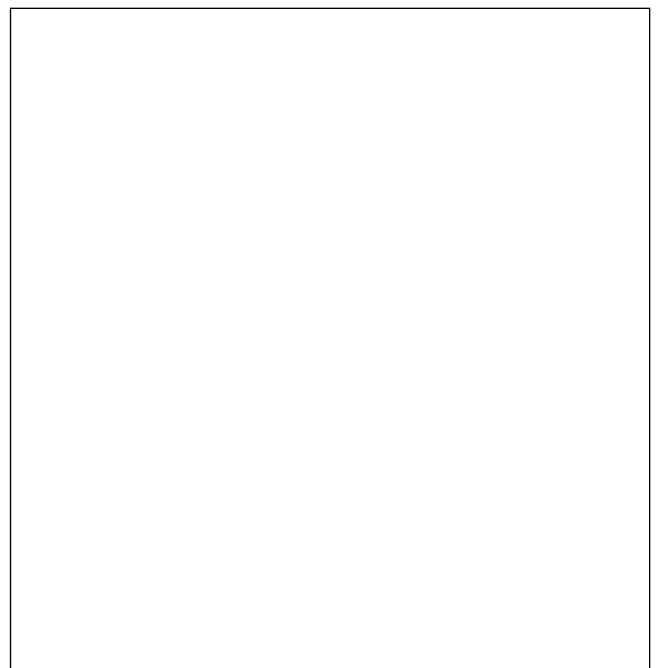
Answer

Angular cheilitis or perlèche **(answer e)** is a maceration with fissuring of the corners of the mouth. It typically presents as ill-defined, thickened areas with mild erythema at the corners of the mouth. Soon, fissuring and maceration, along with crust formation, occurs, and, occasionally, tiny papules appear. Involvement is typically bilateral and is considered by some to be analogous to intertrigo elsewhere on the body.

In angular cheilitis, concurrent infection with *Candida albicans* and/or *Staphylococcus aureus*, and other etiologic factors, including iron or riboflavin deficiency, may play a role. The elderly are more commonly affected due to atrophy of the alveolar ridge and the resulting overhanging of the upper lip over the lower at the commissures. As well, individuals with malocclusion due to ill-fitting dentures can develop this condition. Angular cheilitis seems to be more common in mouth breathers.

The treatment of angular cheilitis depends on the cause. Anticandidal or antibacterial creams can be beneficial depending on the etiology and/or in combination with a very mild steroid. In the elderly, there can be vertical shortening of the lower third of the face; therefore, oral surgical intervention is then recommended. More recently, the hyaluronic acid fillers have been injected into the depressed sulcus with successful outcomes.

Benjamin Barankin, MD, FRCPC, is a Dermatologist practicing in Toronto, Ontario.



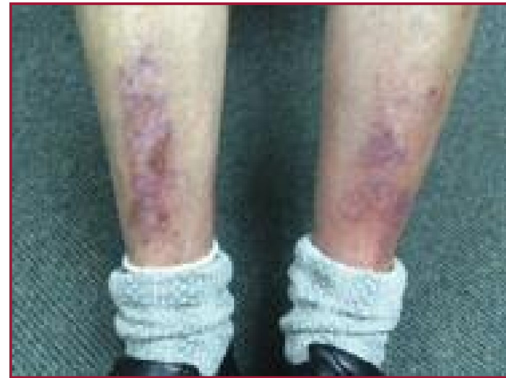
Case 11

Nonpruritic Shin Patches

A 75-year-old diabetic gentleman presents after a recent elective coronary artery bypass grafting, which was initiated by investigations for his exertional chest pain.

The patient reveals nonpruritic patches that have been present on his shins for a few years, and he wants to know whether there is a relation to his elevated cholesterol.

He is currently taking metformin 1,000 mg b.i.d., atorvastatin 80 mg a day, metoprolol 50 mg b.i.d., and baby ASA.



What is your diagnosis?

a. Necrobiotic xanthogranuloma
b. Necrobiosis lipoidica
c. Dermatosclerosis
d. Granuloma annulare

Answer

Necrobiosis lipoidica **(answer b)** is a chronic, atrophic dermatosis that usually presents on the shins with a distinctive, yellow, telangiectatic appearance, it is often associated with diabetes mellitus.

The female to male ratio is 2:1; it usually affects middle-aged women. Necrobiosis lipoidica is present in 0.3% of patients with diabetes mellitus.

The primary triggering event appears to be vasculopathy, followed by damage to collagen and granulomatous response.

Diagnosis is clinical; biopsy sites often heal poorly.

Despite atrophy, the best approach is to prescribe topical corticosteroids under occlusion or intralesional corticosteroids.

- If lesions are identified early, anti-inflammatory therapy with dapsone or colchicine may help
- Compression stockings and pentoxifylline may be useful.
- Skin grafting should be considered if the patches start to ulcerate
- Diabetic control is essential, but it does not influence necrobiosis lipoidica

Hayder Kubba, MBChB, LMCC, CCFP, FRCS(UK), DFFP, DPD, graduated from the University of Baghdad, where he initially trained as a Trauma Surgeon. He moved to Britain, where he received his FRCS and worked as an ER Physician before specializing in Family Medicine. He is currently a Family Practitioner in Mississauga, Ontario.