Case 1

A Lesion on the Buccal Mucosa

This 45-year-old woman has had this lesion on the buccal mucosa of her mouth for three-years. She is a smoker.

What is your diagnosis?

a. Mucosal cyst  
b. Parotid gland cyst  
c. Mucosal fibroma  
d. Squamous cell carcinoma  
e. Enlarged salivary gland

Answer

A mucosal fibroma (answer c) is a relatively common growth in the mouth. It may present along the bite line or on the tongue or gingiva. It is most commonly found in middle-aged females.

It typically presents as a soft, pink, smooth, and generally, fairly small growth, but it may reach 1 cm in size.

Shave excision with cautery is a quick and effective way to remove a mucosal fibroma. A biopsy is recommended.

Stanley J. Wine, MD, FRCP, is a Dermatologist in Toronto, Ontario.
Case 2

Abnormality of the Foreskin

The father of a 16-month-old child brings in his son because of some abnormality of the foreskin. Otherwise, his son has no medical problems.

What is your diagnosis?
- Pathologic phimosis
- Paraphimosis
- Peyronie’s disease
- Physiologic phimosis

Answer
Phimosis is the inability to retract the foreskin behind the glans in males. Phimosis is usually divided into physiologic and pathologic phimosis. Physiologic phimosis (answer d) is the normal condition in which children are born with a tight foreskin and separation occurs during late childhood and early adolescence. When the foreskin is pulled back, it has a typical fish-lip appearance. Pathologic phimosis occurs due to infection, inflammation, or scarring and is usually discovered.

Treatment depends on the age of the male, severity, and resulting symptoms. The first choice of treatment is usually a steroid ointment that is locally applied. This treatment has shown a success rate of over 70%. The ointment softens the foreskin and is applied for four to six weeks. Once full retraction is possible, the ointment is discontinued. In some cases, a circumcision is necessary.

Jerzy K. Pawlak, MD, MSc, PhD, is a General Practitioner in Winnipeg, Manitoba.
A four-month-old, Caucasian male presents with pink-red patches on his nape and eyelids bilaterally. The lesions are blanchable. The infant is asymptomatic.

What is your diagnosis?

a. Nevus flammeus  
b. Infantile hemangiom a  
c. Nevus simplex  
d. Sturge-Weber syndrome

Answer

Nevus simplex (answer c), or salmon patch is the most common vascular lesion in infancy. It is characterized by single or multiple, blanchable, pale pink to bright red patches that may be present in decreasing order of commonality on the nape/occipital area, glabella/forehead, or eyelids. They are less commonly seen on the nasolabial folds and sacral area. The patches may darken in colour with an increase in vigorous activity, crying, straining with defecation, breath-holding, or an increase in ambient temperature. While the condition is present in approximately 44% of Caucasian neonates, it is less commonly seen in dark-skinned infants. Both sexes are equally affected. The natural history of these lesions is to spontaneously fade over time. Lesions on the eyelids and glabella usually disappear by two- to three-years-of-age. Nuchal and sacral lesions tend to persist longer.

Treatment of nevus simplex consists of reassuring parents of the benign nature of the lesion. However, if a nevus simplex is noted in the lumbosacral region, a routine US of the lumbosacral spine is recommended to rule out the presence of occult spinal dysraphism.

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

Collin Luk is a Medical Student at the University of Calgary in Calgary, Alberta.
A four-year-old, previously healthy boy presents with splitting of the finger- and toenails that was first noticed two-and-a-half months ago. He has no clear history of fevers, illnesses, or hand-foot-and-mouth disease.

What is your diagnosis?

a. Onychomadesis
b. Onychomycosis
c. Trachyonychia
d. Koilonychia
e. Lichen planus

Answer

Onychomadesis (answer a) is the complete separation of the proximal portion of the nail with subsequent shedding of the nails. All nails affected usually show a deep transverse groove after separation, as seen in the photograph. This is usually caused by an insulting event that temporarily results in complete arrest of growth of the nail matrix, which is then followed by resumption of normal growth. Commonly described insulting events include trauma, febrile illness, hand-foot-and-mouth disease (coxsackie virus infection), Kawasaki disease and Stevens-Johnson syndrome. This is generally a benign condition that will self-resolve.

Onychomycosis is a fungal infection of the fingernails or toenails. Commonly classified patterns are distal subungual, proximal subungual, and white superficial. Based on the patient’s history and presentation, onychomycosis is an unlikely diagnosis.

Trachyonychia is characterized by an excessive longitudinal ridging with opalescent discoloration and sandpaper-like texture of the nails. Nails are often thinned and prone to fragmentation and splitting. Twenty-nail dystrophy is a condition used to describe trachyonychia when all nails are involved.

Koilonychia (also known as spoon nail) is described as thin nails that become depressed and concave from side to side and turned upward at the distal and lateral edges. Spoon nails may be inherited as an autosomal dominant trait or seen in those with severe iron deficiency anemia.

Lichen planus typically present as small, shiny, flat-topped polygonal papules that are reddish or violaceous in colour and distributed on the flexural surfaces of the arms and legs, lower back, face, and mucous membranes. Although lichen planus may have associated nail involvement, it is usually rare in children and concurrently presents with characteristic skin lesions. Isolated lichen planus of the nail can present with trachyonychia, anonychia, pterygium, and subungual hyperkeratosis.

Trien Van is a Fourth Year Medical Student at the University of Alberta in Edmonton, Alberta.

Joseph M. Lam MD, FRCP(C) is a Clinical Assistant Professor at the University of British Columbia. He practices Pediatric Dermatology in Vancouver, British Columbia.
A Rash Developed on Vacation

This 82-years-old lady just returned from a trip abroad. While on vacation, she developed a rash and was given a seven-day course of treatment, after which the rash began to dry up and improve.

What is your diagnosis?

a. Herpes zoster ophthalmicus
b. Primary herpes simplex infection
c. Impetigo
d. Cellulitis

Answer

Herpes zoster ophthalmicus (answer a) is caused by the varicella-zoster virus, which causes chickenpox and can lie dormant in the sensory ganglia and later reactivate as shingles (herpes zoster).

Causes of reactivation are unknown, but they may be related to aging, immune compromise (e.g., AIDS, lymphoproliferative diseases, systemic steroids), and trauma to the involved ganglion.

Although chickenpox is contagious, it should not cause herpes zoster; however, children can develop chickenpox after contact with herpes zoster patients. Once the virus is reactivated, it may be contained or spread to the brain, skin, or eye or enter the bloodstream.

The virus has a predilection for dermatome T3-L3, but the most common facial site is the trigeminal nerve area.

Cutaneous lesions of herpes zoster are histopathologically identical to varicella, but they have a greater inflammatory reaction, which can cause scarring.

The dermatome pattern of herpes zoster may occur in three sites supplied by branches of the trigeminal nerve:

1. The ophthalmic nerve distribution (V1) is where it occurs most frequently. Frontal involvement is the most common, including the upper lid, forehead, and superior conjunctiva, which are supplied by supraorbital and supratrochlear branches. Alternatively, it may spread to the lacrimal and nasociliary area, which supply the cornea, iris, ciliary body, and nose.
2) The maxillary nerve distribution (V2)
3) The mandibular nerve distribution (V3)

The virus may affect any, none, or all of these branches. Involvement of the nasociliary nerve often leads to infection of the eye. Hutchinson’s rule states that ocular involvement is frequent if the side of the tip of the nose is involved.

Clinically, herpes zoster is characterized by a prodrome, skin disease, and ocular complications. The patient may experience pain, burning, itching, and hyperesthesia in the dermatome area, followed by erythema, macules, papules, and vesicles, which become confluent and may form deeply pitted scars (dermis affected by the necrotic process). Ocular complications include lid scarring and exposure, muscle palsies, conjunctivitis, episcleritis, scleritis, keratitis, uveitis, and retinitis.

Antivirals are effective treatment, especially if started within 72 hours of the disease onset. Acyclovir 800 mg five times a day for seven days is usually used.

Ophthalmic referral is recommended with follow-up, especially if the disease affects the nasal-tip. Patients are advised to receive the new vaccination for herpes zoster.
A nine-year-old boy presents with an erythematous rash all over his body, especially the right forearm. The rash is very itchy. The lesions blanch on pressure and tend to come and go.

**What is your diagnosis?**

- a. Urticaria
- b. Erythema multiforme
- c. Insect bite reaction
- d. Cutaneous mastocytosis

**Answer**

Urticaria (answer a) is characterized by pruritic, erythematous, edematous wheals of the superficial layers of the skin. The hallmark of urticaria is that individual lesions wax and wane rapidly, usually lasting less than four hours. Between 15 and 20% of the population is estimated to experience at least one episode of urticaria at some time in their lifetime.

Although somewhat arbitrary, urticaria of less than six weeks duration is considered acute, whereas urticaria with daily, or nearly daily, symptoms of greater than six weeks duration is considered chronic. Chronic urticaria affects 0.1 to 3% of children. The majority of acute urticarias are caused by type-I, anaphylactic, IgE-mediated, or immediate hypersensitivity reactions to allergens, such as food (notably peanuts, eggs, chocolate) or drugs (notably -lactam antibacterials). Mast cells are the major effector cells and histamine is the major mediator. Approximately 50% of cases of acute urticaria are idiopathic, whereas more than 80% of cases of chronic urticaria are idiopathic. T-lymphocytes and monocytes play a role in the pathogenesis of chronic urticaria.

Nonsedating H₁ antihistamines are the mainstays of management. Cooling antipruritics, such as 1 or 2% menthol in aqueous cream or calamine lotion, may be helpful. Triggering factors should be avoided if possible.

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.
A 56-year-old male presents with a history of pruritic scab-like lesions on his body that have been present for many years. These lesions flare up once a year, lasting about a month. On physical examination, multiple scaling, erythematous, and crusted lesions are seen on his chest, back, scalp, and forehead. There is no involvement of his oral mucosa.

What is your diagnosis?

a. Bullous pemphigoid
b. Pemphigus foliaceus
c. Behçet’s disease
d. Pemphigus vulgaris

Answer

Pemphigus foliaceus (PF) (answer b) is an autoimmune vesiculobullous disorder that affects the skin and typically spares mucosal surfaces. Bullae are rarely seen, as they are extremely flaccid and do not remain intact. Classically, patients present with erythematous, scaling and corn-flake-like crusted lesions, which are usually pruritic and sometimes painful. The areas involved include the face, scalp, chest, and back (seborrheic distribution). The pathophysiology of all forms of pemphigus involves IgG anti-desmoglein antibody deposition, causing acantholysis (loss of cell-to-cell adhesion). The resulting cleft formation between epidermal cells causes the formation of bullae.

The diagnosis of PF is made by biopsy, preferably of an intact bulla, which also helps differentiate this from other bullous diseases. Histopathology shows acantholysis below the stratum corneum. Immunohistochemistry demonstrating characteristic IgG antibody deposition on the surface of keratinocytes also helps confirm the diagnosis.

The mainstay of treatment of PF involves corticosteroids. Mild, localized disease can often be managed effectively with topical or intraleisional steroids. However, in many patients, oral steroids are used initially to control more severe disease activity and blistering. The oral steroids can then be tapered to the lowest effective dose and may even be discontinued. In severe, refractory cases, immunosuppressive agents may be used, either alone or in conjunction with oral steroids. The lesions heal well but cause post-inflammatory hyperpigmentation, which typically resolves with minimal scarring.

Pemphigus vulgaris (PV) is similar to PF; however, the acantholysis occurs deeper in the epidermis and this disease is more severe. The major clinical distinguishing feature is the presence of oral or mucosal lesions in the majority of patients with PV, while in PF these areas are typically spared. The treatment options for the two are the same, with more aggressive management needed for PV than for PF.

Bullous pemphigoid involves antibody deposition below the epidermis, which differentiates this from pemphigus, where deposition is within the epidermis. As a result, bullae are more firm and are visible long after the onset of disease. Like in PF, mucosal involvement is rarely seen.

Behçet’s disease is a multi-system illness characterized by recurring genital and oral ulcerations and ocular involvement. Bullae are absent, and histopathology shows a perivasculitis.

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

 Ankush Goyal, MD, graduated from Windsor University in St. Kitts, West Indies.
A 67-year-old woman presents with a bump on her middle finger. It started off as a wart, but it has become larger in the last few weeks. It now catches on things, causing pain and bleeding.

**What is your diagnosis?**

a. Keratoacanthoma  
b. Actinic keratosis  
c. Seborrheic keratosis  
d. Pemphigus vulgaris  
e. Cutaneous horn

**Answer**

A cutaneous horn (answer e) is a prominent mass of keratin. It typically results from the extension of another lesion, such as a wart, seborrheic keratosis, actinic keratosis, dermatofibroma, keratoacanthoma, or carcinoma (including basal and squamous cell cancers).

The horn can grow slowly or rapidly and occurs most commonly in sun-exposed areas, such as the ears, face, scalp, arms, and dorsal hands. It is usually thick, firm, and pedunculated. The shape can be straight or curved. A cutaneous horn can range in colour from white or yellow to brown or black. The size can vary from a few millimeters to several centimeters. Larger lesions can be traumatized, resulting in pain and bleeding.

Although usually benign, a cutaneous horn has the potential to be premalignant or malignant. An increased risk of malignancy is noted if the lesion is tender at the base, larger in size, occurring in an older individual, or occurring in a patient with other cancerous lesions.

Diagnosis is reached by doing a shave excision and making sure that the sample gathered is from the base of the horn to rule out cancerous lesions. If benign, the lesion can be left alone or treated with cryotherapy or excision.

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

Fenny Goyal, MD, is a Medical Graduate from the Windsor University School of Medicine in Cayon, Saint Kitts-Nevis.
A 60-year-old Caucasian female presents with a cluster of 2 to 3 mm purple papules that first appeared on her lower back approximately two months ago.

**What is your diagnosis?**

a. Pityriasis lichenoides  
b. Erythema multiforme  
c. Lichen planus  
d. Dermatitis herpetiformis

**Answer**

Lichen Planus (LP) (answer c) is an acute or chronic inflammatory dermatosis that is characterized by “the five Ps,” which are polygonal, pruritic, papule, planar, and purple.” The lesions can be localized or disseminated, and they can be found on the lumbar region, wrists, shins, scalp, and sometimes, lips and mucosa. The incidence of LP is less than 1% worldwide and is more common in women between the ages of 30 and 60.  

Clinical diagnosis can be made by careful examination, and it can be enhanced by the use of a dermatoscope, which may reveal white reticulate lines, known as Wickham striae, throughout the papules.

Treatment options depend on the severity and site of the lesions. For local lesions, treatments includes topical glucocorticoids and intralesional triamcinolone. For severe cases, phototherapy or systemic agents (i.e., retinoids) may be helpful.

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**Case 9**

Ereni Neonakis is a Research Assistant in the Division of Dermatology at Dalhousie University in Halifax, Nova Scotia.  

Richard Langley, MD, FRCPC, is a Professor of Dermatology and Director of Research in the Division of Dermatology at Dalhousie University in Halifax, Nova Scotia.
Slowly Enlarging Elbow Growth

An 11-year-old girl presents with a slowly enlarging growth on her elbow.

What is your diagnosis?
- a. Seborrheic keratosis
- b. Verruca vulgaris
- c. Squamous cell carcinoma
- d. Verrucous nevus
- e. Juvenile xanthogranuloma

Answer
Verruca vulgaris (answer b), otherwise known as warts, are growths caused by the human papillomavirus of which there are now more than 100 known subtypes. They are especially common in childhood, although anyone of any age can contract warts almost anywhere on the body. They are spread by direct contact. Warts have a rough or verrucous surface, and, often, tiny black dots can be identified in their middle, but not always. Warts can disappear without treatment; 90% of warts disappear within two years of onset. Adult warts tend to be more persistent. Warts are particularly hard to treat in immunosuppressed patients. Physicians typically treat warts with over-the-counter salicylic acid preparations and liquid nitrogen treatments. Immunomodulators, such as imiquimod or 5-flourouracil, can also be used, and bleomycin injections, tattooing, or candida antigen injections can be helpful. Occasionally, laser therapy or excision can also be employed, depending on the location of the wart and the age of the patient.

Benjamin Barankin, MD, FRCP is a Dermatologist and the Medical Director of the Toronto Dermatology Centre in Toronto, Ontario.