Case 1

Lesion on the Cheek

A 63-year-old male presents with a lesion on his left malar region of several months duration. It is occasionally sensitive.

Questions
1. What is your diagnosis?
2. What are the features of such a lesion?
3. How would you manage this lesion?

Answers
1. Actinic keratosis
2. These lesions are pink, rough, and/or flaky. Occasionally, they are sensitive.
3. Inspect the rest of the face, and do a full skin exam to rule out dysplastic nevi, skin cancers, or the presence of other actinic keratoses. Liquid nitrogen is the most common treatment for one or a few lesions. Consider imiquimod or 5-fluorouracil if there are multiple or recurring lesions. Advise the patient about hat and sunscreen use and avoidance of mid-day sun.

Provided by: Dr. Benjamin Barankin
Case 2

Excessive Hair Growth

A 22-year-old female has been experiencing excessive hair growth on her face and neck since she was 14-years-old. This is very bothersome and is affecting her self-esteem.

Questions
1. What is the diagnosis?
2. What is the pathophysiology?
3. What are the treatments?

Answers
1. Hirsutism
2. Abnormally high androgen level or hair follicles that are more sensitive to normal androgen level can lead to hirsutism. Potential causes of hirsutism include central overproduction of androgen, elevated peripheral conversion of androgen to dihydrotestosterone, decreased metabolism, and enhanced receptor binding.
3. Pharmacologic treatments are selected based on the underlying cause of hirsutism. They must be administered continuously; otherwise, the amount of androgen will revert to its former level. Antiandrogen medications are often administered while cosmetic hair removal is performed. Examples of physical methods of hair removal include bleaching, shaving, waxing, electrolysis, and laser hair removal. Common medical treatments include oral contraceptives, spironolactone, and eflornithine cream.

Provided by: Dr. Francesca Cheung
Case 3

Sudden Severe Swelling

A 66-year-old female presents to the emergency department with a one-hour history of severe tongue and upper airway swelling. There does not seem to be any history of recent exposures to new allergens, and this has never happened to her previously. Her past medical history includes hypertension, COPD, and hypothyroidism.

Questions
1. What is the diagnosis?
2. What is the management of this patient?
3. What is the most likely etiology?

Answers
1. Angioedema
2. On presentation the patient was treated with oxygen, epinephrine, diphenhydramine, and methylprednisolone sodium succinate. She did not respond to these initial mediations and continued to rapidly deteriorate, requiring an emergency cricothyroidotomy. The patient was stabilized and transferred to ICU for further care.
3. This patient likely had a medication reaction with an angiotensin-converting enzyme inhibitor (ACE-I) causing upper airway obstruction. ACE-Is are common medications used for hypertensive, cardiac, and diabetic patients and are the leading cause of medication-induced angioedema. ACE-I-induced angioedema is not thought to be dose-dependent and can occur with any ACE-I. Patients commonly present with a sudden onset and rapidly progressive swelling in the lips, tongue, face, and airway, which is not usually accompanied by pruritus or urticaria. The triggering medication must be stopped and supportive care given until the swelling resolves.

Provided by: Dr. Karen Choi
A Rapidly Enlarging Growth on the Back

A 58-year-old male notices a rapidly enlarging growth on his back. He initially thought the lesion was a cyst, but he was unable to squeeze out the discharge from the centre.

Questions
1. What is the diagnosis?
2. What type of skin cancer does the growth mimic histopathologically?
3. What is the treatment?

Answers
1. The diagnosis is keratoacanthoma.
2. Keratoacanthoma can mimic squamous cell carcinoma histopathologically.
3. The primary treatment is surgical excision.

Provided by: Dr. Francesca Cheung
A 44-year-old male presents with a three-day history of palpable purpura on the buttocks and legs. He has been healthy and is not on any prescription or over-the-counter medications. He denies any systemic symptoms, such as fever, cough, arthralgia, myalgia, paresthesia, weakness, diarrhea, hematochezia, or hematuria.

Questions
1. What is the diagnosis?
2. What are the possible causes?
3. What are the treatments?

Answers
1. Leukocytoclastic vasculitis
2. Approximately one-third to one-half of cases are idiopathic. Almost all medications can be potential causes, but antibiotics, nonsteroidal anti-inflammatory medications, and diuretics are the more common culprits. Food or food additives may also be associated with leukocytoclastic vasculitis. Various infections, such as upper respiratory tract infections and hepatitis B and C, can be triggers. Collagen vascular disease, inflammatory bowel disease, and malignancy have also been associated with leukocytoclastic vasculitis.
3. When a specific trigger can be identified, treating the trigger will be beneficial in clearing the condition. In idiopathic cases, the condition usually clears without any specific therapy. Patients may find leg elevation or compression stockings useful in providing symptomatic relief. Use of systemic corticosteroid has been found to be effective in clearing cutaneous involvement that results in ulceration.

Provided by: Dr. Francesca Cheung
Rectal Pain and Itch

A two-year-old boy presents with rectal pain and itching. The stools are blood streaked.

Questions
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers
1. Perianal streptococcal dermatitis
2. Perianal streptococcal dermatitis is caused by group A ß-hemolytic streptococcus (GABHS). The condition predominantly affects children between 6-months and 10-years-of-age. Perianal streptococcus dermatitis typically presents as a bright red, well-demarcated, moist rash in the perianal region, extending several centimeters from the anal verge. The rash is painful and pruritic. The pain occurs particularly during defecation and may result in constipation. There may be a mucoid discharge and fissures in the affected area, and, in approximately one-third of individuals, there is a history of blood-streaked stools. Perianal streptococcus dermatitis may be complicated by poststreptococcal glomerulonephritis and guttate psoriasis.
3. Treatment consists of a 10 day course of penicillin V or amoxicillin, 40 mg/kg/day divided in three doses. The amoxicillin suspension has better taste and may result in better patient compliance. Macrolides (e.g., erythromycin, clarithromycin) can be used for patients allergic to penicillin. A topical application of 2% mupirocin t.i.d. for 10 days may also be used.

Provided by: Ms. Vicky Mah and Dr. Alexander K.C. Leung
Small White Nodule

An 11-month-old girl presents to the office for a small white nodule on the lateral aspect of her right heel. She was born at 36-weeks gestation. The infant had hyperbilirubinemia in the neonatal period and had heel pricks on several occasions for the monitoring of serum bilirubin levels.

Questions
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers
1. Cutaneous nodule following a heel prick
2. The nodule is the result of a blood sample that was drawn in the immediate postpartum period, and such lesions usually presents 4 to 12 months after birth. The patient’s mother corroborated this, as she recalls a blood sample taken in the hospital on the right heel of the infant prior to being discharged home. The nodule is believed to be an implantation cyst secondary to a heel stick. It is likely that the calcification is dystrophic following local tissue injury. Histologically, the nodule has a rim of irregular calcification surrounded by a fibrous connective tissue and a mononuclear inflammatory infiltrate. The lesion is characteristically asymptomatic and often solitary. The colour of the papule/nodule may be white or yellow. The condition is more common in high-risk, preterm infants.
3. No treatment is necessary, as the condition is self-limited. Typically, the nodule resolves within 14 to 18 months by transepidermal elimination. Reassurance for parents is often enough.

Provided by: Mr. Jeffrey Ng and Dr. Alexander K.C. Leung
Case 8

**Mass on the Scrotum**

A six-year-old boy presents with a mass on the left side of the scrotum. The mass is more prominent in a standing position, especially when the child is coughing. The mass does not transilluminate.

**Questions**
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

**Answers**
1. Indirect inguinal hernia
2. An indirect inguinal hernia results from a failure of fusion of the processus vaginalis. The incidence of indirect inguinal hernia in term infants is 1 to 2%. In premature infants, the incidence is 9 to 10%. The male to female ratio is 10:1. The hallmark of an indirect inguinal hernia is an intermittent bulge in the groin, scrotum, or labia majora. The bulge is most apparent during periods of increased intra-abdominal pressure. The cranial extension prevents the examiner from getting around the top of the bulge. The mass typically reduces spontaneously when the child relaxes or with gentle pressure. The spermatic cord on the ipsilateral side is often thickened. The condition is often asymptomatic. Incarceration occurs most often during the first six months of life. Occasionally, strangulation may occur.
3. Surgical repair of the hernia should be carried out electively shortly after diagnosis. There is controversy about whether the contralateral groin should be explored. The current body of literature supports the routine use of transinguinal laparoscopy to evaluate for a contralateral patent processus vaginalis. Nowadays, most surgeons do not routinely perform a contralateral exploration unless a contralateral inguinal hernia or patent processus vaginalis can be demonstrated either by preoperative ultrasonography or intraoperative laparoscopy. Laparoscopic inguinal hernia repair has become an alternative to the conventional open herniotomy.

Provided by: Dr. Alexander K.C. Leung and Dr. Andrew S. Wong
A 36-year-old male presents with an asymptomatic lesion on his back, which his wife is concerned about.

Questions
1. What is your diagnosis?
2. What features of the lesion are cause for concern?
3. How might you manage this lesion?

Answers
1. Dysplastic nevus
2. The asymmetric, irregular border, multiple shades of brown, and larger diameter are worrying features of the lesion.
3. Biopsy or excision should be conducted to confirm dysplastic nevus and rule out melanoma. Do not advise the patient to watch the lesion for changes, as it is on his back.
White Macules

A 45-year-old man presents with several asymptomatic, well circumscribed, white macules and patches involving the face and acral aspects of his body. He notes that the depigmentation has been progressive over the course of a few months. Past medical history is significant for hypothyroidism, secondary to Hashimoto’s thyroditis.

Questions
1. What is your diagnosis?
2. How is the condition classified?
3. What is the treatment? How early should the treatment be initiated?

Answers
1. The diagnosis is vitiligo. The peak onset of vitiligo occurs during the second or third decades of life. Females are more likely to be diagnosed. Often, patients will have concurrent autoimmune processes (e.g., thyroiditis, pernicious anemia, alopecia areata, etc.). The exact etiology of vitiligo is unknown, but it is believed that there is an autoimmune destruction of melanocytes, the skin cells that contain the pigment melanin. Vitiligo is a component of polyglandular autoimmune syndrome type II (chronic autoimmune thyroiditis/Graves’ disease, type 1 diabetes mellitus, primary adrenal insufficiency, and hypopituitarism). Genetic factors may account for 20 to 30% of the incidences of the disease.
2. Localized (focal, segmental, and mucosal subtypes), generalized (acrofacial, widespread), and universal (complete or near complete depigmentation) presentations can occur.
3. The treatment goals for vitiligo are to prevent further depigmentation and promote repigmentation. To prevent further depigmentation, topical corticosteroids or topical calcineurin inhibitors (pimecrolimus and tacrolimus) are useful for application to new patches or expanding patches. To promote repigmentation, controlled amounts of UV light phototherapy can be effective (e.g., PUVA, narrow-band ultraviolet B [NB-UVB], or excimer laser). Sun tanning or tanning salon usage should be discouraged, as the uncontrolled UV light can cause skin damage to areas devoid of pigment.
A 10-day-old male infant presents with bilateral breast tissue enlargement. The infant is breastfed. Milk can be expressed from his nipples.

Questions
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers
1. Neonatal gynecomastia
2. Neonatal gynecomastia is caused by stimulation of the neonate’s breast tissue by maternal estrogens that cross through the placental barrier during pregnancy. The condition is found in both female and male infants. Whitish discharge (“witch’s milk”) may be expressed from the nipples. Neonatal gynecomastia must be differentiated from mastitis, which is characterized by warm, tender, erythematous, and indurated breast tissue.
3. The enlarged breast tissue typically resolves spontaneously within a few weeks to several months of birth. Breastfed infants and female infants tend to have longer persistence of the enlarged breast tissue.
Case 12

Erythematous Rash

A 16-year-old boy presents with an erythematous rash in the right axilla. The rash is mildly pruritic. His body weight is 198 lb and he sweats profusely.

Questions
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers
1. Erythrasma

2. Erythrasma is a common superficial infection of the skin that presents with reddish-brown patches or plaques that are well-circumscribed and irregular in shape and size. Erythrasma usually spans an area of between 5 and 10 mm and can be raised. The causative organism is *Corynebacterium minutissimum* — a rod-like Gram-positive bacterium. The infection is usually located in moist, intertriginous areas, such as the axillae, crural and intergluteal folds, the crural and intergluteal folds of the groin, and interdigital and inframammary areas. Most lesions are asymptomatic, although some are mildly pruritic. The condition is common in adults and rare before puberty. Predisposing factors include obesity, diabetes mellitus, poor personal hygiene, hyperhidrosis, old age, and immunodeficiency. Fungal coinfection with *Candida* species and dermatophytes can sometimes occur. Examination of the lesion under Wood’s lamp shows a characteristic coral red fluorescence because of production of coproporphyrin III by the infecting bacterium.

3. Topical erythromycin (250 mg q.i.d. for two weeks) appears to be the treatment of choice. Erythromycin performs better in patients with lesions involving the axillae and groin, and performs equally well as tetracyclines and fusidic acid in interdigital infections. Systemic tetracycline, clarithromycin, and chloramphenicol are reserved for extensive or resistant cases.

Provided by: Dr. Alexander K.C. Leung, Dr. Alexander A.C. Leung, and Dr. Alex H.C. Wong