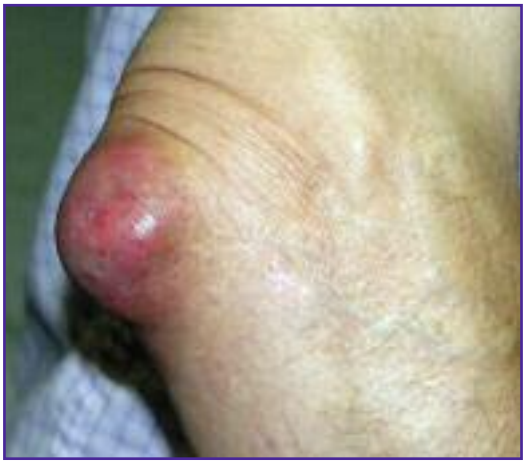
Illustrated quizzes on problems seen in everyday practice

Case 1



Swollen Elbow

A 67-year-old male presents with a swollen, red, hot right elbow without any recent history of injury.

Questions

1. What is the diagnosis?
2. What is the treatment?

Answers

1. Olecranon infected bursitis. Inflammatory swelling of the bursa over the olecranon may be infective or traumatic in the origin. The diagnosis of olecranon bursitis is usually obvious from the physical examination. In cases where the elbow swells immediately after a fall or other injury to the elbow, x-rays may be necessary to make sure that the elbow is not fractured. Usually chronic olecranon bursitis is easy to diagnose without any special tests. Bursitis can also be caused by the inflammation of crystal deposits in the synovial fluid (as in gout and pseudogout) as well as by rheumatoid diseases such as rheumatoid arthritis. On rare occasions, the bursa can become infected with bacteria. This condition is known as septic bursitis. If tenderness, excessive redness and heat, lymphangitis and axillary adenopathy are presented, septic bursitis should be ruled out. Whether or not the bursa is infected, a needle may be inserted into the bursa and the fluid removed. This fluid will be sent to a lab for tests. The results are used to determine whether infection is present. If so, the type of bacteria that is causing the infection is identified.
2. Oral antibiotic with surgical drainage.

Provided by: Dr. Jerzy Pawlak

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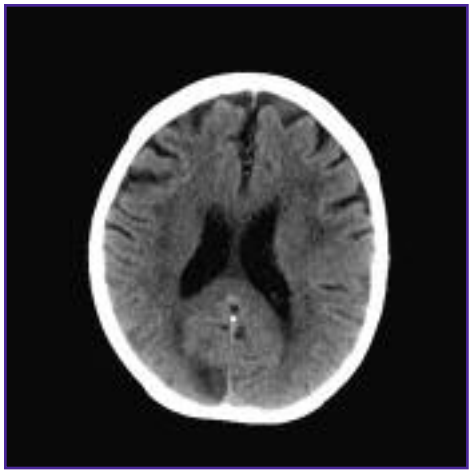
Case 2



Sudden Loss of Vision

A 79-year-old female presented with sudden inability to see on her left side. She also complained of a vague feeling of dizziness. On examination, she was found to have left homonymous hemianopia. A CT scan of her brain was performed.

Questions

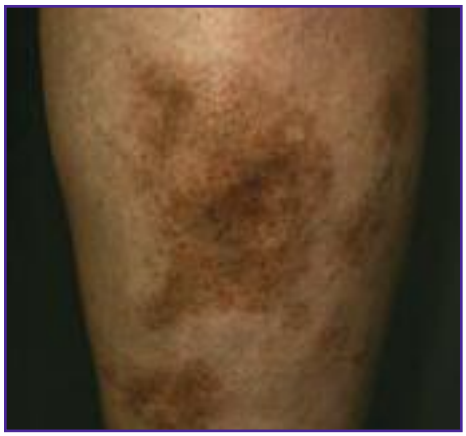
1. What does the CT scan show?
2. What is your diagnosis?
3. How will you manage this case?

Answers

1. CT scan shows right occipital lobe hypodensity.
2. Right occipital lobe acute ischemic infarct in posterior cerebral artery territory.
3. This patient should be started on antiplatelet therapy (*i.e.*, ASA) and a cholesterol-lowering agent. Her lipid profile should be checked and LDL-C should be monitored. Holtor monitor should be done to rule out cardiac arrhythmias and ECHO should be done to rule out cardiac source of embolus formation. Other vascular factors such as hypertension, diabetes mellitus and coronary artery disease should be modified to decrease the future risk of ischemic events.

Provided by: Dr. Abdul Qayyum Rana; Dr. Faisal R. Khan; and Dr. Waheed Khan

Case 3



Reddish-Brown Lesions

A 63-year-old female presents with a one-year history of large annular reddish-brown lesions on both calves. The patient reports that the lesions were initially limited to her right leg but with time the other leg became involved and multiple lesions developed on both legs.

Questions

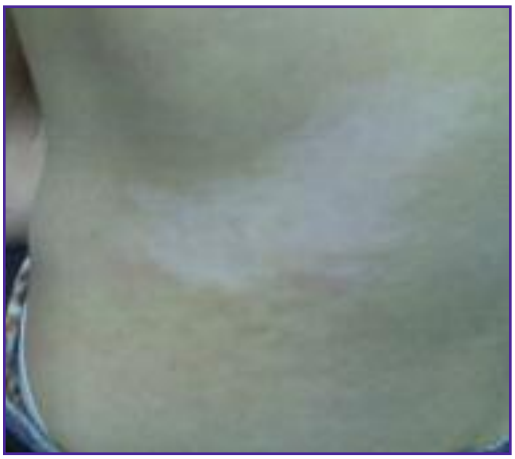
1. What is your diagnosis?
2. What is the significance?
3. What is the treatment?

Answers

1. This patient has pigmented purpura, a benign capillaritis which presents clinically as petechiae, increased pigmentation and telangiectasias.
2. Pigmented purpura may occur in children and adults and may have no associated conditions. This chronic condition is usually asymptomatic, with phases of remission and subsequent flares. The eruptions are usually limited to the lower limbs and can have a variety of clinical appearances. Histopathological features may include lymphocytic perivascular infiltrate and extravasation of red cells.
3. Pigmented purpura is difficult to treat, however, symptoms may resolve with topical corticosteroids or UV therapy.

Provided by: Aimee MacDonald; and Dr. Richard Langley

Case 4



A Light Patch

A 13-year-old boy presents with a history of tonic-clonic seizure. He was born full term and delivery was unremarkable. His development has been normal and he is studying in regular class. Upon physical examination this lesion was noticed.

Questions

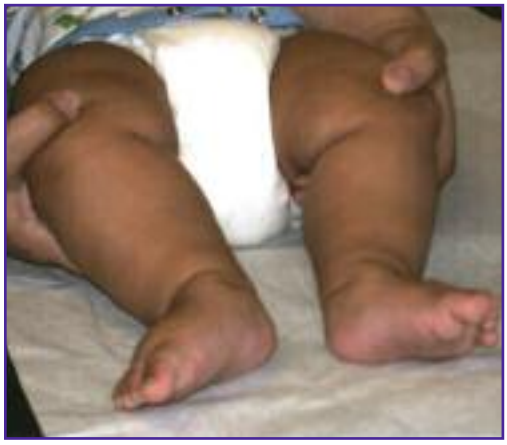
1. What is the lesion called?
2. What is the name of the associated condition?
3. What is the treatment?

Answers

1. The skin lesion is called Ash leaf spot.
2. This is seen in tuberous sclerosis, which is a neurocutaneous syndrome and is autosomal dominant. The abnormal gene is mapped to chromosome 9q34 (TSC1) and in some families to chromosome 16p13.3 (TSC2). The abnormal protein is hamartin for TSC and tuberin for TSC2. The pathologic changes usually involve central nervous system, skin, bones, retina, kidneys and lungs. This is called Pringle's disease if manifested only dermatologically, Bourneville disease if the nervous system is involved, West syndrome if skin lesions are associated with infantile spasm, hypsarrhythmia and mental retardation. The hypomelanotic macules are the earliest skin lesions, which are present at birth and are permanent. Sometimes these hypomelanotic macules are only found upon Wood lamp examinations.
3. Sirolimus is a T-cell inhibitor and is available as a commercial kit. Management is essentially multidisciplinary and needs the following consultations: a neurologist for seizures, pediatric psychologist and psychiatrist for behavioural issues and a neurosurgeon for tumour resection.

Provided by: Dr. Mohammad S. Ijaz

Case 5



Leg Size Asymmetry

A two-month-old child was born to a 23-year-old primigravida mother at term following an uncomplicated pregnancy and normal vaginal delivery. Asymmetry of leg size was noted at birth with a larger right leg compared to the left. No associated dysmorphic features, vascular lesions or birthmarks were noted. The examination was otherwise normal.

Questions

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

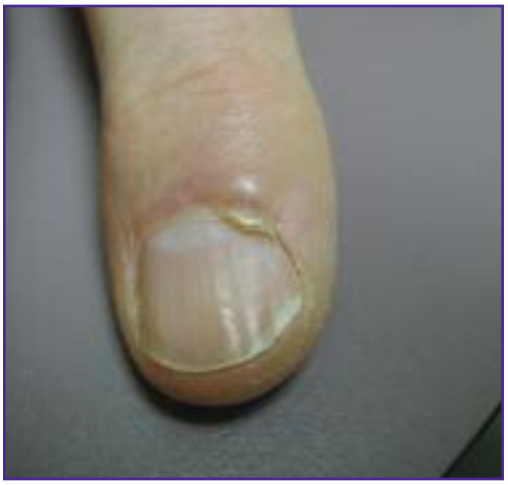
Answers

1. Isolated hemihyperplasia.
2. Hemihyperplasia is an asymmetric overgrowth of one or more body parts and can occur in isolation or in association with a syndrome. There can also be an associated asymmetry in the size of internal organs. Hemihyperplasia is replacing the term hemihypertrophy, since the underlying pathology is an abnormal proliferation of cells rather than an increase in individual cell size.

   Complications depend on the underlying cause of the hemihyperplasia and whether or not it is associated with a distinct clinical syndrome. The most significant comorbidity that should be considered is the development of malignancies. It has been estimated that the risk of tumour development is approximately 6%. Tumour risk is greatest in the first decade of life and then declines to approximately the same risk as the general population. Hemihyperplasia of a lower limb can lead to leg length discrepancy and result in pain, limping and early degenerative bony changes, as well as cosmetic problems and difficulty with clothing and foot wear.
3. Treatment for isolated hemihyperplasia is symptomatic and can include orthotics, braces, or in severe cases, orthopedic surgical intervention. Psychosocial support for the child should also be considered since hemihyperplasia can be associated with poor self-esteem and psychological stress. Importantly, patients need to continue being screened for potential tumours that can be associated with hemihyperplasia. Screening can include physical examinations, serum α-fetoprotein, serum β-human chorionic gonadotropin and urinary catecholamines every four months. It has been suggested that abdominal ultrasonography be performed every three months until eight-years-of-age for screening of associated tumours. A complete blood count and chest x-ray every 12 months until 10-years-of-age should also be considered.

Provided by: Dr. Alexander K. C. Leung; and Dr. Justine H. S. Fong

Case 6



Papule and Nail Deformity

A 44-year-old female with osteoarthritis presents with a papule near the proximal fold of her finger, along with recent nail deformity.

Questions

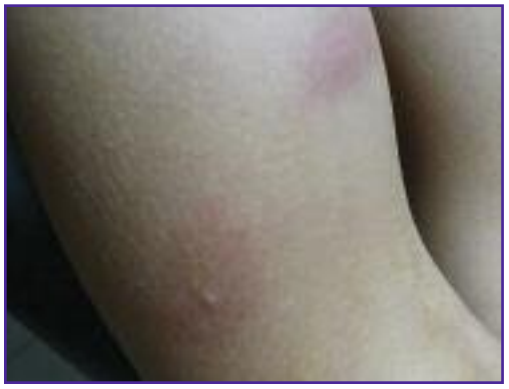
1. What is your diagnosis?
2. What is the most common location of this lesion?
3. How would you manage this lesion?

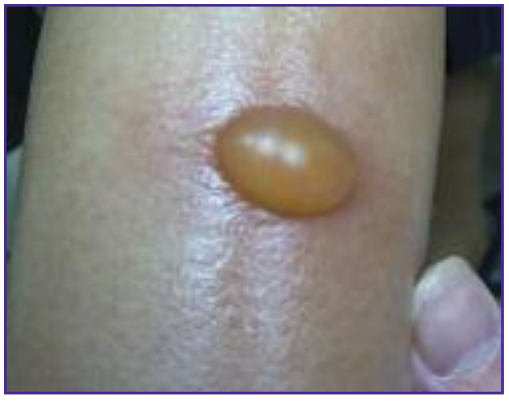
Answers

1. Mucous cyst (digital) with "nail groove" sign.
2. Distal interphalangeal joint or proximal nail fold of a finger, less commonly the toes.
3. Cyrosurgery, intralesional cortisone, repeated drainage with a wide-bore needle, sclerotherapy, electrosurgery and curettage, or surgical excision.

Provided by: Dr. Benjamin Barankin

Case 7





Pruritic Rash

A five-year-old boy presented with a pruritic rash on the thighs. The child attended a school lawn party the day before. The lesions on the posterior aspect of the left thigh appeared as urticarial erythematous papules. The one on the anterior aspect of the left thigh was bullous.

Questions

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

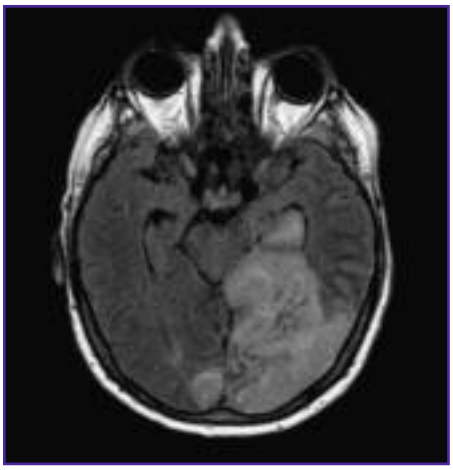
Answers

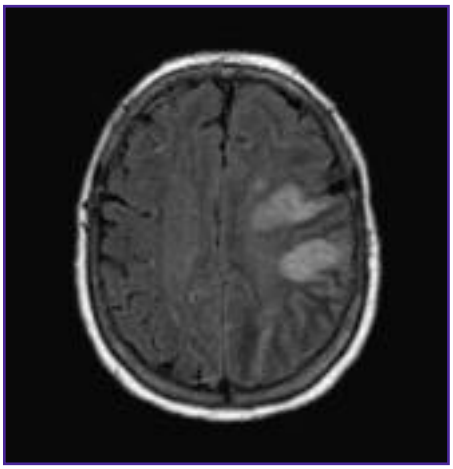
1. Papular urticaria.
2. Papular urticaria is characterized by grouped or disseminated urticarial papules caused by hypersensitivity to a variety of insect bites or stings. The papules are intensely pruritic and a central punctum may be visible. The resultant scratching may lead to excoriations and secondary bacterial infection. Nodular and vesiculobullous reactions may also occur.

   Papular urticaria is most commonly seen in children between three- and 10-years-of-age. The condition is most common in the summer and late spring. Flea bites are the most common cause of papular urticaria.
3. Treatment includes the use of a topical corticosteroid, a topical antipruritic agent, such as camphor and menthol lotion or gel formulation and/or a systemic antihistamine such as hydroxyzine hydrochloride. Measures to prevent further biting events, such as wearing of protective clothing, avoiding infested areas and applying an insect repellent to the skin when necessary, form an important aspect of the management.

Provided by: Dr. Alexander K. C. Leung; and Dr. Albert Y. F. Kong

Case 8





Right-Sided Weakness

A 55-year-old female presented with sudden onset of inability to see on the right side of her field of vision, word finding problems and right-sided weakness. Her deficit was persistent. Later she developed inability to see on the left side as well. MRI of the brain was performed.

Questions

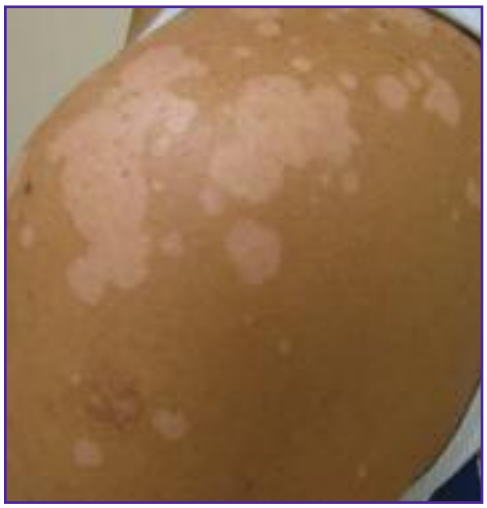
1. What is seen on this MRI scan?
2. What is your diagnosis?
3. How will you manage this case?

Answers

1. The MRI image on top shows a large hyperintense signal abnormality involving left occipitotemporal area and a small hyperintense signal abnormality of the right occipital lobe. The MRI image on bottom shows two hyperintense signal abnormalities in the left frontoparietal area.
2. Multiple bilateral ischemic infarcts in the distribution of posterior cerebral and middle cerebral arteries, likely due to cardioembolic causes.
3. This patient should be started on antiplatelet therapy, a cholesterol-lowering agent and her lipid profile should be checked to rule out hypercholesterolemia. A Holter monitor to rule out cardiac arrhythmias, ECHO to rule out cardiac source of embolus and MR angiogram should be done. She may need transesophageal ECHO to further assess cardiac source of embolus and anticoagulation if the cardiac embolus is detected.

Provided by: Dr. Abdul Qayyum Rana; Dr. Faisal R. Khan; and Dr. Waheed Khan

Case 9



Hypopigmented Patches

A 23-year-old male presents with white hypopigmented patches on his trunk soon after joining a tanning salon. He is worried that he may have picked up something.

Questions

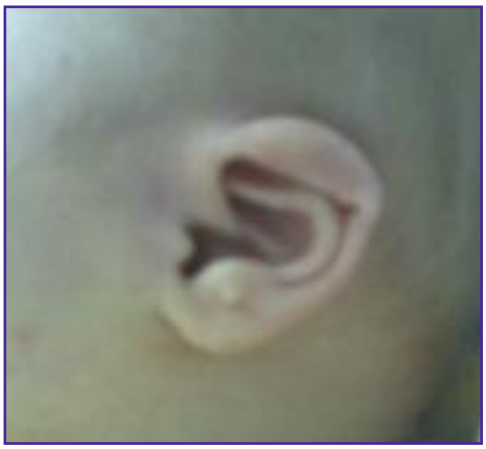
1. What is your diagnosis?
2. What is the cause of this condition and area most commonly affected?
3. How would you manage this person?

Answers

1. Tinea (pityriasis) versicolor.
2. A superficial cutaneous fungal infection by *Malassezia furfur*, most common on the trunk of teenagers.
3. For localized involvement, topical antifungals, selenium sulfide and zinc pyrithione are helpful. For more extensive involvement, oral antifungals such as itraconazole for one week can be used.

Provided by: Dr. Benjamin Barankin

Case 10



Folded Over Ear

A three-day-old infant was seen by a neurologist for query of Down syndrome. Her mother is 28-years-old, without any significant medical history.

Questions

1. What is wrong with the ears?
2. What is the associated condition?
3. Does this patient need neurological care at this stage?

Answers

1. The ear is small and the helix is folded over, which is one of several physical characteristics of Down syndrome.
2. The associated condition is Trisomy 21 (Down syndrome).
3. Unless hypotonia, infantile spasms and/or sleep apnea occur, neurological care is not needed. The seizures, behavioural problems and mental retardation are early childhood problems. Chromosomal studies to confirm the diagnosis, as well as cardiology, gastroenterology, urology and pediatric specialties should be involved soon after the birth. Dx

Provided by: Dr. Mohammad S. Ijaz