Illustrated quizzes on problems seen in everyday practice

Case 1

Foreign-Body Sensation in Eyes

A 30-year-old female presents with a bilateral foreign-body sensation in her eyes with a longstanding history of fibrous outgrowths over her sclera (R > L), which have progressively enlarged over the last several months.

Questions.

1. What is your diagnosis?
2. What is the cause of this condition?
3. What is the treatment?

Answers

1. Pinguecula
2. Pinguecula is associated with extended exposure to sunlight in susceptible individuals. Environmental factors, such as dry climate, dust, and occupational hazards like welding, may be additional risk factors.
3. Most individuals affected by this condition do not require any surgical treatment. Pinguecula are generally not removed unless they start to encroach onto the corneal surface and affect the visual field. The use of artificial tears and eye lubricants may be beneficial for dry eyes which are often associated with this condition. Sunglasses for UVB protection may be beneficial in terms of prevention.

Provided by: Dr. Javier Benavides and Dr. Karen Choi

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Case 2

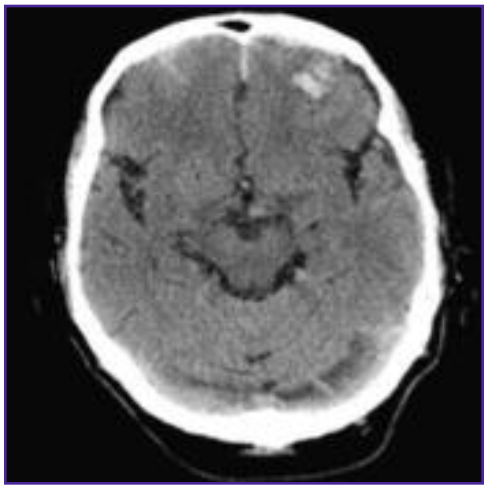


Figure 1. CT scan of head showing very small hyperdense lesions involving both frontal lobes with parafalcine subdural hematoma and minor subarachnoid haemorrhage.

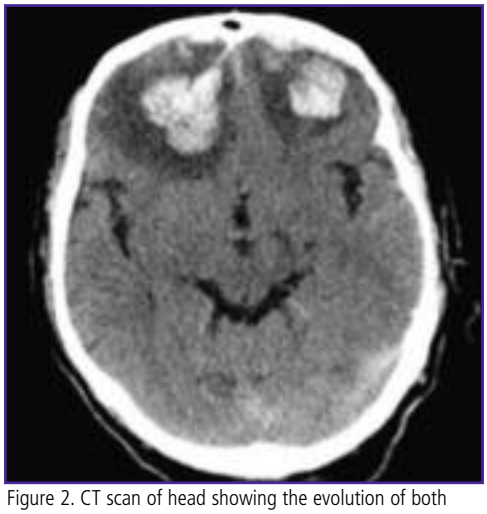


Figure 2. CT scan of head showing the evolution of both frontal lobe hyperdensities, with parafalcine subdural hematoma and minor subarachnoid hemorrhage.

Skull Fracture

This is a 76-year-old male, who was on warfarin for atrial fibrillation and had a fall without loss of consciousness. His heart rate was found to be 30 bpm. He hit his head on the ground and had a non-displaced occipital skull fracture. He was slightly confused and had headaches but no nausea, vomiting, or any focal deficits.

Questions

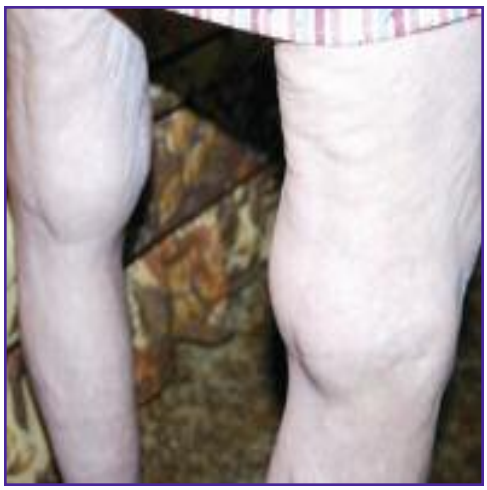
1. What do these images show?
2. What is your diagnosis?
3. What is the treatment?

Answers

1. Figure 1 is a CT scan of the head showing very small hyperdense lesions involving both frontal lobes with parafalcine subdural hematoma and minor subarachnoid haemorrhage. Figure 2 shows significant evolution of both frontal lobe hyperdensities, with parafalcine subdural hematoma and minor subarachnoid haemorrhage.
2. Traumatic intracerebral haemorrhage, with minor subdural and subarachnoid haemorrhage
3. Conservative treatment with close observation is necessary in this case. In most cases hematoma resolves spontaneously.

Provided by: Dr. Abdul Qayyum Rana, Dr. Bashir Al Enazi, Mr. Atif Khan

Case 3



Knee Enlargement

An 83-year-old female with a long history of congestive heart failure, atrial fibrillation, and osteoarthritis developed sudden onset of painful enlargement of the right knee.

Questions

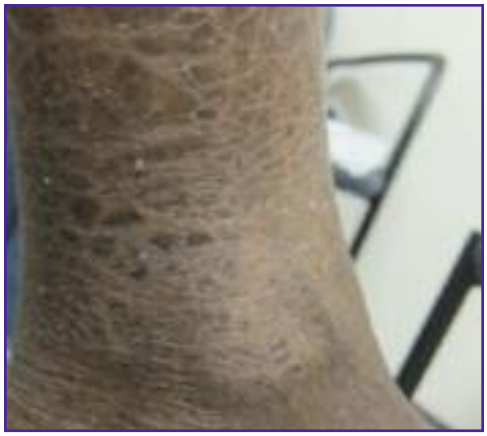
1. What is the most likely diagnosis?
2. What will be the management?

Answers

1. She is taking warfarin and developed bleeding into the right knee. Called hemarthrosis, this condition is typical for patients with hemophilia.
2. Management of the condition should include checking INR level, correcting warfarin dose if necessary, prescribing an analgesic, applying a cold compress, observation, and, in cases with massive bleeding, joint aspiration.

Provided by: Dr. Jerzy K Pawlak and Dr. T. J. Kroczak

Case 4



Brown Spots on Legs

A 20-year-old African American female presents with scaly brown plaques on her extremities. She states that she has been bothered by her dry skin for as long as she can remember. She applies moisturizer daily with little improvement. The condition is worse in the winter and improves in the summer.

Questions

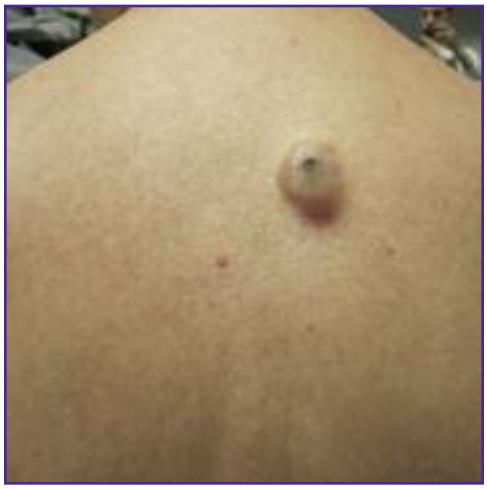
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers

1. Ichthyosis vulgaris
2. Ichthyosis vulgaris is a chronic, widespread, non-inflammatory scaling of the skin that is inherited as an autosomal dominant trait. The term "ichthyosis" is derived from the Greek root "ichthys," which means fish, as the disease is characterized by the skin scaling similar to fish scales. There are at least 20 varieties of ichthyosis. Hereditary ichthyosis vulgaris is the most common form. The primary genetic defect is a nonsense mutation in the filaggrin gene (*FLG*), resulting in reduced filaggrin expression. The lesions are not usually present at birth but appear in most patients during the first year of life and in the vast majority by age five. Acquired ichthyosis, associated with internal disease, occurs mainly in adulthood. Clinically, ichthyosis vulgaris presents as fine scales of polygonal shapes in symmetrical distribution, particularly along the arms and legs. Face, groin, and flexural areas are usually spared because of the increased humidity in those areas. The scaling usually intensifies until puberty and subsequently decreases with age. The colour of the fine, fish-like scales varies from white to dirty gray to brown. The scales often curl up at the edges, which imparts a rough feel to the skin. The disease is often accompanied by hyperlinearity on the palms and soles. Fissures may be present at acral areas and facilitate secondary infection.
3. Frequent application of a moisturizing agent throughout the day helps to maintain a high level of hydration of the stratum corneum. Preparations containing alpha-hydroxy acids b.i.d. can be effective in reducing the scales. Salicylic acid gel or wash may help reduce the keratotic plaques. Topical retinoids such as tretinoin and tazarotene also help as they modulate keratin synthesis. In severe cases, oral acitretin and isotretinoin can be used.

Provided by: Dr. Kellen K.N. Liu, Dr. Alex H.C. Wong, and Dr. Alexander K.C. Leung

Case 5



Nodule on the Back

A 46-year-old male presents with a slowly enlarging asymptomatic nodule on his back. His wife complains of a periodic bad odour eminating from this lesion.

Questions

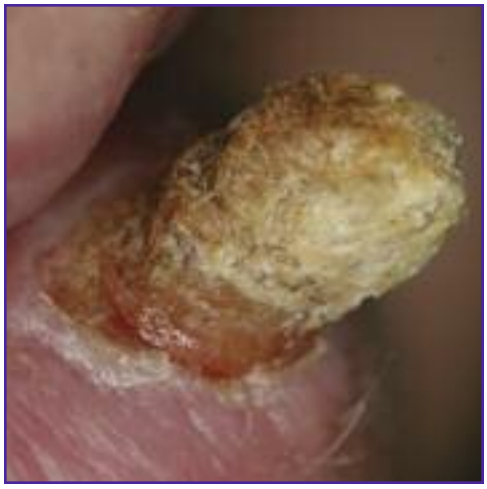
1. What is your diagnosis?
2. What incorrect name is still often used as the diagnosis?
3. How might you treat this lesion?

Answers

1. Epidermoid cyst
2. Sebaceous cyst
3. Surgical excision is curative, though there is a recurrence rate dependent on technique and experience. Incision and drainage can be considered if infected; intralesional kenalog can also be administered for a painful ruptured cyst.

Provided by: Dr. Benjamin Barankin

Case 6



A Horn-like Papule

This 74-year-old man presents with a crusted, horn-shaped papule on the lower lip.

Questions

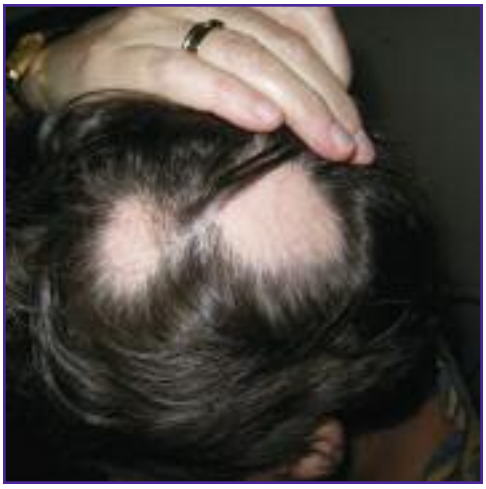
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers

1. This patient has a cutaneous horn, classically defined as a keratinized projection with a height that is at least one-half of its diameter. Lesions most commonly occur on the face, ears, and hands and in light-skinned individuals over 50-years-of-age. Clinically, cutaneous horns present as white or yellow keratinized projections ranging from several millimetres to several centimetres in length. They can vary in shape and may be cylindrical, conical, or curved.
2. The base of the cutaneous horn may be composed of benign pre-malignant or malignant skin conditions; the most common conditions are seborrheic keratosis, verruca vulgaris, molluscum contagiosum, actinic keratosis, and squamous cell carcinoma. Biopsy of the base of the lesion is important to determine if there is a malignancy present.
3. Treatment will depend on the type of lesion diagnosed by histological examination. Complete excision may be recommended if the lesion is found to be malignant. Excisional biopsy is favoured, as it preserves the lesion and base for histopathology. Follow-up is recommended in the case of non-melanoma skin cancer to screen for recurring basal or squamous cell carcinomas.

Provided by: Ms. Lesley Latham and Dr. Richard Langley

Case 7



Hair Loss

A 44-year-old female presents with two areas of hair loss on her scalp. They were initially pruritic, but not scaly.

Questions

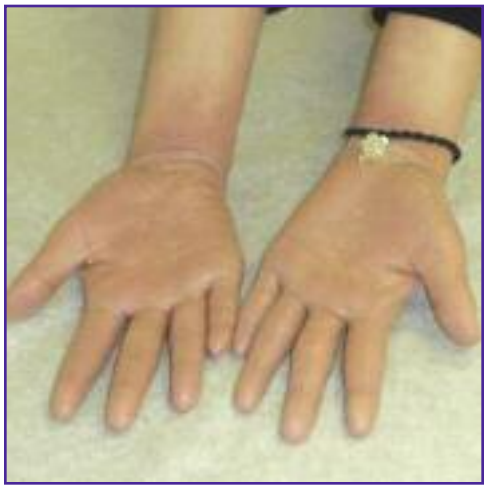
1. What is your diagnosis?
2. What age group has the peak incidence?
3. How would you treat this lesion?

Answers

1. Alopecia areata, localized type
2. 15- to 29-years-of-age
3. Potent topical steroids can be tried initially, though intralesional steroids are more effective. Occasionally, topical minoxidil can be added as an adjunct. More diffuse involvement may benefit from immunotherapy.

Provided by: Dr. Benjamin Barankin

Case 8



Thickening of the Hands and Feet

A 16-year-old girl presents with progressive thickening of the hands and, to a lesser extent, the feet since birth. Her mother has similar conditions on her hands and feet. There is no family history of consanguinity. The child is otherwise healthy. A physical examination shows thickening of the skin and areas of thick scaling on the hands and on the soles of her feet. The texture and morphology of the nails are normal.

Questions

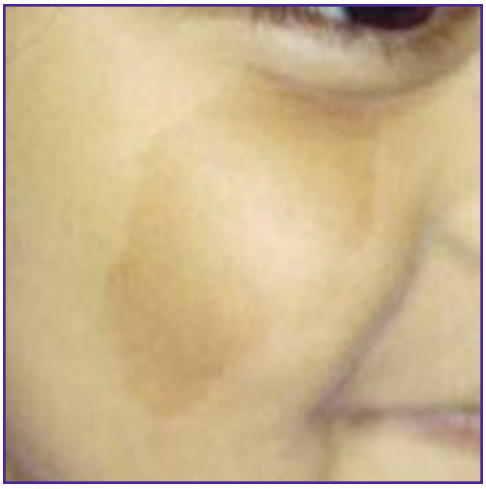
1. What is the diagnosis?
2. What is the significance?
3. What is the treatment?

Answers

1. Palmoplantar keratoderma.
2. Hereditary palmoplantar keratoderma is characterized by progressive hyperkeratosis of the palms and soles with an erythematous border, appearing soon after birth. The condition can be inherited in an autosomal dominant or recessive fashion. In the present case, the mode of inheritance is likely autosomal dominant. Acquired causes include keratoderma climactericum, chemical or drug-induced, (*e.g.,* lithium, arsenic), malnutrition, systemic diseases (*e.g.,* hypothyroidism), dermatosis-related issues (*e.g.,* atopic dermatitis), infections (*e.g.,* HPV), and idiopathic problems. Palmoplantar keratoderma can be complicated by fungal infection, hyperhidrosis of affected areas, flexion contractures, and nail changes (*e.g.,* koilonychia, subungual hyperkeratosis, increased thickening of nails).
3. The underlying cause should be treated if possible. For hereditary palmoplantar keratoderma, treatment consists of topical application of emollients, keratolytics (urea, lactic acid, salicylic acid), retinoids, and corticosteroids.

Provided by: Dr. Alexander K.C. Leung and Dr. Stewart Adams

Case 9



Spot on Cheek

A 9-year-old girl has a brown spot on her right cheek.

Questions

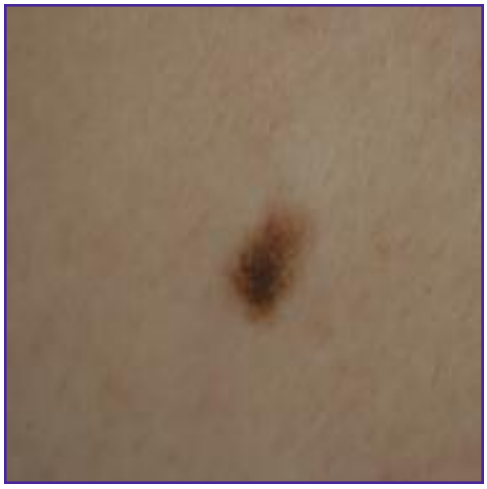
1. What is this spot called?
2. These spots are characteristic of what disease?

Answers

1. Café-au-lait spot
2. Neurofibromatosis is an autosomal dominant disease characterized by the presence of café-au-lait spots, multiple neurofibromas, and Lisch nodules (pigmented iris haematomas). The diagnosis of neurofibromatosis is common when adults have more than six café-au-lait spots that are larger than 1.5 cm in size and when children under five have more than five spots that are over 0.5 cm in size. The spots are present in virtually every patient with neurofibromatosis and are usually present at birth, but they may take months to appear. Their size and number increase with age.

Provided by: Dr. Jerzy Pawlak

Case 10



Brown Spot

A 57-year-old female presents with a darkly pigmented macule with slight irregularity in colour on her lower back. The patient has no history of melanoma or non-melanoma skin cancer and no family history of skin cancer. She is skin phototype II.

Questions

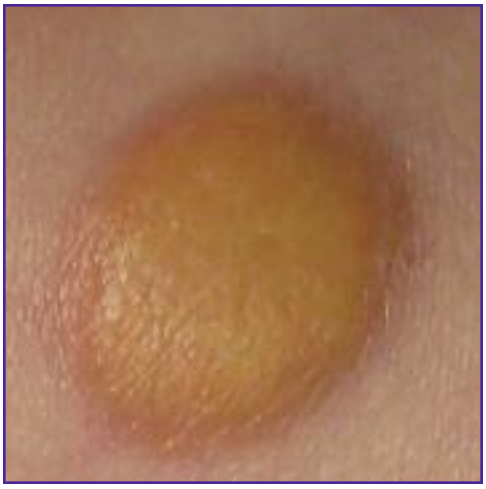
1. What is the diagnosis?
2. What is the significance?
3. How would you manage this patient?

Answers

1. Dysplastic nevus (atypical nevus). Dysplastic nevi may occur in a familial setting or can occur sporadically. They are distributed most commonly over the back, but they also appear on other body surfaces, such as the upper and lower limbs, breasts, scalp, buttocks, and groin. Usually, dysplastic nevi are larger than 5 mm in diameter, can have irregular pigmentation ranging from brown and black to red and pink, and are circumscribed by indistinct borders.
2. Dysplastic nevi are precursors to, and markers for, melanoma, and, thus, a patient with dysplastic nevi has an increased risk of developing melanoma.
3. Lesions that are atypical and suspected to be melanoma should be excised. Further management includes educating the patient on self-examination of the skin, recommending avoidance of the sun, and regular follow-up for those at high risk of developing melanoma.

Provided by: Ms. Jessica Corbin and Dr. Richard Langley

Case 11



Back Lesion

A 6-month-old male developed a pink/yellow papule on the back one month ago. The patient's parents are concerned that the lesion may represent a melanoma, as his maternal aunt was diagnosed with malignant melanoma recently. The patient is otherwise healthy and has met all developmental milestones.

Questions

1. What is the diagnosis?
2. What is the etiology of the condition?
3. What is the treatment?

Answers

1. Juvenile xanthogranuloma
2. Juvenile xanthogranuloma is a collection of non-Langerhans cell histiocytes. It is postulated that juvenile xanthogranuloma may be a granulomatous reaction of histiocytes to an external stimulus, such as an infection or physical trauma. The exact etiology is not fully known.
3. Juvenile xanthogranulomas are benign, and most resolve spontaneously within three to six years or by five-years-of-age. In spite of the name, 10% of cases occur in adulthood. Lesions may be excised for diagnostic and cosmetic reasons. Dx

Provided by: Dr. Francesca Cheung