

Picture quiz

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Question 1

A 56-year-old chef presented with a 6-week history of a persistent, non-healing nodule on the dorsum of the hand.



- 1.1 What is the most likely diagnosis?
- 1.2 How would you confirm the diagnosis?
- 1.3 What is the recommended treatment for this condition?

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Question 2

A 30-year-old man presented with two-month history of fatigue, low-grade fever, and low back pain. He disclosed a history of engaging in unprotected sex with multiple partners. On physical examination, he was found to have generalized lymphadenopathy, painless oral ulcers, and multiple skin lesions distributed over the trunk and upper limbs.

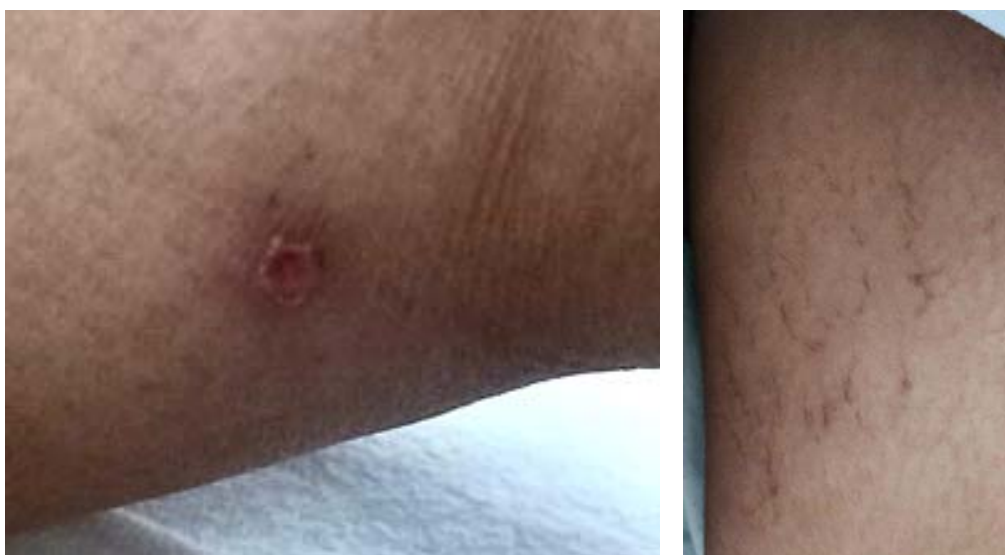
- 2.1 What is the most likely diagnosis?
- 2.2 How would you confirm the diagnosis?



Question 3

A 43-year-old woman presented with a one-week history high grade fever accompanied by chills, headache and myalgia. On physical examination the skin lesions depicted below were noted.

- 3.1 What is the most likely diagnosis?



Question 4

A 50-year-old man presented with a six-day history of fever accompanied by severe arthralgia and myalgia. Clinical examination revealed swelling and tenderness of the wrists and ankle joints. He was initially managed as a case of viral fever. Two weeks later, he returned with pigmentation over the nose.



4.1 What is this physical sign?

4.2 What is the clinical significance?

Question 5

39-year-old civil engineer presented with progressive swelling involving his left cheek and upper lip for four months. He was previously healthy and was not on any long-term medication. On physical examination the affected area showed a hard, non-pitting and non-tender skin lesion.



5.1 What is the most likely diagnosis?

5.2 What is the recommended treatment?

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Question 6

A 47-year-old woman presented with asymptomatic reddish lesions on her left cheek persisting for eight months. She denied any systemic symptoms. On examination, there was no sensory loss over the lesions.



6.1 What is the most likely diagnosis?

6.2 How would you treat this condition?

Answers

Answer 1

1.1 The skin lesion illustrated is indicative of fish tank granuloma, an infection caused by *Mycobacterium marinum*, a slow-growing non-tuberculous mycobacterium. Lesions typically appear as solitary or multiple red papules, nodules, or ulcers, and are predominantly seen on the elbows, knees, hands, and feet. While the fish tank granuloma is often asymptomatic, some patients may experience itching or a burning sensation of the lesion. This condition is linked to exposure to fish tanks and other aquatic sources where fish are handled. This patient's occupation likely contributed to acquiring the infection through minor trauma while handling raw fish.

1.2 Diagnosis is based on patient history, clinical features and laboratory investigations. A definitive diagnosis requires biopsy and culture of the lesion. Cultures are typically done on Lowenstein-Jensen (LJ) medium or Middlebrook 7H10/7H11 agar incubated at 28-32°C since *M. marinum* grows optimally at cooler temperatures. Ziehl-Neelsen staining of biopsy specimens may reveal acid-fast bacilli.¹ Routine bacterial cultures and Gram stains typically do not detect this organism.

1.3 Several antibiotics used alone and in combination are selected, based on the severity of the disease. Commonly prescribed antibiotics are macrolides, tetracycline, quinolones, cotrimoxazole, ethambutol and rifampicin.²

Answer 2

2.1 Secondary syphilis

The most common clinical manifestations of secondary syphilis are mucocutaneous lesions in 90% to 97% of cases, which may be accompanied by systemic features such as generalized lymphadenopathy, malaise, sore throat, body aches, and low-grade fever. The rash of secondary syphilis can present in various forms – macular, maculopapular, papular, pustular, or a mix of these and is generally nonpruritic.³ Skin lesions usually start on the trunk and proximal extremities and classically appear as pink-red macular lesions. As the maculopapular rash resolves, depigmented, round, or oval lesions measuring about 1-2 cm in diameter are often observed. In darker-skinned individuals, a fading macular rash accompanied by hypopigmented lesions, as shown in the picture, is characteristic of secondary syphilis and should prompt testing for syphilis serology.

2.2 A presumptive diagnosis is based on serologic evidence of infection. Virtually all patients with secondary syphilis test positive for antibodies to cardiolipin, detectable by tests such as Rapid Plasma Reagin (RPR) or Venereal Disease Research Laboratory (VDRL). The RPR test is quantitative, and in the secondary stage, it is usually reactive at a titer of $\geq 1:32$. The definitive diagnosis of secondary syphilis is confirmed by the detection of *T. pallidum* in tissue samples from the affected lesions.

Answer 3

3.1 Scrub typhus

Scrub typhus is an infection caused by the rickettsial organism *Orientia tsutsugamushi*.

Symptoms typically appear after an incubation period of 6 to 21 days and commonly include fever, headache, myalgia, and gastrointestinal disturbances. A characteristic clinical feature is the eschar. Additional skin manifestations may include a maculopapular rash, petechiae and purpura. In more severe cases, vasculitis may lead to retiform purpura and skin necrosis.⁴ In this patient both an eschar and retiform purpura were observed as shown in the pictures.

Answer 4

4.1 Chik Sign

The “Chik sign”, also informally referred to as the “brownie nose”, describes a distinctive brownish hyperpigmentation that appears on the nose of some patients following chikungunya fever. Clinically, it presents as multiple macular (flat) hyperpigmented spots or patches over the dorsum, tip, and alae of the nose. This pigmentation often has a freckled or mottled appearance and is asymptomatic; patients do not report pain, itching, erythema, or swelling in the affected area.⁵⁻⁶

4.2 The chik sign is widely recognised as a characteristic cutaneous marker of chikungunya fever, though it is not pathognomonic. As observed during chikungunya outbreaks, this distinctive nose hyperpigmentation has not been documented in association with other viral exanthems, and it may serve as a clinical hallmark of chikungunya infection.⁷

Answer 5

5.1 Subcutaneous zygomycosis

Subcutaneous zygomycosis of the face is characterized by chronic, woody induration of the subcutaneous tissue, leading to significant facial disfiguration. It is a rare opportunistic fungal infection caused by *Basidiobolus* and *Conidiobolus* spp. They are saprophytic fungi typically found in the soil, decaying fruit, and vegetable matter and rarely associated with infection in humans.⁷

Recurrent sinusitis, epistaxis, and nasal obstruction are commonly recognized symptoms preceding the skin manifestations. The diagnosis is generally established by histological examination of tissues as fungal cultures yield positive results in fewer than 15% of cases. However, cultures should still be attempted in all suspected patients.⁸

5.2 There is no drug accepted as first-line treatment of subcutaneous zygomycosis. Various pharmacological agents have been used, including potassium iodide (KI), itraconazole, ketoconazole, amphotericin B and trimethoprim. Treatment usually continued for 6 to 12 months. This patient was treated with oral potassium iodide and itraconazole, resulting in a marked clinical improvement.⁹

Answer 6

6.1 Lupus vulgaris

Lupus vulgaris is a chronic, progressive form of cutaneous tuberculosis (TB) that typically occurs following a primary TB infection. It is a paucibacillary condition, most often seen in individuals with a moderate to high level of cell-mediated immunity. Lupus vulgaris may occur through direct inoculation of *Mycobacterium tuberculosis*, or via lymphatic or hematogenous spread. The lesion typically starts as a solitary, reddish-brown nodule that gradually becomes raised and infiltrated. Clinically, it manifests in five main types: plaque, ulcerative, hypertrophic or vegetative tumor-like, and papular or nodular type. In the plaque form, as observed in this patient, the lesion has well-defined margins, minimal infiltration and scaling, along with slight central scarring.

Important differential diagnoses include leprosy and sarcoidosis. Histopathology, tuberculin test, dermoscopy, molecular test, and mycobacterial culture would help the diagnosis of lupus vulgaris. Although culture remains the diagnostic gold standard, its sensitivity is relatively low.¹⁰

6.2 Treatment consists of the standard four-drug anti-tuberculosis therapy administered for six months in confirmed cases. Clinical improvement is typically evident within 4 to 6 weeks of initiating therapy.

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