

Photoclinic



Figure 1. Ulcerative lesion located on the thigh and hands.



Figure 2. Large abscess of the patient's left shoulder with redness and bulging.

A 40-year-old lady referred to our clinic with a five year history of recurrent skin abscess and nonhealing ulcerative lesions located on the upper two-thirds of both thighs and hands with associated serous drainage, tenderness and erythema. Intermittently, each abscess ruptured and spontaneously drained and was followed by scar formation as seen in Figures 1. During the previous 12 months, the patient had received multiple courses of oral antibiotics and antifungal medications that were ineffective. There was a history of progressive weight loss. Upon

admission, the patient's vital signs were normal. There was a large abscess on the posterior aspect of left shoulder with fluctuation and tenderness (Figure 2). The abscess was aspirated and sent to the laboratory for smear and culture. Skin biopsies were performed from the skin lesion of the leg and were sent for histopathological examination. There was no clinical or laboratory evidence for infectious diseases such as HIV, autoimmunity, or hematological abnormalities. Laboratory results showed the following abnormalities: Hb 8 g/dL and CRP 2+. Purified protein derivate (PPD) skin test was positive with 17 mm of induration seen at the 48th hour. Erythrocyte sedimentation rate was 120 mm/hr. The patient's chest X-ray was normal.

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What is your diagnosis?
 See the next page for diagnosis.

Photoclinic Diagnosis:

Cutaneous tuberculosis

Histopathological evaluation of the skin specimens of the leg showed noncaseating granulomatosis in both cutaneous and subcutaneous tissues. Large areas of necrosis, surrounded by epithelioid histiocytes, Langhans-type multinucleated giant cells and lymphocytes were detected in this skin biopsy (Figure 3). Gram, fungal and acid fast bacilli stains were all negative. Fungal and bacterial cultures of the abscess were also negative. Since all results were negative and the patient was asymptomatic, cefazolin which had been started was withheld. Four weeks later, the mycobacterial culture was reported to be positive for *M. tuberculosis*. Therapy was initiated with four antituberculosis drugs (rifampin, isoniazid, pyrazinamide, and ethambutol) for the initial two months and two medications (rifampin and isoniazid) for an additional four months with close clinical follow up. After two months, the lesion demonstrated significant clinical improvement.

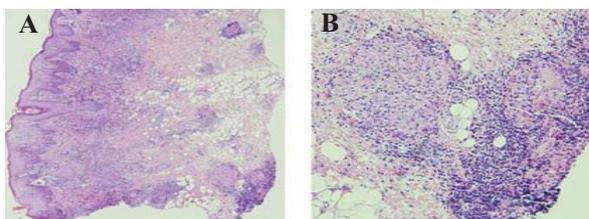


Figure 3. A) Hematoxylin-eosin stain of a skin wedge biopsy specimen obtained from the same region (original magnification 40x). B) Hematoxylin-eosin stain of skin wedge biopsy specimen (original magnification 400x).

Extrapulmonary tuberculosis comprises 10 – 12% of all cases, whereas cutaneous tuberculosis is seen in only 1 – 2%.¹⁻³ The clinical picture of all cutaneous mycobacterial infections, including tuberculosis, is highly variable and any unexplained skin lesions, particularly if nodular or ulcerative, may be due to tuberculosis.⁴ In developed countries, cutaneous *M. tuberculosis* infection tends to occur among patients who are immunosuppressed due to malignancy, corticosteroid use or immunosuppressive therapy. However in developing countries, this infection occurs more often in the general population.⁵ Cutaneous *M. tuberculosis* infection can be either exogenously acquired (tuberculous chancre, tuberculosis verrucosa cutis, and lupus vulgaris) or endogenously acquired (lupus vulgaris, scrofuloderma, miliary tuberculosis, gummas, and orificial tuberculosis).⁶ This patient appeared to have a lupus vulgaris type of cutaneous tuberculosis. For unknown reasons, this type of tuberculosis is more commonly seen in female patients. Cutaneous lesions from hematogenous spread are frequently found on the face, whereas lesions located on the extremities tend to occur as a result of exogenous inoculation.⁷ Metastatic tuberculosis abscess is a rare form of cutaneous tuberculosis resulting in either single or multiple cutaneous and subcutaneous lesions on the trunk, extremities, or head. Metastatic tuberculous abscesses

may occur along with progressive organ tuberculosis or in miliary tuberculosis, however, there are reports showing that it may occur without any underlying tuberculous focus as was the case with our patient.⁸ Although a positive PPD skin test and histological findings are helpful, definitive diagnosis is by isolation of *M. tuberculosis* on culture. Since most cases of cutaneous tuberculosis are a manifestation of systemic involvement and the bacillary load in cutaneous tuberculosis is usually less than in pulmonary tuberculosis, therefore treatment regimens are similar to that of tuberculosis. Differential diagnosis includes staphylococcal abscess, other mixed bacterial infections, sporotrichosis, nocardiosis, chromomycosis, leishmaniasis, atypical mycobacterial infections, deep fungal infections, syphilitic gumma, leprosy, and all forms of panniculitis. Confirmation of the clinical diagnosis is obtained by histopathology, and bacterial or fungal culture.⁶

The incidence of tuberculosis has increased in industrialized countries, which is attributed to several factors such as immigration from countries with a high prevalence of tuberculosis, infection with HIV, emergence of multi-drug resistant tuberculosis, and social problems such as poverty, homelessness, and drug abuse.⁹ The possibility of tuberculosis must always be kept in mind in subcutaneous abscesses and nodule cases unresponsive to non-specific therapy. Awareness of the unusual presentations of tuberculosis is essential for early diagnosis and proper therapy. Therefore physicians must have a high index of suspicion with regard to tuberculosis.

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