CASE REPORT

Scrofuloderma: An arduous diagnosis

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SUMMARY

Cutaneous tuberculosis is a rare occurrence. It comprises 1 to 1.5% of all the extra-pulmonary tuberculosis cases. Scrofuloderma, also known as tuberculosis colliquativa cutis, is a form of cutaneous tuberculosis that was frequently observed prior to the availability of effective treatment for tuberculosis. We reported a case of scrofuloderma in an elderly male who presented with chronic non-healing ulcerative nodules over the left axilla and upper limb. His condition did not improve with empirical antibiotics and anti-fungal agents. The diagnosis was made based on the skin punch biopsy suggestive of scrofuloderma.

INTRODUCTION

According to World Health Organization (WHO) 2022 data, extrapulmonary tuberculosis constituted 17% of the ten million incident cases in 2021.[1] Cutaneous tuberculosis presents in a wide range of clinical manifestation. The causative agents are Mycobacterium tuberculosis, Mycobacterium bovis and the Bacille Calmette-Guérin vaccine. Scrofuloderma results from the direct extension of the infection from deep structures (e.g., lymph node, bone, joint or epididymis) to the overlying skin. It typically starts with slow growing subcutaneous nodules that may eventually ulcerate and drain caseous or seropurulent content.[2] Scrofuloderma mimics a wide differential diagnosis. Without treatment spontaneous healing may occur, but it may take years before lesions are completely replaced by scar tissue.[3]

CASE PRESENTATION

A 65-years-old male rubber tapper presented with multiple skin lesions over left upper limb for 2 months. The lesions initially started as multiple swellings over his left axilla which spontaneously ruptured with purulent discharge. Multiple similar swellings subsequently appeared over the left inner arm and the left shoulder. They were associated with redness of overlying skin and mild pain. He did not report fever, chronic cough, or weight loss. His comorbidities are hypertension and dyslipidaemia. His grandson had received treatment for pulmonary tuberculosis 4 years ago. Physical examination showed multiple ulcerated, indurated, erythematous skin nodules over the affected areas (Figure 1a and b). The skin lesions failed to improve after completion of two weeks of tablet ampicillin/sulbactam 375 mg BD and 4 weeks of capsule itraconazole 200 mg BD. The empirical treatment was initiated by surgical and dermatological department while awaiting skin biopsy report. Mantoux test was positive (17 mm). Skin tissue was tested negative for acid-fast bacillus (AFB), mycobacterium tuberculosis (MTB) culture, MTB PCR, fungal culture and fungal PCR. Biopsied skin specimen reported granulomatous inflammation (Figure 2a, b, c and d). His chest X-ray was normal. Patient was treated with the standard regimen of anti-tubercular therapy consisting of rifampicin (R), isoniazid (H), pyrazinamide (Z) and ethambutol (E) for 2 months continued by rifampicin (R), isoniazid (H) for the next 7 months. Patient tolerated the therapy well and the skin lesions healed gradually leaving scar tissue (Figure 1c, d and e). No new skin lesions were identified during the subsequent follow up.

DISCUSSION

Cutaneous tuberculosis was first described in 1981 by Beyt et al Scrofuloderma is increasingly recognised as one of the most common forms of cutaneous tuberculosis.4 Scrofuloderma has a broad differential diagnosis such as atypical mycobacterium infection, actinomycosis, sporotrichosis, botryomycosis, nocardiosis, coccidioidomycosis and hidradenitis suppurativa.

Scrofuloderma is more commonly seen among the children, adolescents and older adults.[2] Cervical lymph nodes are the most common source of infection. The disease is typically dominated by granulomatous necrosis, scarring and sinus tract formation.[5] Mantoux test is a useful screening test for tubercular infection. There has been increased utilisation of PCR because of its rapidity, sensitivity, and specificity.[3]

The diagnosis of scrofuloderma often requires detection of the causative organism by culture, smear, or skin biopsy. However, the causative organism may not always be detectable in all cases. According to Amar et al., a case of scrofuloderma was diagnosed and successfully treated based on physical examination findings and typical histopathological changes.[6] Soeroso et al. reported another similar case of scrofuloderma with additional regional lymph node involvement.[7] Both the cases were diagnosed without detection of mycobacterium tuberculosis by culture or molecular method in the background of strongly positive Mantoux test.

Pulmonary tuberculosis/other forms of extrapulmonary tuberculosis infection should be looked for as soon as cutaneous tuberculosis is diagnosed. A full physical

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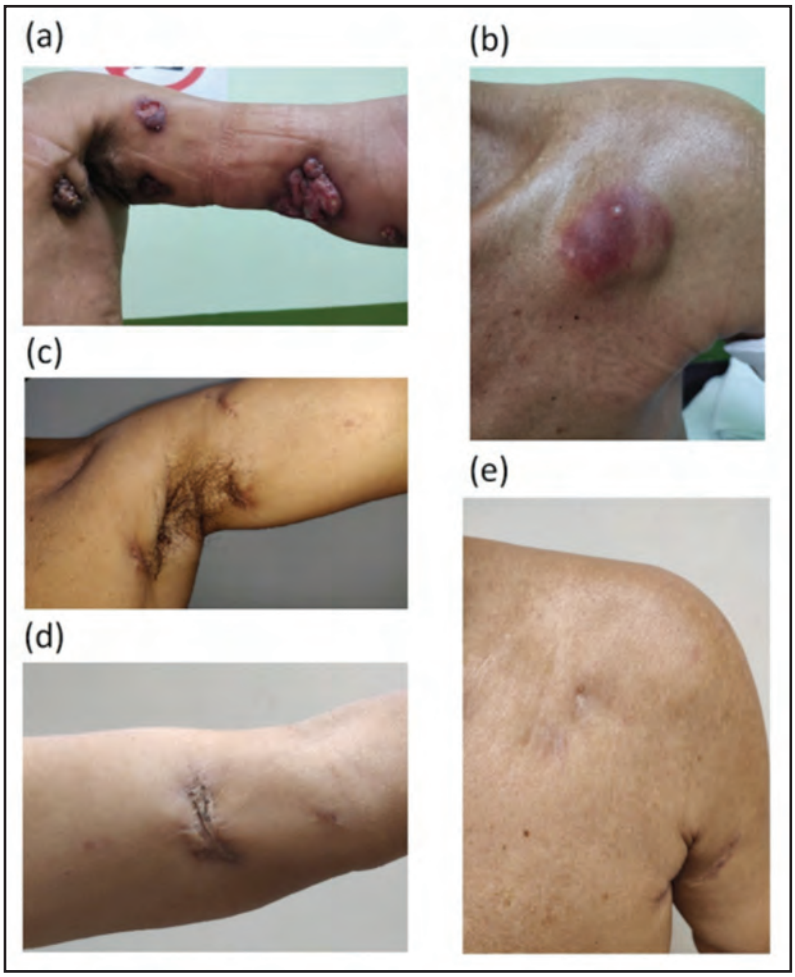

Fig. 1: (a) Multiple ulcerated skin nodules over left axilla and left arm. (b) Erythematous nodule over left shoulder. (c) Resolved skin lesions over left axilla after completion of anti-tubercular treatment. (d) Resolved skin lesions over left inner arm after completion of anti-tubercular treatment. (e) Resolved skin lesion over left shoulder after completion of anti-tubercular treatment

examination and chest radiograph should be performed. The general approach to treatment of cutaneous tuberculosis is similar to the approach to systemic tuberculosis, which can be treated with a short course of four-agent chemotherapeutic regimen given for two months followed by a two-drug regimen for the next 4 months.

In our case, patient presented with sole cutaneous lesions without any constitutional symptoms. The diagnosis was delayed, and he had failed the empirical treatment targeting at possible deep skin bacterial/fungal infection. During follow up, the Mantoux test and histopathological study of skin biopsy showed diagnosis in favour of cutaneous tuberculosis in the form of scrofuloderma. Standard guidelines suggested 6 to 9 months of anti-tubercular therapy in all forms of cutaneous tuberculosis. Our patient received 9 months of anti-tubercular therapy as he had developed extensive skin lesions and subsequently recovered well.

CONCLUSION

Diagnosis of scrofuloderma is challenging and requires correlation of clinical findings and appropriate diagnostic tests in the background of high clinical suspicion. An accurate diagnosis is essential before anti-tubercular therapy could be initiated timely.

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None.

ETHICAL APPROVAL

The research is registered under National Medical Research Register in Malaysia (NMRR ID-23-00592-PIL). Ethical approval is not required as per The Medical Research & Ethics Committee (MREC) protocol.

PATIENT CONSENT

The patient was properly informed and had provided consent for the clinical information to be included in the publication of this case report and the accompanying images.

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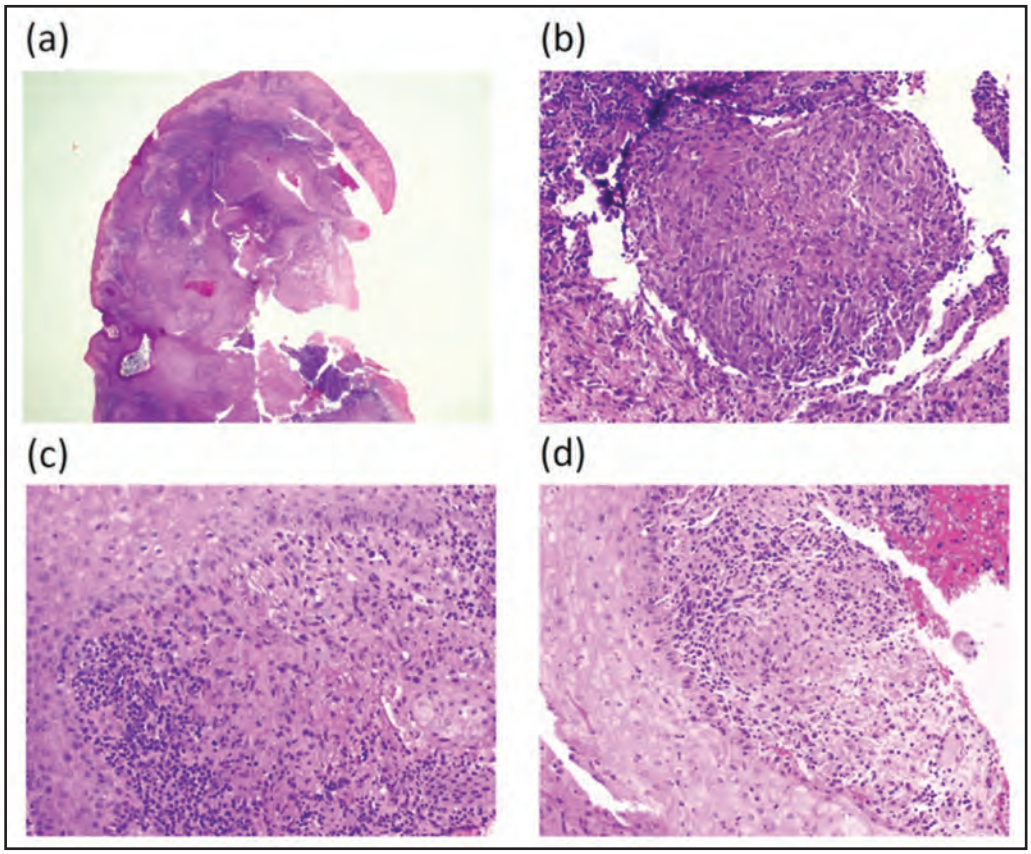

Fig. 2: (a) Skin biopsy tissue displaying pseudoepitheliomatous hyperplasia. (b) Granuloma with central necrosis. (c) Granuloma surrounded by lymphoplasmacytic cells at subepidermal area. (d) Granuloma surrounded by lymphoplasmacytic cells and Langhans type multinucleated giant cells

CONFLICTS OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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