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Case Report

Rekindling the flame: erythema Induratum of bazin as a manifestation of latent tuberculosis

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ABSTRACT

Erythema Induratum of Bazin is considered a type of tuberculid—a hypersensitivity reaction to Mycobacterium tuberculosis antigens in individuals with underlying tuberculosis infection. EIB primarily occurs in middle-aged women but can also be seen in men, particularly those with predisposing conditions such as diabetes or vascular insufficiency. We report a case of erythema Induratum of Bazin in an elderly diabetic male who present with chronic recurrent, tender erythematous plaques with oozing, crusting and ulceration over both lower limbs with a past history of pleural tuberculosis. Initially he was treated with doxycycline and hydroxychloroquine, but his lesions worsened. However, after starting ATT his condition improved. Early diagnosis and treatment are crucial in preventing associated morbidity and complications.

Keywords: Erythema induratum of bazin, Tuberculid, Tuberculosis infection, Chronic recurrent plaques, Doxycycline, Hydroxychloroquine, Anti-tubercular therapy

INTRODUCTION

Erythema induratum of Bazin (EIB) is considered to be a delayed type of hypersensitivity reaction to Mycobacterium tuberculosis also known as Tuberculid.[1-4] It occurs most often in adult females. It is typically confined to the lower legs, classically the posterior leg (calf) and/or lateral leg. Here we describe a case of erythema induratum in a patient with remote exposure to tuberculosis.[5]

CASE REPORT

A 53-year-old male, management consultant by occupation, known diabetic on regular medication, initially presented to dermatology OPD with a 3-year history of recurrent, painful, itchy, red, oozy and raw lesions on both lower limbs worsening over the past 3 months. He had no history of fever, cough, weight loss, night sweats or fatigue. There is no history of joint pains, swelling, oral ulceration, photosensitive skin rash, abdominal pain, tingling or numbness. He had history of pleural TB 30 years back, for which he received antitubercular medications for 6 months. He is on regular medications for dyslipidaemia and fatty liver

On local examination lesions were multiple, ill-defined, irregular, tender erythematous plaques with oozing, crusting and ulceration at few points distributed on both lower limbs predominantly on the calves. Multiple varicosities were noted over both lower limbs.

Multiple, ill-defined, irregular, tender erythematous plaques with oozing, crusting and ulceration at few points distributed on both lower limbs predominantly on the calves. Due to recurrent nature of lesions, a skin biopsy was performed which revealed features consistent with granulomatous panniculitis6 with no definite vasculitis

(suggestive of erythema induratum of Bazin). Special stains for AFB and fungi were negative. Initially patient was empirically treated with doxycycline and hydroxychloroquine suspecting a hypersensitive reaction, as no microbiological confirmation was available. Then the patient was referred to pulmonology OPD to further rule out other sources of tuberculosis.

Chest X-ray, routine blood investigations and serum immunological markers were insignificant.[7] Mantoux test showed strong positive reaction. But initial treatment was continued and on follow up lesions got worsened, so we started the patient on Anti tubercular therapy.[8] Upon follow up there was a noticeable symptomatic improvement and lesions healed completely after 6 months of ATT.

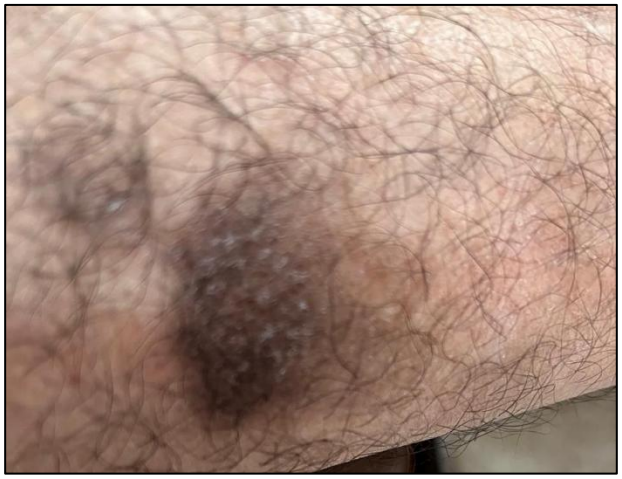

Figure 1: Erythematous nodules over lower aspect of calf.

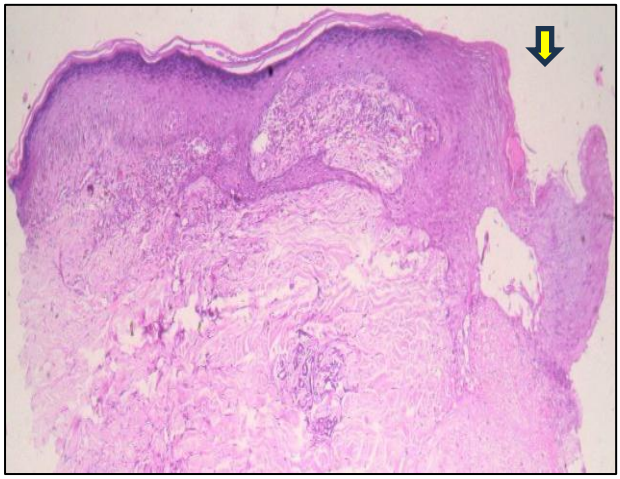

Figure 2: H&E x 40: The epidermis displays acanthosis associated with focal incipient ulceration (yellow arrow) due to papillary dermal fibrinoid necrosis and subsequent formation of a transepithelial elimination channel.

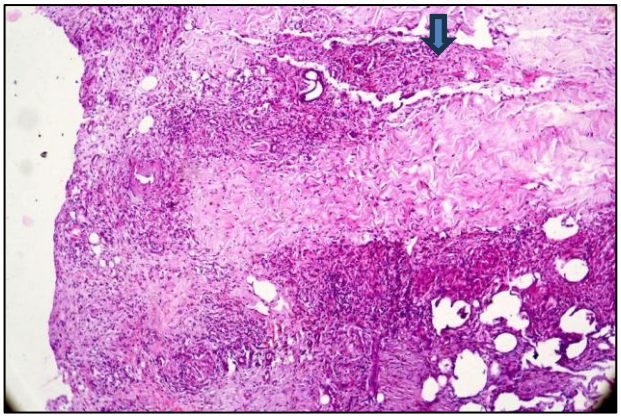

Figure 3: H&E X200 circumscribed perivascular and peri appendageal granulomatata with numerous giant cells in the mid dermis and fat (blue arrow).

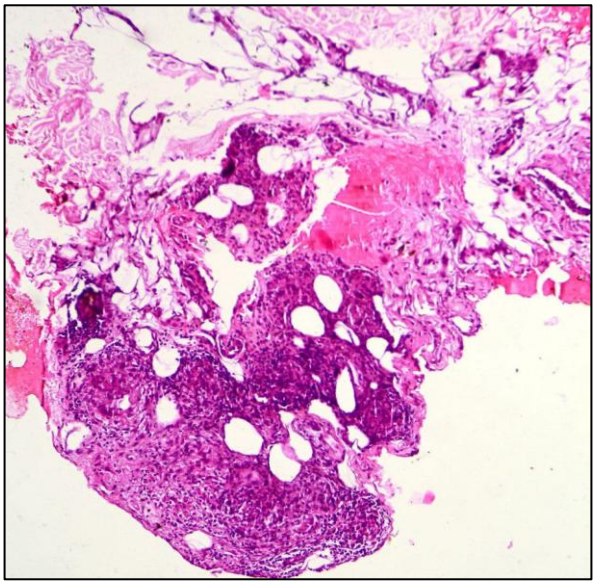

Figure 4: H&E X200 histopathology showed septal and lobular panniculitis.

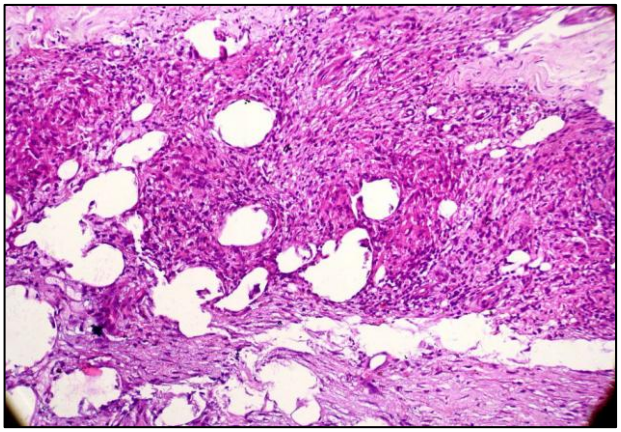

Figure 5: (H&E X 400) There was granulomatous inflammation with focal necrosis within lobular adipose tissue and yellow arrow pointing epithelioid cells.

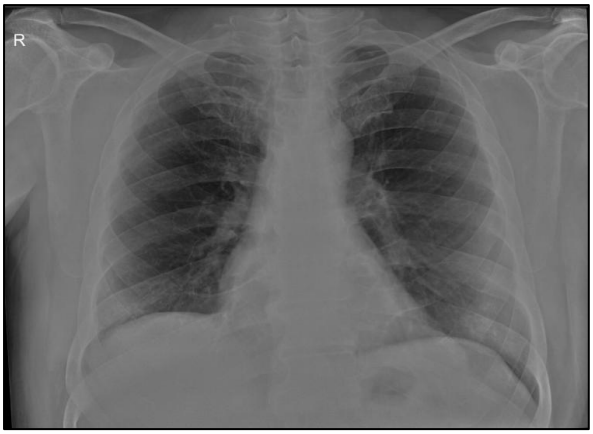

Figure 6: Chest radiograph showed no significant abnormality.

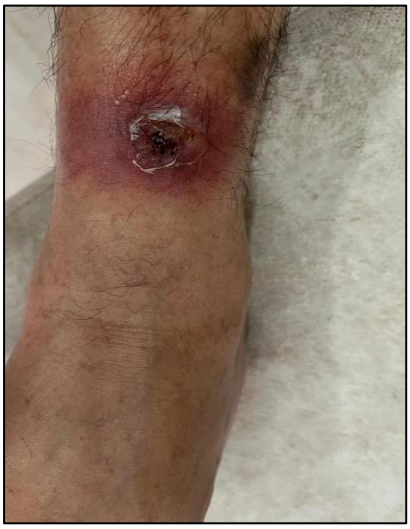

Figure 7: On follow up of patient on doxycycline and hydroxychloroquine treatment.

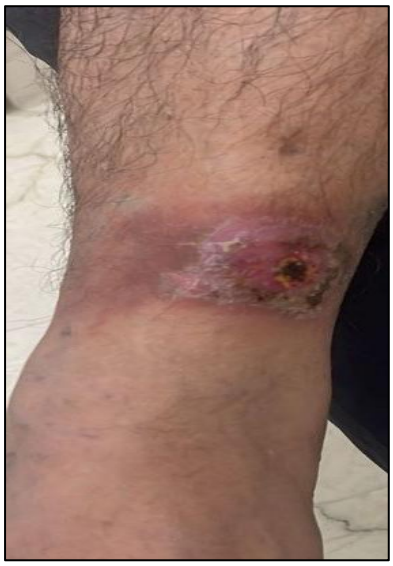

Figure 8: After 1 month of anti tubercular treatment, lesion began to heal.

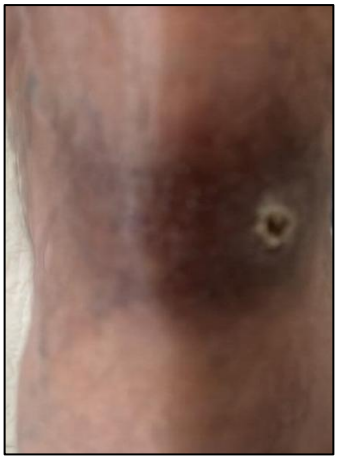

Figure 9: After 3 months of anti tubercular treatment, lesion has demonstrated significant healing.

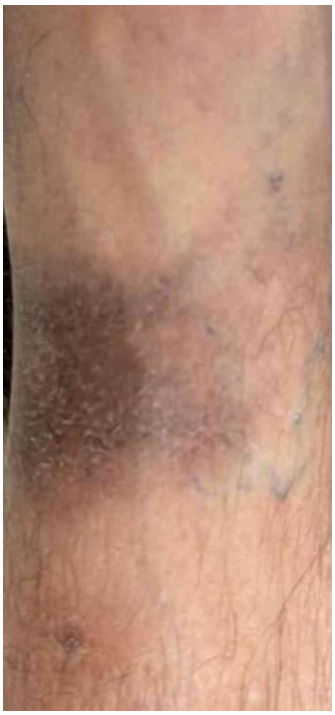

Figure 10: After 6 months of ATT lesion completely healed.

DISCUSSION

Erythema induratum (EI) is an uncommon inflammatory disorder which has three clinical subsets. They are Erythema induratum Bazin (TB associated). Erythema induratum associated with other diseases or drugs. Idiopathic Erythema induratum

Erythema induratum is regarded as an immune-mediated hypersensitivity reaction. Most frequently it occurs in adult females, but it can also affect males and children. The most common clinical presentation is the appearance of one or more painful erythematous nodules on the posterior or lateral aspect of lower limbs. Occasionally, the thighs

and upper extremities may also be involved. Truncal, facial, or disseminated Erythema induratum is rare. Individual lesions are typically no larger than 2 cm in diameter. The nodules may or may not be scaly, and tenderness is typically present. Pain is variable but usually not severe. In cases of significant severity or disease progression, ulceration becomes a characteristic feature

Patients with Erythema induratum generally do not exhibit constitutional symptoms, except for those related to underlying conditions. Latent or active tuberculosis (TB) is the most commonly reported identifiable cause of Erythema induratum. The diagnosis of erythema induratum is based on a composite assessment of clinical features, skin biopsy findings, and negative test results for lesional infection

Key features that support a diagnosis of Erythema induratum of Bazin are Erythematous, tender nodules on the lower legs, particularly the calf (with or without ulceration).[9] Skin biopsy demonstrating predominantly lobular panniculitis.[6] Mixed inflammatory infiltrate containing lymphocytes, plasma cells, histiocytes forming granulomas, neutrophils, and eosinophils. Vasculitis (examination of multiple sections may be required). Negative stains and cultures for bacteria, mycobacteria, and fungi. Patients with Erythema induratum should be evaluated for underlying disease, particularly tuberculosis (TB). An appropriate work-up for patients without a known history of TB includes, Tuberculin skin test or interferon gamma release assay, review of systems, chest radiograph.[10]

The differential diagnosis for erythema induratum includes other forms of panniculitis that typically affect the lower extremities which include infectious panniculitis, cutaneous polyarteritis nodosa, traumatic panniculitis, erythema nodosum.[11,12]

Management of erythema induratum is to treat the underlying cause. Patients with evidence for latent or active TB1 should receive standard treatment for TB in accordance with current guidelines. Nonsteroidal anti-inflammatory drugs, rest, elevation, and compression can help improve symptoms. For idiopathic erythema induratum potassium iodide was preferred however owing to dosing and adverse effects this is largely being discontinued. Other treatments that may be beneficial include systemic glucocorticoids, clofazimine, colchicine, gold salts, and mycophenolate mofetil.

Successful treatment of an associated underlying disease usually leads to resolution, although patients with TB-associated Erythema induratum have reported relapsing disease. Idiopathic Erythema induratum can progress for months to years but may eventually stabilize or remit in association with treatment such as potassium iodide.[13]

CONCLUSION

We report a case of Erythema induratum of Bazin with a past history of Pleural TB that responded well to antitubercular therapy. This case report highlights the diagnostic value of skin manifestations in adolescents with TB. Strong clinical suspicion is required for a prompt diagnosis of the underlying disease in adolescents with erythema induratum of bazin.

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