A Verrucous Plaque Healing with Cribriform Scarring

Abstract

Lupus vulgaris manifests with diverse clinical presentations, although the typical pattern involves a plaque that extends at one end and heals at the other, leaving behind characteristic atrophic scarring. Cribriform scarring is classically described after the healing of ulcerative pyoderma gangrenosum. In this case report, we present a noteworthy instance of lupus vulgaris that exhibited healing accompanied by cribriform scarring.

Keywords: *Cribriform scarring, cutaneous tuberculosis, lupus vulgaris, pyoderma gangrenosum, vegetative lesions*

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Tuberculosis (TB), caused by *Mycobacterium tuberculosis,* predominantly affects the lungs. However, extrapulmonary TB accounts for approximately 14% of all TB cases, with cutaneous TB comprising 1% to 2% of those cases. Cutaneous TB is particularly prevalent in tropical countries.[1] Among various forms of cutaneous TB, lupus vulgaris is the most common.

Lupus vulgaris manifests with diverse clinical presentations, although the typical pattern involves a plaque that extends at one end and heals at the other, leaving behind characteristic atrophic scarring. Cribriform scarring is classically described after the healing of ulcerative pyoderma gangrenosum. In this case report, we present a noteworthy instance of lupus vulgaris that exhibited healing accompanied by cribriform scarring.

This 55-year-old immunocompetent man presented with an asymptomatic well-defined verrucous plaque on medial aspect of his right thigh [Figure 1a], for a period of 1 year at the time of presentation. The lesion initially appeared as a pea-sized nodule. He denied any history of trauma, fever, night sweats, weight loss, cough, or shortness of breath. There was no previous personal or family history of TB.

Cutaneous examination revealed an annular lesion measuring 10 × 10 cm and composed of hyperkeratotic papules at the periphery and cribriform scarring at the center. General physical examination and systemic examination were unremarkable, and no regional lymph node enlargement was observed. Complete blood count, erythrocyte sedimentation rate, serum biochemistry, and chest X-ray were normal. Skin biopsy was performed with differentials of superficial granulomatous pyoderma gangrenosum, lupus vulgaris, chromoblastomycosis, and blastomycosis-like pyoderma. Histopathological examination revealed interface dermatitis with mixed infiltrate comprising neutrophils, lymphocytes, and occasional eosinophils. Upper dermis revealed ill-defined epithelioid cell granulomas with multinucleate giant cells [Figure 2 and 3]. Special stains for mycobacteria and fungus did not reveal any organism. The culture of biopsy material on the Löwenstein–Jensen (L-J) medium did not show any growth for *M. tuberculosis*. Polymerase chain reaction for deep fungal infection and *M. tuberculosis* was negative. Tuberculin skin test measured 15 × 12 mm at 48 h. He was initially treated with dapsone 100 mg once daily along the lines of superficial granulomatous pyoderma gangrenosum. No significant improvement was noted after 4 months of continuous therapy. Therefore, a therapeutic trial with antitubercular therapy (ATT) was initiated with the possible diagnosis of lupus vulgaris in view of ill-defined epithelioid granulomas and langerhan's giant cells in histology sections. The patient was started on a four drug ATT regimen, comprising isoniazid

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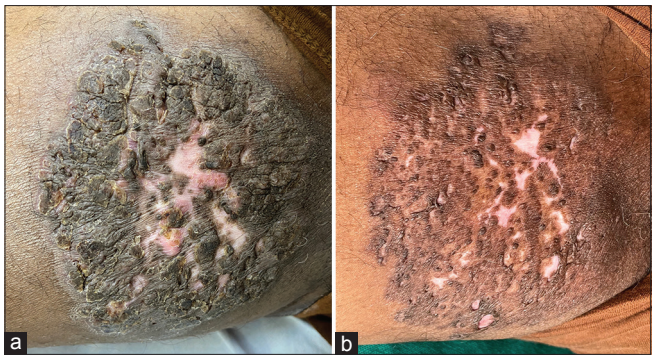

Figure 1: (a) Verrucous plaque with surface scaling and central scarring on medial aspect of right thigh. (b) Partial resolution with cribriform scarring 6 weeks after the commencement of antitubercular treatment

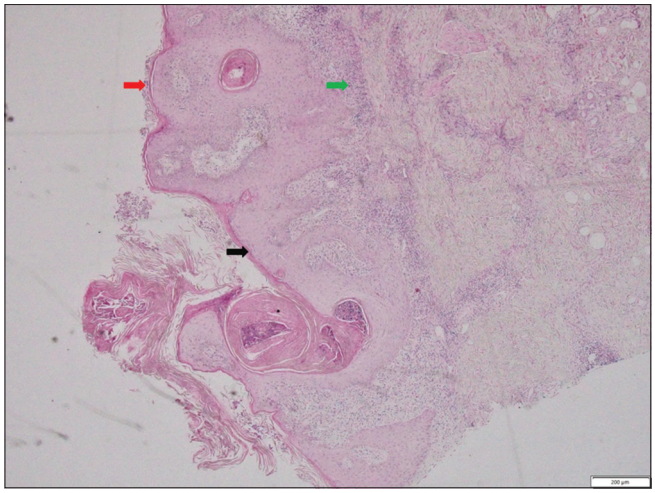

Figure 2: Histopathological examination depicting epidermal acanthosis (red arrow), hyperkeratosis and parakeratosis (black arrow) and interface dermatitis with mixed infiltrate composed of neutrophils, lymphocytes, and occasional eosinophils (green arrow) (H & E, 10×)

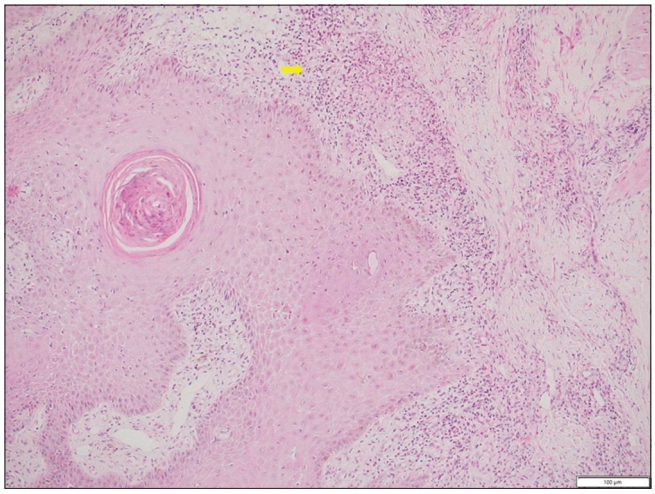

Figure 3: Higher magnification revealing ill-defined epithelioid cell granulomas with multinucleate giant cells in upper dermis (yellow arrow) (H & E, 40×)

300 mg, rifampicin 600 mg, pyrazinamide 1600 mg, and ethambutol 1100 mg for the initial 2 months. This was followed by isoniazid, rifampicin, and ethambutol in the same doses for the subsequent 4 months during the continuation phase. Within 6 weeks of the commencement of therapy, healing of the lesion was observed with cribriform scarring [Figure 1b]. Complete healing occurred at the end of 6-month treatment with residual cribriform scarring.

TB remains a significant public health concern, particularly in underdeveloped and developing countries. Lupus vulgaris, a chronic progressive form of TB, occurs in patients with moderate to high degree of immunity. It originates either from an underlying TB focus (via lymphatic or hematogenous spread) or through exogenous inoculation.[2] Being a paucibacillary form of cutaneous TB, mycobacterial cultures are mostly negative. The diagnostic challenge is further compounded by the variable nature of direct tissue smears and histopathological features. In addition to the conventional morphological patterns of papular, nodular, plaque, ulcerative, vegetating, and tumid forms, atypical variants such as framboesiform, gangrenous, ulcero-vegetating, lichen simplex chronicus, and sporotrichoid types have been identified.[3]

The uneven crisscross scarring pattern, better known as the cribriform pattern, observed at the center of the lesion strongly suggested the possibility of pyoderma gangrenosum in our case. This form of scarring, widely considered a *sine qua non* of pyoderma gangrenosum, has, however, been described in other dermatoses, including blastomycosis and discoid lupus erythematosus.[4,5] Cribriform scarring has only rarely been described in lupus vulgaris.[3]

We report a case of lupus vulgaris, presenting as an annular plaque with central cribriform scarring. Despite the limitations of the evidence from a single case, it is reasonable to include lupus vulgaris among the differential diagnoses for lesions exhibiting cribriform scarring during the healing process. While further research and broader clinical observations are needed to strengthen this association, maintaining awareness of lupus vulgaris as a potential consideration can contribute to timely diagnosis and appropriate management of such cases.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient (s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

References

1. Gunawan H, Achdiat PA, Hindritiani R, Essary ED, Ningtias LD, Siregar EP, *et al*. Various cutaneous tuberculosis with rare clinical manifestations: A case series. Int J Mycobacteriol 2018;7:288-91.
2. Bravo FG, Gotuzzo E. Cutaneous tuberculosis. Clin Dermatol 2007;25:173-80.
3. Khandpur S, Nanda S, Reddy BS. An unusual episode of lupus vulgaris masquerading as sporotrichosis. Int J Dermatol 2001;40:336-9.
4. Al-Refu K, Goodfield M. Scar classification in cutaneous lupus erythematosus: Morphological description. Br J Dermatol 2009;161:1052-8.
5. Aivaz M, Aivaz O. Cribriform ulcerations of the back. JAAD Case Rep 2020;6:787-9.