Lichen aureus occurring on the left thumb: A rare occurrence

Dear Editor,

Lichen aureus (LA), also recognised as lichen purpuricus, is a rare subset of pigmented purpuric dermatosis (PPD) clinically distinguished by a reddish-brown appearance and histologically characterised by hemosiderin deposition. While it can manifest anywhere on the body, it predominantly affects the lower extremities. A 28-year-old man presented with aone-year history of deep red plaques on the dorsal surface of the left thumb. Initially, these presented as asymptomatic soybean-sized violaceous papules. They progressively expanded and coalesced into plaques. A two-week trial of mometasone furoate cream did not show any notable improvement. The patient remained otherwise healthy. There was no history of local trauma or dilated varicosities in the affected limb. Dermatological examination revealed irregular darkred plaques on the dorsal aspect of the left thumb, ranging from 3 cm to 4 cm in diameter, accompanied by several miliary purple papules with clear boundaries, non-blanching under pressure, devoid of surface scaling, ulceration or exudation [Figure 1a]. Similar lesions were not observed on either the lower limb or elsewhere on the body.

Dermoscopy (DMT-6000,) showed a copperred background with a diffuse tan pigmented network interspersed with violaceous dots and bulbar structures [Figure 1b]. Histopathological examination showed epidermal hyperkeratosis with focal parakeratosis, mild epidermal hyperplasia and hypertrophy, dilated and congested superficial dermal vessels, substantial perivascular red blood cell extravasation, a predominantly zonal infiltration of inflammatory cells (primarily lymphocytes), and hemosiderin deposition [Figures 2a and 2b]. Based on the clinico-pathologic and dermoscopic findings, diagnosis of lichen aureus was made.

The patient was treated with topical application of mucopolysaccharide polysulfonate cream twice daily due to its anti-inflammatory property and it improves local blood circulation, and halometasone cream once daily in the evening. After one month of treatment, no significant

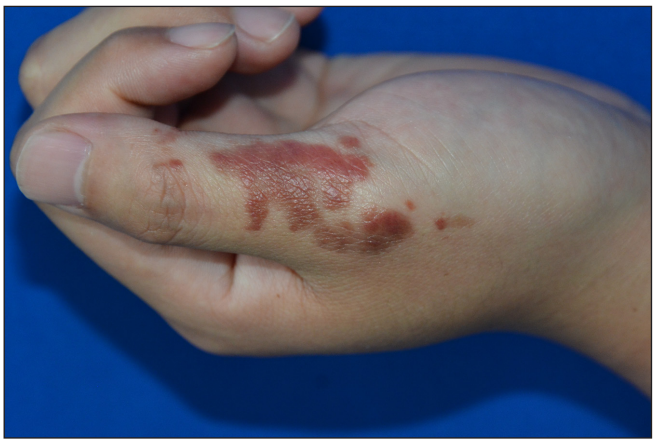

Figure 1a: Irregular deep red plaques on the dorsal aspect of the left thumb, accompanied by several miliary purple papules.

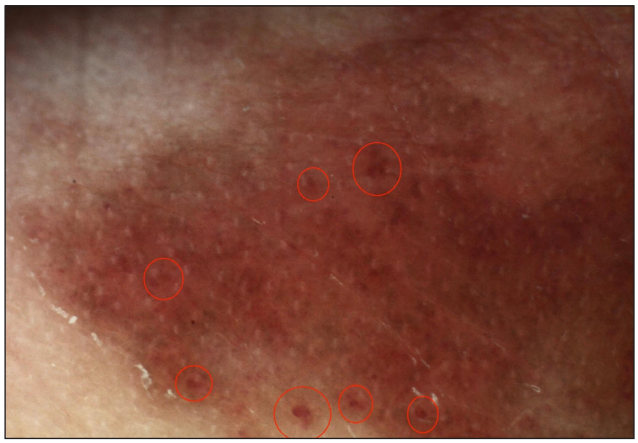

Figure 1b: Dermoscopy showing copper red background, diffuse tan pigmented network with violaceous dots (Red circles), and bulbar structures (Polarised; 20x).

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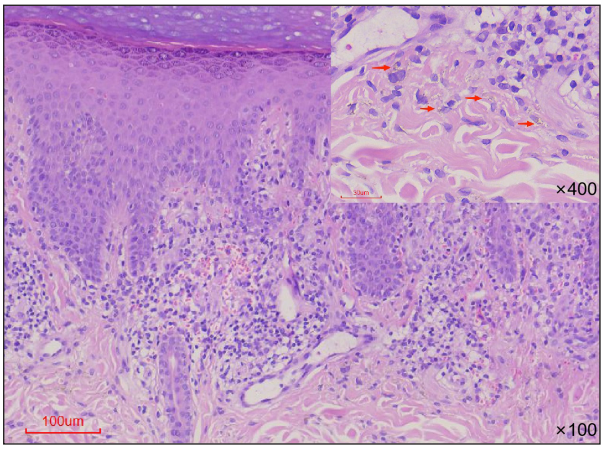

Figure 2a: Deposits of hemosiderin in the dermis (Haematoxylin and eosin, 100x), Inset shows hemosiderin (Red arrows, 400x).

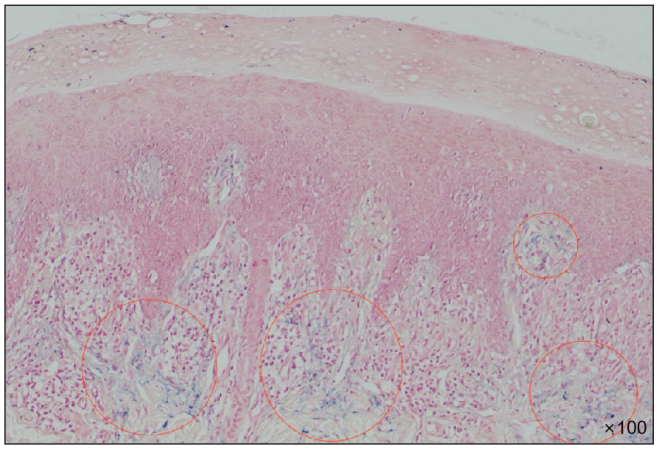

Figure 2b: Deposits of hemosiderin in the dermis (Prussian blue; 100x). The blue substances in the red circle are hemoxanthin stained by Prussian blue.

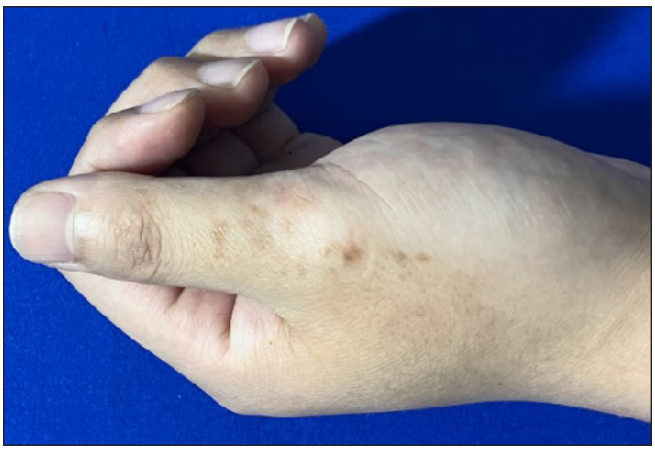

Figure 3: Near complete resolution at one-year follow-up.

improvement was observed, leading to the discontinuation of the treatment. At the one-year follow-up visit, the skin lesions showed near-complete resolution without any further treatment [Figure 3].

LA was first described by Martin in 1958.[1] It is classified as a distinctive form of PPD. Its etiology remains elusive, possibly linked to capillary inflammation within the papillary dermis, along with factors such as venous insufficiency, increased capillary fragility, trauma, allergen exposure, medications, infections, and immune dysregulation.[2] LA typically presents as golden yellow or rust-coloured macules and papules, primarily affecting the lower limbs. It is often asymptomatic but occasionally associated with pruritus and discomfort. In a retrospective study of 25 patients, Zeng *et al*. found upper limb involvement predominantly localised to the wrist and forearm, with rare occurrences simultaneously affecting both upper and lower limbs.[2] Histopathologically, LA differs from other PPDs in the density of the lichenoid tissue reaction and the marked hemosiderin deposition.[3] LA is characterised by unremarkable epidermal changes, zonal infiltration of lymphocytes and histiocytes, perivascular red blood cell extravasation, and hemosiderin deposition. Zeng *et al*. identified four distinct patterns of inflammatory infiltration in LA.[2] Our case aligned with the first pattern, characterised by pericapillary lymphocyte infiltration in the superficial dermis.

Dermoscopy, as a non-invasive adjunct, typically demonstrates a brownish to copperred background, multiple red globular patterns with indistinct rounded margins, possibly reflecting clusters of haemorrhagic petechiae and a network of brown pigmentation.[4] The dermoscopic findings in our case were consistent with this description, facilitating accurate diagnosis.

Effective treatment of LA remains elusive. Options include oral vitamin C, compound rutin tablets, and topical glucocorticoid preparations, albeit with limited efficacy.[5] Sun *et al*. reported significant improvement following one month of oral tripterygium glycosides (traditional Chinese medicine) administration in a case affecting the hands and feet.[6] Jauregui *et al*. achieved success utilising a 595 nm pulsed dye laser in a case treated thrice over four-week intervals.[7] Given the localised nature of our patient's lesions, topical therapy was pursued, albeit unsuccessfully.

In conclusion, we present a rare case of LA localised to the thumb, underscored by recurrent misdiagnoses. Clinicians should maintain a high index of suspicion for LA in case of persistent non-regressive red plaques devoid of overt symptoms. Dermoscopy and histopathological examination can prove invaluable in pointing toward and establishing a definitive diagnosis.

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