Dermoscopic Features of a Case of Lupus Miliaris Disseminatus Faciei

A 24-year-old man presented with a 2-month history of multiple asymptomatic reddish skin lesions over the face. He denied a history of any constitutional or systemic symptoms. Cutaneous examination revealed multiple 3–4 mm erythematous dome-shaped papules over the face, predominantly affecting the centrofacial area [Figure 1]. Differential diagnosis of popular sarcoidosis, lupus miliaris disseminatus faciei (LMDF), lupus vulgaris, and granulomatous rosacea were considered. Different patterns noticed under polarized dermoscopy (Dermlite DL4, 10× magnification) were as follows: a setting sun pattern (central yellow-orange homogenous area surrounded by erythema), targetoid pattern (follicular plugging surrounded by irregular yellow structureless area), reddish-yellow/pink-yellow structureless area, and pink-yellow structureless area with white clot/milia-like cyst. The vascular structures included linear and linear branching vessels [Figure 2]. Skin biopsy showed irregular acanthosis, perivascular, and periadnexal lymphohistiocytic infiltration along with epithelioid granulomas [Figure 3]. Special stains for acid-fast bacilli and fungus were negative. Other investigations were within normal limits. The diagnosis of LMDF was established based on clinicopathological correlation, and the patient was started with oral doxycycline 100 mg twice daily. After 6 months of therapy, the lesions resolved completely, leaving minimal atrophic scarring at some areas [Figure 4a]. Repeat dermoscopic examination revealed faint erythema only [Figure 4b], and the treatment was stopped. During follow-up, 6 months after stopping therapy, there was no recurrence.

LMDF is a chronic inflammatory and granulomatous disorder of unknown etiopathogenesis. The earlier speculations regarding its association with tuberculosis, sarcoidosis, and rosacea are no longer valid. Skowron et al. proposed an alternative term FIGURE (facial idiopathic granulomas with regressive evolution) for LMDF to avoid confusion due the term “lupus” and to highlight this distinct entity characterized by a common facial location, absence of any well-known etiology and tendency of self-resolution.

The eruptive, erythematous to yellow-brown, dome-shaped papules of LMDF pose significant diagnostic challenge clinically, as close mimics of facial inflammatory, granulomatous, and neoplastic conditions. The histopathological findings of LMDF differ according to the stage of evolution, and at times it can be nonspecific. It can vary from the collection of lymphohistiocytes with occasional neutrophils in the early stage to epithelioid granuloma with caseous necrosis or neutrophilic abscess in the intermediate stage and dominant hyalinized collagen with minimal lymphohistiocytes in the late stage. So, a clinicopathological correlation is necessary for arriving in a diagnosis. The well-established lesion of LMDF typically shows central caseous necrosis surrounded by epithelioid cells and multinucleate giant cells. The caseous necrosis can be correlated with a destroyed hair follicle, and not related to Demodex folliculorum. In contrast, in granulomatous rosacea, a close differential, there will be no caseous necrosis, and the granulomata are usually related to D. folliculorum.

Dermoscopic features of LMDF have rarely been reported. Ayhan et al. reported, in a case of LMDF, an erythematous and orange-yellow background, keratotic follicular plugging, central ulceration, hairpin, and linear vessels. Errichetti et al. described a targetoid pattern; central round

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How to cite this article: Behera B, Sethy M, Nayak AK. Dermoscopic features of a case of lupus miliaris disseminatus faciei. Indian Dermatol Online J 2022;13:553-5.
Received: 01 April, 2020. Revised: 05 June, 2020. Accepted: 10 August, 2020. Published: 01 February, 2021.
to elongated, yellow to white follicular plugging, surrounded by discrete orange structureless area, to be the characteristic feature of LMDF, as it corresponds to the perifollicular nature of the granuloma. In the index case, along with the targetoid pattern, the other dermoscopic patterns observed were setting sun pattern, reddish to pink-yellow homogenous area, with or without white clod. In our case, the yellow to yellow-orange structureless area is possibly due to the mass effect of granuloma, the reddish to pink color corresponds to the increased vascularity, the milia-like cyst to the epidermal horn cyst, and the linear and linear branching vessels to dilated dermal vessels. Differentiating LMDF from other facial granulomatous diseases like sarcoidosis or lupus vulgaris solely by dermoscopic examination may not be feasible, as both of them demonstrate yellow to yellow-orange structureless areas with linear branching vessels.\(^{[4]}\) The only exception may be granulomatous rosacea, which displays characteristic polygonal vessels (linear reddish or purple vessels arranged in a polygonal network).\(^{[4]}\) Other dermoscopic features reported for granulomatous rosacea are focal or diffuse orangish structureless area, rosette, follicular opening with grayish-white plug, and linear and hairpin vessels.\(^{[6,5]}\) On the other hand, presence of yellow-orange structureless areas may help in ruling out facial inflammatory and neoplastic conditions like acne (comedones), demodicosis (Demodex tails, and Demodex follicular openings), eruptive syringoma (rosette, fine pigment network), and trichoepithelioma (milia-like cysts, arborizing vessels, rosettes amidst a whitish background).\(^{[6,4]}\)

Early and adequate treatment of LMDF is crucial, as it may lead to disfiguring atrophic pock-like scars. Our case

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**Figure 1:** Multiple erythematous dome-shaped papules over the central face

**Figure 2:** Dermoscopic examination (Dermlite DL4, 10× magnification) under polarized mode showing (a) setting sun pattern (central yellow-orange homogenous area surrounded by erythema); (b) targetoid pattern (follicular plugging surrounded by irregular yellow structureless area); (c) pink-yellow structureless area, with white clod and linear branching vessels (arrows); (d) Linear (red arrow) and linear branching (blue arrow) vessels

**Figure 3:** (a) Histology showing moderate irregular acanthosis, perivascular, and periadnexal lymphohistiocytic infiltration and epithelioid granulomas (arrows, H and E: ×50); and (b) epithelioid granuloma (H and E: ×400)

**Figure 4:** (a) Resolution of the papules following doxycycline therapy, with few showing atrophic scars (arrows); and (b) resolution of dermoscopic features following doxycycline therapy leaving behind faint erythema
responded well to oral doxycycline therapy, and the lesions subsided in a 6 month period with minimal scarring, along with subsidence of dermoscopic findings. Hence, dermoscopy may be used as a tool for assessment of therapeutic response and decision regarding the cessation of therapy.

In conclusion, we report different dermoscopic patterns observed in the case of LMDF. Dermoscopy can help diagnose and differentiate LMDF from facial nongranulomatous inflammatory and proliferative conditions. Besides, it may help in monitoring therapeutic response. Larger case series will probably conclusively delineate the role of dermoscopy in LMDF.

**Declaration of patient**

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

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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