

Dermoscopy in Necrolytic Acral Erythema: A Case Report

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Introduction

Necrolytic acral erythema (NAE) is characterized by erythema, blisters or erosion in the acute stage to well-defined, hyperkeratotic plaques on the dorsum of feet and toes in the chronic stage [1]. We present a dermoscopy of a case of NAE which may help in the diagnosis.

Case Presentation

A 32-year-old female presented with hyperpigmented plaques on the dorsum of her feet, predominantly on the medial aspect (Figure 1A). Erythematous macules, plaques of irregular shape and size varying from 0.5 cm² to 4 cm² in diameter were present on bilateral lower legs interspersed with follicular or non-follicular pustules, erosions and ulcers superimposed with yellowish crust (Figure 1B). Differential diagnosis of allergic contact dermatitis, psoriasis, pellagra and necrolytic acral erythema was kept. Dermoscopic examination (Illuco IDS 1100, 10x magnification, polarized

mode) of the acute lesions revealed multiple perifollicular white globules on intense red- violaceous background interspersed with short linear vessels (Figure 2A). Dermoscopy of the ulcer showed yellow globules with radial white striations surrounded by brown dots and patches in polarized mode and dirty yellow scales and white globules in non-polarized mode (Figure 2, B and C). Raw areas revealed uniformly distributed red dots and globules with peripheral white scales in polarized dermoscopy (Figure 2, D and E). Dermoscopy of chronic hyperkeratotic hyperpigmented plaques presented a mixture of gray-brown pigmentation along with dirty white scales and red globules (Figure 2F). Few resolved areas reveal whitish striations in a branching pattern with brown patches and linear red vessels on a white background (Figure 2, G and H).

Her viral markers were non-reactive and patch test with Indian standard and footwear series was negative. However, serum albumin and serum zinc level were borderline low. Skin biopsy from the hyperkeratotic plaque revealed psoriasisiform dermatitis (Figure 2I). She was prescribed a tablet



Figure 1. (A) Clinical image of a 32-year-old seronegative female of necrolytic acral erythema showing bilaterally symmetrical hyperpigmented verrucous plaques present over dorsum of legs and feet. (B) Clinical image of acute lesions of the patient showing erythematous macules and plaques of irregular shape and sizes with ulcers and erosions interspersed with pustulation.

zinc acetate 100 mg three times a day for 3 months to which the erythematous lesions, ulceration and edema responded well in 2 weeks. Topical super potent steroid was given for the hyperkeratotic lesions. There is no relapse at 3 months follow-up (Figure 2J). The clinical, dermoscopic and histopathologic findings along with supportive investigations and substantial improvement with oral zinc supplementation confirmed our diagnosis of NAE.

Conclusions

Although NAE has been associated with HCV infection, there have been few HCV seronegative case reports [2,3]. Our patient was also seronegative for HCV infection. Clinically, patients with NAE are systemically well and have a typical acral distribution which helps in ruling out causes of other acral erythemas such as pellagra, biotin and fatty acid deficiency [1]. Chronic lesions of NAE have to be differentiated from psoriasis, hyperkeratotic eczema and hypertrophic lichen planus. Our findings of dermoscopy of the lesions may assist in diagnosing both acute and chronic manifestations of NAE (Table 1). We could find only a single study on dermoscopy of necrolytic acral erythema [1].

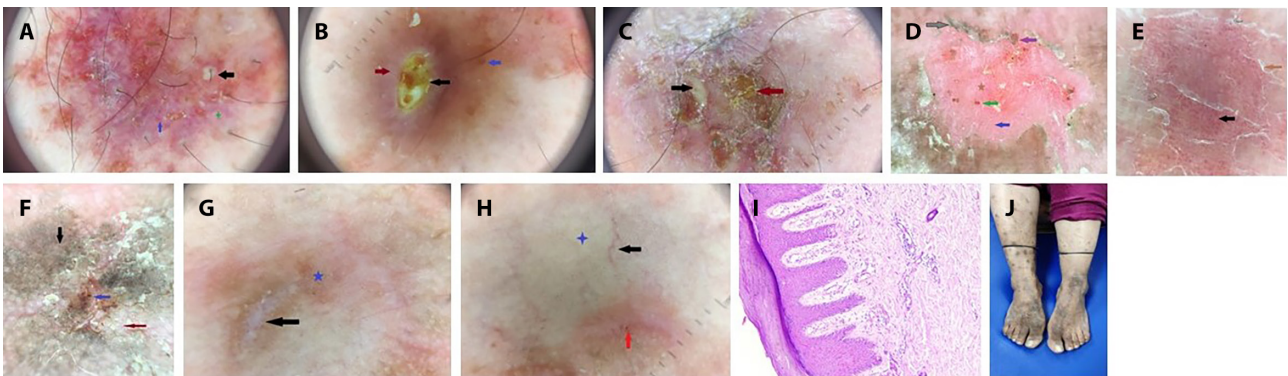


Figure 2. (A) Dermoscopy (polarized) showing multiple perifollicular white globules (black arrow) on intense red- violaceous background (brown arrow) interspersed with white structureless areas (green star) and short linear vessels (blue arrow). (B) Polarized dermoscopy of ulcer shows yellow globules (black arrow) with radial white striations (brown arrow) surrounded by brown dots and patches (blue arrow). (C) Dermoscopy on non-polarized mode reveals white globule (black arrow) and dirty yellow crust (brown arrow) suggestive of dried serum on red background. (D) Dermoscopic examination reveal red background (brown star) with uniform red dots (blue arrow), few red globules (green arrow) and peripheral dirty white scales (gray arrow) and brown patches (purple arrow). (E) Dermoscopy on polarized mode, red dots in uniform pattern (black arrow) can be better appreciated with whitish scales (brown arrow). (F) Dermoscopy of chronic hyperkeratotic hyperpigmented plaques presented mixture of gray brown pigmentation (black arrow) along with dirty white scales (brown arrow) and red globules (blue arrow). (G) Resolved areas reveal whitish striations in a branching pattern (black arrow) with brown patches (blue star) on dermoscopy. (H) Linear vessels (black arrow) on white background (blue star) and whitish striations (red arrow) on dermoscopic examination of these resolved areas. (I) Histopathology of the section shows mild hyperkeratosis, regular acanthosis in epidermis, numerous dilated capillaries in dermal papilla along with mild perivascular inflammatory infiltrate composed of lymphocytes and histiocytes (H&E stain; 40X). (J) Clinical image of the patient shows resolution of acute and chronic lesions at 4 months follow-up.

Table 1. Clinical-dermoscopic-histopathological correlation of a 32-year-old seronegative female patient of necrolytic acral erythema.

Stage of lesions	Clinical features	Dermoscopic findings	Corresponding histopathological features
Acute lesions	Erythematous macules and plaques with Peri-lesional hyperpigmentation	Red background and Uniform Red dots	Dilated capillary loops in regularly elongated dermal papillae
		Brown dots and patches	Epidermal melanin
	Ulcers with yellowish crust	White perifollicular globules	Neutrophil collection, suggestive of acute infection over lesions
		Yellow globules	Dried serous fluid
Chronic lesions	Hyperkeratotic plaques	Dirty white scales loosely adherent scales	Hyperkeratosis
	Hyperpigmented plaques	Brown dots and patches	Epidermal melanin
		Red globules	Haemorrhages
Resolved lesions	Whitish to violaceous lesions	Radial whitish striations	Dermal fibrosis

One should have a good suspicion of NAE even if the patient is seronegative for HCV and has innocuous-appearing psoriasiform or eczematous lesions with normal serum zinc levels. Dermoscopy may be of great assistance for the same, however, more studies on dermoscopic findings of this disease need to be done.

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