Clinico-dermoscopic and pathological features of a rare presentation of erythema elevatum diutinum

Dear Editor,

A 26-year-old man presented with a six-month history of three asymptomatic, persistent, slowly-enlarging red lesions on the dorsa of both the feet. He denied a personal or family history of leprosy. His medical history was unremarkable. Cutaneous examination revealed three well-to-ill-defined erythematous flat-topped nontender plaques of size 1.5 cm × 1.5 cm–5 cm × 4 cm on the dorsal feet. Areas of desquamation with fine white scales were also noticed [Figures 1a and 1b]. Dermoscopy (DermLite DL4, 10X) under polarised mode showed homogenous pink-white areas, diffuse dotted vessels and shiny white lines. The dotted vessels were prominent along the margins of the skin creases [Figure 2a and 2b]. The differential diagnoses included were borderline tuberculoid leprosy, patch-type granuloma annulare, psoriasis and pagetoid reticulosis. Histopathology revealed an acanthotic epidermis and a well-circumscribed nodular collection of inflammatory infiltrate in the lower dermis. The nodular collection showed neutrophilic leukocytoclastic vasculitis, including fibrin deposition, dermal oedema and a predominant lymphohistiocytic collection. In addition, many vessels showed features of vasculopathy with endothelial proliferation and luminal occlusion [Figure 3a–3d]. A diagnosis of erythema elevatum diutinum (EED) was made and the patient was treated with topical clobetasol 0.05% ointment.

Erythema elevatum diutinum (EED) is a progressive and fibrosing form of immune complex-mediated localised vasculitis.[1] The clinical morphology varies from erythematous,

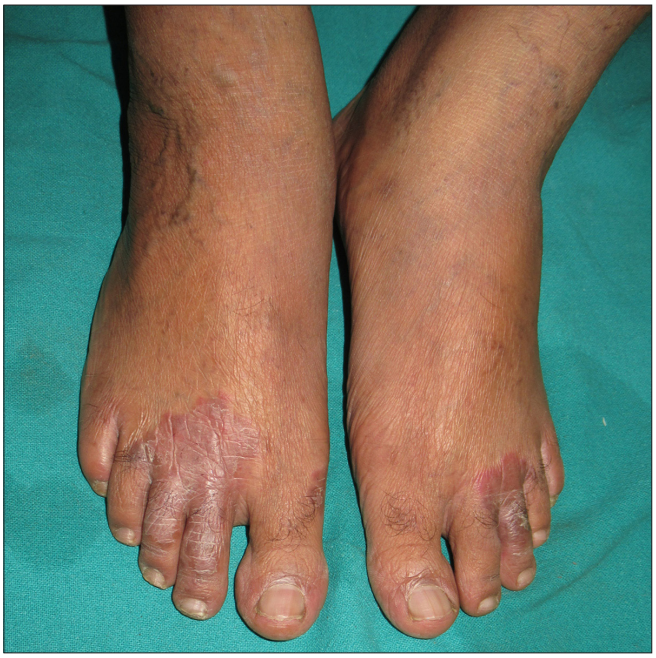

Figure 1a: Well-to-ill-defined erythematous plaques on the dorsae of distal feet

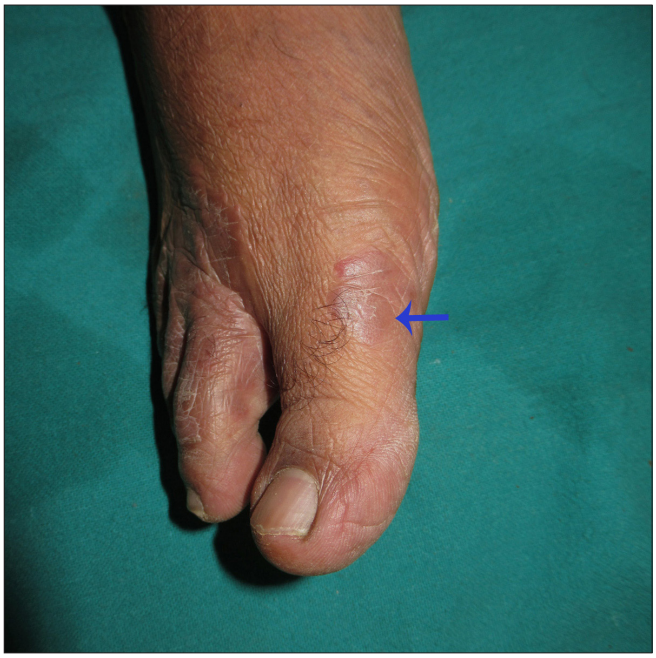

Figure 1b: Well to ill-defined erythematous plaque (arrow) on the medial aspect of the right foot

How to cite this article: Kowe P, Behera B, Sethy M, Dash S, Sarkar N, Garg S. Clinicodermoscopic and pathological features of a rare presentation of erythema elevatum diutinum. Indian J Dermatol Venereol Leprol 2023;89:738-41

Received: September, 2021 **Accepted:** December, 2022 **EPub Ahead of Print:** March, 2023 **Published:** August, 2023

DOI: 10.25259/IJDVL_933_2021 **PMID:** 37067117

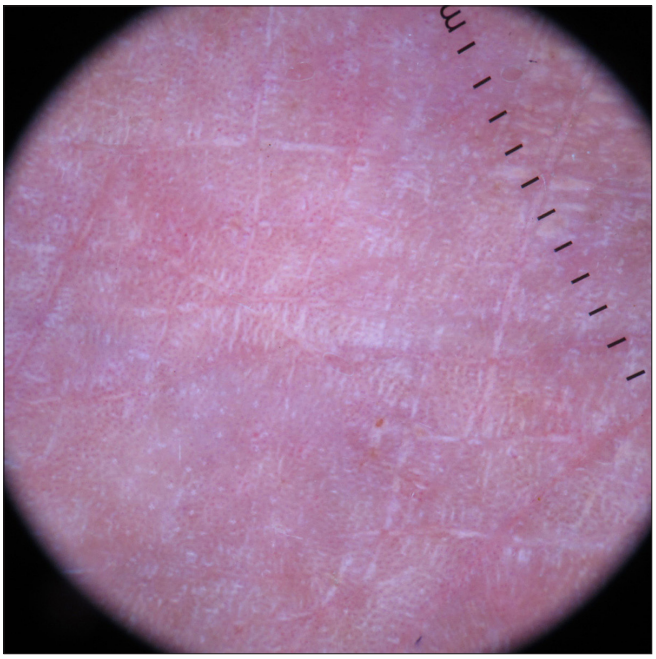

Figure 2a: Dermoscopy under polarised mode (Dermlite, DL4, ×10 magnification) shows homogenous pink-white areas, diffuse dotted vessels, and shiny white lines

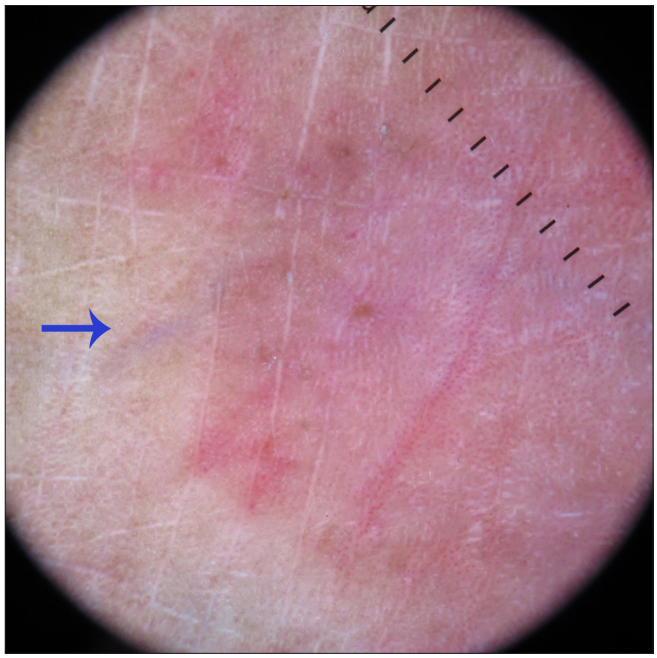

Figure 2b: Dermoscopy under polarised mode (Dermlite, DL4, ×10 magnification) shows homogenous pink-white areas, diffuse dotted vessels, and shiny white lines. Arrow points to the normal-looking surrounding skin

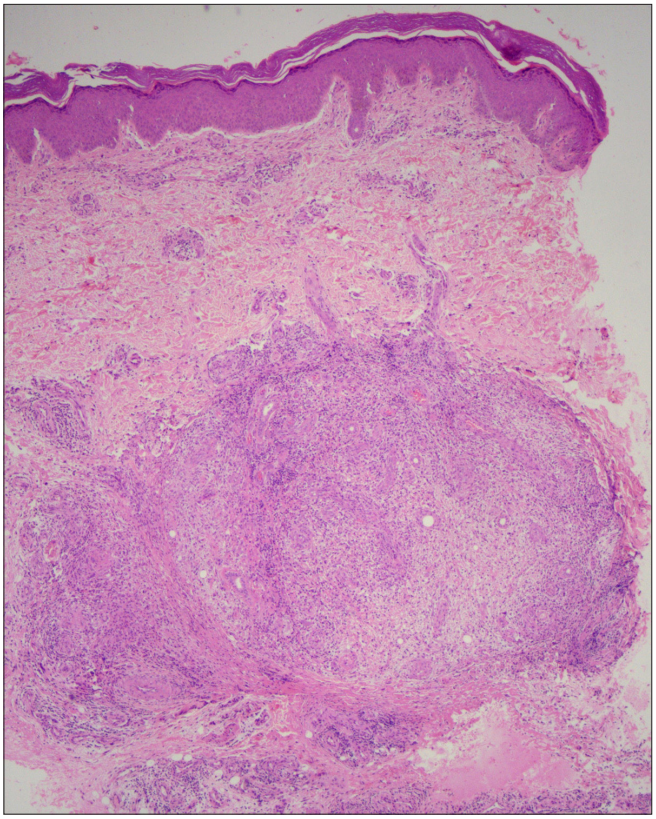

Figure 3a: Histopathology shows an acanthotic epidermis and a well-circumscribed nodular collection of inflammatory infiltrate in the lower dermis (H and E, ×50)

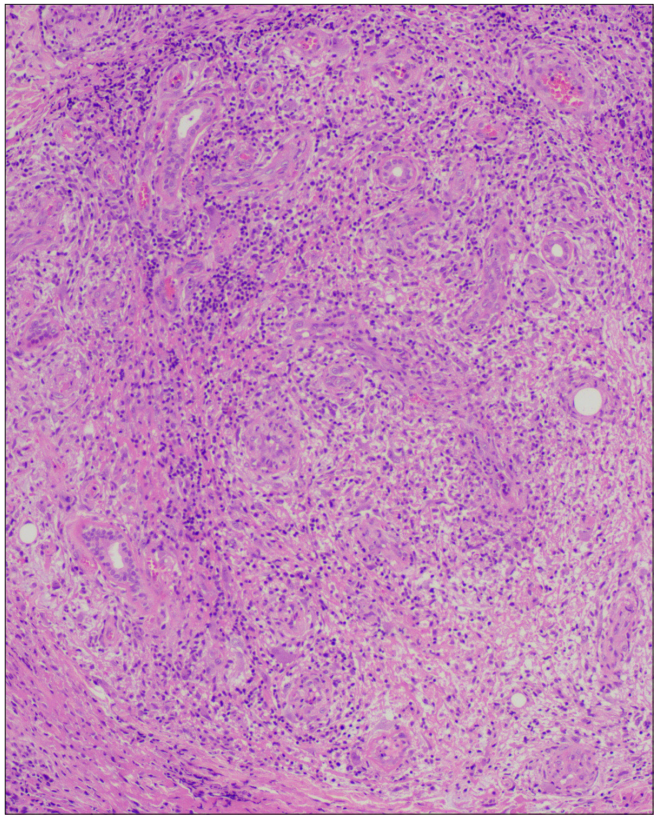

Figure 3b: The nodular collection shows neutrophilic leukocytoclastic vasculitis, fibrin deposition, dermal oedema, and a predominant lymphohistiocytic collection (H and E, ×100)

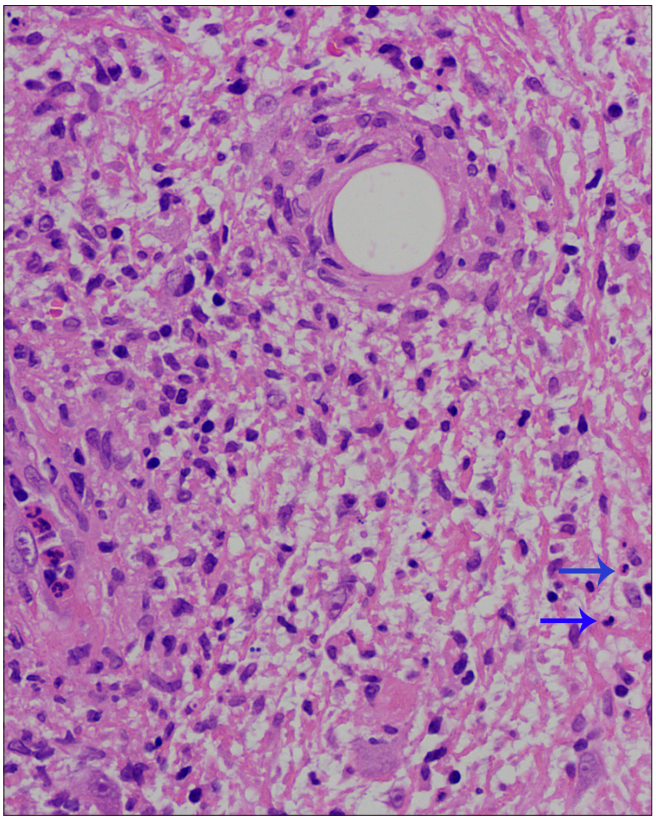

Figure 3c: Neutrophilic (arrow) leukocytoclastic vasculitis and leukocytoclasia (H and E, ×400)

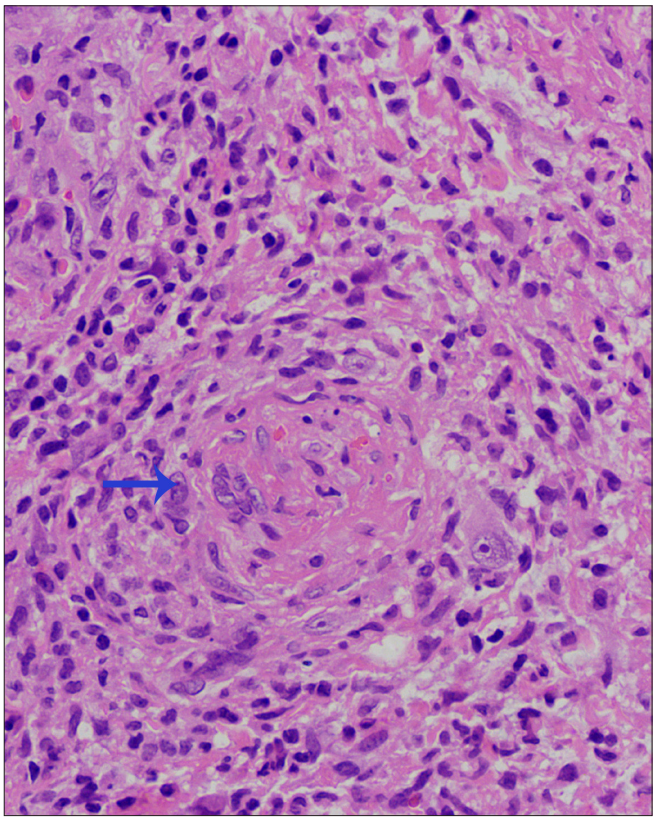

Figure 3d: Endothelial proliferation, fibrin deposition and occlusion of the vascular lumen (arrow) (H and E, ×400)

violaceous to brownish papules and nodules in the early stages to yellowish-brown nodules in the advanced stages. Rarely, EED can be vesicular, bullous and ulcerative.[2] The most common sites are extensor aspects of extremities and include skin overlying the joints such as ankles, Achilles tendon, knees, elbow, hands and fingers. Uncommon sites are the retroauricular area, palms, soles, trunk and nipples.[3] The plaque morphology and location over the metatarsophalangeal joints, as in our case, have rarely been reported.

Dermoscopic description of EED is rarely mentioned in the literature. A solitary case of EED had a central white-to-orange area and purple spots on a reddish-purple background.[4] Another case from India showed yellow-red background, arborising telangiectasia and yellow-white streaks.[5] In the index case, the clinicodermoscopic features simulated psoriasis, borderline tuberculoid leprosy with or without reaction, patch-type granuloma annulare and pagetoid reticulosis [Table 1].[6,7]

Table 1: Dermoscopic features of clinical mimickers of erythema elevatum diutinum in the index case

Clinical diagnosis	Dermoscopic feature
Psoriasis vulgaris	Regularly distributed red dots or glomerular vessels on a reddish background and white scales
Borderline tuberculoid Hansen with or without type 1 reaction[5]	Reddish background White structureless areas Yellow globules Fine short linear vessels or linear vessels with branching
Granuloma annulare (Patch-type)	A pinkish-red background Whitish or yellowish-orange areas Dotted, linear-irregular, and branching vessels Shiny white structures (rosettes, crystalline structures) White scales
Pagetoid reticulosis[6]	Central homogenous pink area A whitish network in the margin Dotted or glomerular vessels

The diagnosis of EED is solely dependent upon clinicopathological correlation. The pathological features and its differential diagnoses may vary according to the stage of the disease. Neutrophilic infiltration and features of leukocytoclastic vasculitis characterise the early lesion. It can be associated with dermal oedema and may mimic Sweet syndrome. The established lesions show a mixed inflammatory infiltrate, granulation tissue and perivascular onion-skin fibrosis. The late or chronic stage is characterised by increased and thickened collagen bundles, sparse neutrophilic infiltration and variable xanthomatization. The angiocentric and storiform fibroplasia can be mistaken for dermatofibroma, sclerotic fibroma, sclerosing spindle cell perineurioma and sclerotic neurofibroma.[1] As per our search, only a single prior report had luminal occlusion by fibrin and inflammatory cells.[1] In our case, multiple vessels had luminal occlusion within the nodular infiltration.

In conclusion, we report a rare plaque-type of erythema elevatum diutinum in which the clinicodermoscopic features were misleading and the diagnosis was established by pathological examination. In addition, it had an unusual lower dermal nodular inflammatory infiltrate along with features of vasculopathy.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent.

Financial support and sponsorship
Nil.

Conflict of interest
There are no conflicts of interest.

Priyanka Kowe, Biswanath Behera, Madhusmita Sethy[1], Siddharth Dash[1], Namrata Sarkar[1], Sonika Garg

Departments of Dermatology, and Venereology, [1]Pathology, All India Institute of Medical Sciences (AIIMS), Bhubaneswar, Odisha, India.

Corresponding author:
Dr. Biswanath Behera,
Department of Dermatology and Venereology, All India Institute of Medical Sciences (AIIMS), Bhubaneswar, Odisha, India.
biswanathbehera61@gmail.com.

References

1. Wahl CE, Bouldin MB, Gibson LE. Erythema elevatum diutinum: Clinical, histopathologic, and immunohistochemical characteristics of six patients. Am J Dermatopathol 2005;27:397–400.
2. Nguyen GH, Guo EL, Norris D. A rare case of erythema elevatum diutinum presenting as diffuse neuropathy. JAAD Case Rep 2017;3:1–3.
3. Ly H, Black MM. Atypical presentation of erythema elevatum diutinum. Australas J Dermatol 2005;46:44–6.
4. Rao D, Bhatia S, Patel R, Nadkarni N. A clinico-dermatoscopic study of acral dermatosis. Int J Dermatol Venereology Leprosy Sci 2020;3:35–41.
5. Chauhan P, Sethi S, Jindal R, Meena D. Dermatoscopy of a case of erythema elevatum diutinum. J Eur Acad Dermatol Venereol 2022;36:e316–7.
6. Jha AK, Zeeshan MD, Tiwary P, Singh A, Roy PK, Chaudhary RKP. Dermoscopy of type 1 lepra reaction in skin of color. Dermatol Pract Concept 2020;10:e2020083.
7. Manoli SM, Lallas A, Ioannides D, Nikolaidou C, Lazaridou E, Sotiriou E, *et al*. Dermoscopy of pagetoid reticulosis, with dermoscopic-pathologic correlation. Photodermatol Photoimmunol Photomed 2019;35:372–74.

Pseudolymphoma induced by gold after patch testing: Dermoscopic features

Dear Editor,

Late reactions in patch testing are defined as delayed reactions on or after day seven. Allergens such as gold, corticosteroids or paraphenylenediamine can frequently trigger this type of delayed reaction.[1] Among the latter, those caused by gold sodium thiosulfate may be particularly delayed. Moreover, gold sodium thiosulphate has the potential to trigger granulomatous or pseudolymphomatous reactions. Clinical reports of the latter are scarce.[2–4] Thus, this report highlights a case of pseudolymphoma after patch testing to gold sodium thiosulphate and performs a literature review of previously described cases.

A 64-year-old man presented to the dermatology department with axillary and submental pruritic, erythematous, eczematous plaques for one year. The patient denied a temporal relationship with exposure to any substance. To rule out allergic contact dermatitis, the patient was patch tested using the standard baseline series of the Spanish Contact Dermatitis and Skin Allergy Research Group[5] (using as its base the True Test [Smartpractice®, EE. UU] and patching the additional haptens), and corticosteroid-specific series (Chemotechnique Diagnosis®; Vellinge, Sweden). He showed positive reactions to formaldehyde, perfume mix 1 and linalool at 96 hours. These positive results were considered relevant, and the patient was advised to avoid the use of these substances (present mainly in deodorants and perfumes), leading to the resolution of the eczematous lesions. Two months later, a late reaction to gold sodium thiosulfate was observed at the patch test site. The latter was confirmed by a repeat patch testing which showed a positive reaction (++) to gold at 96 hours. The positive reaction to gold sodium thiosulfate was not considered relevant in the present case.

How to cite this article: Gimeno-Castillo J, Menéndez-Parrón A, Martínez-Aracil AP, Rosés-Gibert P, González-Pérez R. Pseudolymphoma induced by gold after patch testing: Dermoscopic features. Indian J Dermatol Venereol Leprol 2023;89:741-4

Received: December, 2021 **Accepted:** November, 2022 **EPub Ahead of Print:** March, 2023 **Published:** August, 2023

DOI: 10.25259/IJDVL_1230_2021 **PMID:** 37067105