

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 Sethy¹, Siddharth Dash¹,
Namrata Sarkar¹, Sonika Garg**

Departments of Dermatology, and Venereology, ¹Pathology, 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 Group⁵ (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

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.



Figure 1a: One of the erythematous pruriginous, well-demarcated papular lesions located on the place where both positive reactions to gold sodium thiosulphate had occurred

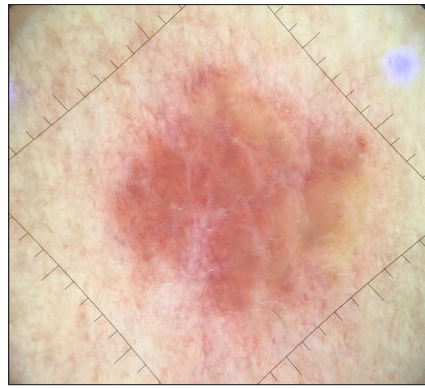


Figure 1b: Dermoscopic features of the lesion: a telangiectatic background along with orangish papules. (Image taken with Handyscope®, Fotofinder) $\times 10$

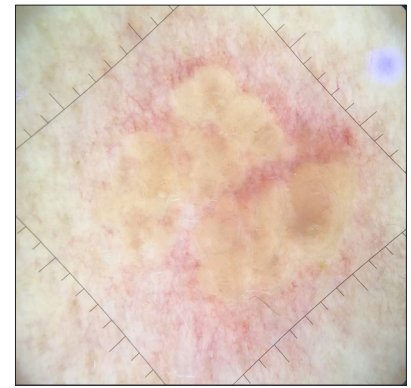


Figure 1c: Yellow discoloration evident on applying contact dermoscopy (Image taken with Handyscope®, Fotofinder) $\times 10$

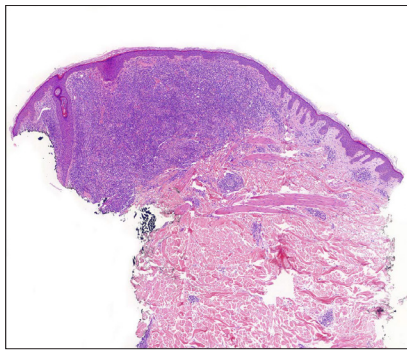


Figure 2a: H&E $\times 39$: A dense dermal lymphohistiocytic infiltrate without atypia or epidermotropism

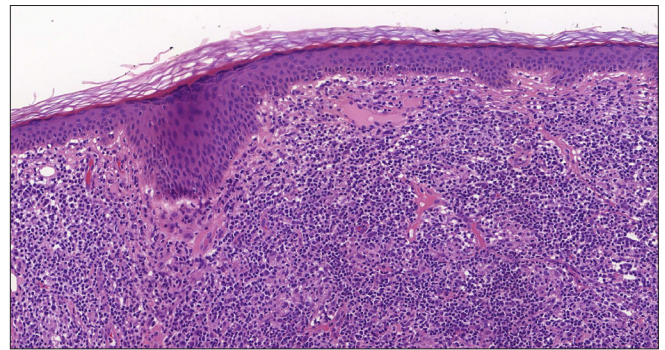


Figure 2b: H&E $\times 200$: Dermal infiltrate primarily composed of lymphocytes and histiocytes with numerous plasma cells

The patient was prescribed topical clobetasol for three weeks. However, he was lost to follow up and returned 12 months later with two erythematous pruriginous, well-demarcated, infiltrated, papules located exactly where both positive reactions to gold sodium thiosulfate had occurred [Figure 1a]. The patient denied any response of his previous lesions to topical therapy with clobetasol after three weeks of treatment. Dermoscopic examination of the latter revealed a telangiectatic background with orangish papules that turned yellow on contact dermoscopy [Figures 1b and c]. A biopsy was done to rule out granulomatous or pseudolymphomatous reactions.

Histological examination revealed an unremarkable epidermis. A dense sheet-like lympho-histiocytic infiltration was present, mainly in the superficial and mid-dermis [Figures 2a and b]. Scattered eosinophils, and frequent polytypic plasma cells (Kappa and lambda) were also observed. There was no atypia or granulomas. Immunohistochemically, the infiltrate was composed of a mixture of CD3-positive and CD20-positive B-cells [Figures 2c and d]. These findings were consistent with a histologic diagnosis of pseudolymphoma. Thus, the lesions were treated with intralesional triamcinolone with complete remission after two weeks. No recurrence was reported to date.

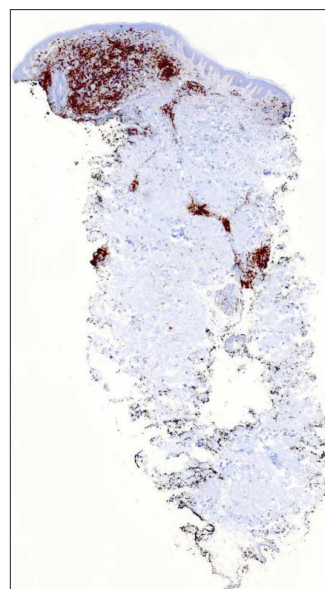


Figure 2c: CD20 $\times 14$ immunohistochemistry: Cells staining positive for CD-20

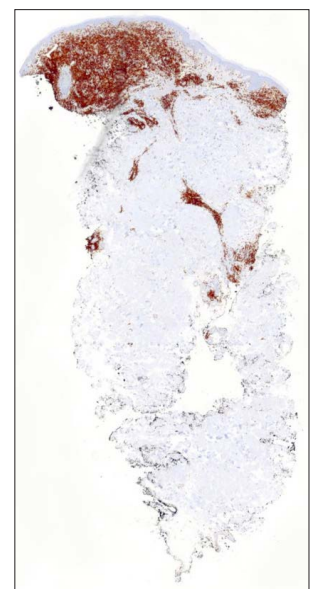


Figure 2d: CD3 $\times 14$ immunohistochemistry: Cells staining positive for CD-3

Table 1: Compilation of clinical and demographic data of previously reported cases (and current patient) of pseudolymphoma induced after patch testing to gold

	Sex	Age	Previous allergy to gold	Time after patch testing	Number of lesions	Clinical manifestation	Symptoms	Dermoscopy	Histology	Treatment	Resolution	Authorship
1	F	66	No	24 months	1	Tiny papules with erythema	Unknown	No	Dense, band-like or nodular infiltrate of mononuclear cells immediately below the epidermis and a small nodular infiltrate of mononuclear cells around eccrine gland structures. Immunohistochemically, there was a mixture of CD3-positive and CD20-positive cells.	Topical steroid	Yes. (Spontaneous)	Kiyohara. T, <i>et al.</i>
2	F	46	No	11 months	1	Well-demarcated round lesion.	Pruritic	No	Nodular dermal infiltrate with suggestion of germinal center formation. Spared epidermis. Immunohistochemically, there was a mixture of CD2, CD3, CD5-positive and CD20-positive cells.	None	Yes. (Spontaneous)	Shpadaruk. V, <i>et al.</i>
3	F	59	No	3 weeks	1	Erythematous plaque	Asymptomatic	No	Dense lymphoid infiltrate, involving the superficial and deep dermis. Immunohistochemically, there was a predominance of CD3-positive cells along with CD4 and CD8 positive cells.	Topical steroid	Yes	García-Arpa. M, <i>et al.</i>
4	F	43	No	4 weeks	1	Persistent reaction (Not specified)	Unknown	No	Dense lymphocytic infiltrate in the dermis, which was predominantly perifollicular. Immunohistochemically, there was a mixture of CD3-positive and CD20-positive cells.	Unknown	Unknown	García-Arpa. M, <i>et al.</i>
5	M	64	No	12 months	2	Papules on an erythematous background.	Pruritic	Telangiectatic background with orange papules that turned into yellow when contact was applied.	Dense lymphohistocytary infiltrate without atypical cells. Spared epidermis. Immunohistochemically, there was a mixture of CD3-positive and CD20-positive cells.	Intralesional steroids	Yes	Present case.

F: Female, M: Male

Even though positive patch reactions to gold compounds are common, it has been described that percutaneous gold stimulation can induce a pseudolymphomatous change. However, the pathogenesis of this phenomenon remains unclear. The authors believe that this could be explained

by an exaggerated localized lymphocytes response after exposure to gold. Previously recorded cases of this condition are summarised in Table 1.²⁻⁴ The present case highlights two pseudolymphomatous lesions after contact with two different gold sodium thiosulfate patches on the same patient.

Previously described dermoscopic findings of pseudo lymphomas i.e. telangiectatic background with orangish papules that turned yellow on contact dermoscopy—could help the recognition of this entity even though it can clinically and dermoscopically mimic late granulomatous reaction or eczema.⁶ However, a biopsy is essential to confirm a diagnosis of pseudolymphoma. As reviewed, these lesions usually appear days to weeks after contact with gold sodium thiosulphate and can last for years. They typically present as asymptomatic or mildly pruritic erythematous papules or plaques on an erythematous background at the sites of contact with gold sodium thiosulfate. Histologically a dense lymphoid infiltrate is classically composed of a mixture of CD20-positive and CD3-positive cells.²⁻⁴ In terms of treatment, the response to topical steroids seems inconsistent, however, aggressive options should be avoided considering the indolent behaviour.

Given the variability described in the lag period of development of lesions following contact (from weeks to years) it is likely that this condition remains underdiagnosed. Thus, we suggest that late reactions should be biopsied if they show suggestive clinical and dermoscopic features of pseudolymphoma regardless of their time of evolution.

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.

**Javier Gimeno-Castillo, Aida Menéndez-Parrón,
Adriano Pablo Martínez-Aracil¹, Pau Rosés-Gibert,
Ricardo González-Pérez**

Departments of Dermatology, ¹Department of Pathology, Hospital Universitario Araba, Vitoria, Spain.

Corresponding author:

Dr. Javier Gimeno-Castillo,
Department of Dermatology,
Hospital Universitario Araba,
Vitoria, Spain.
javiergimenocastillo@gmail.com

References

1. Kosumi H, Yanagi T, Izumi K, Ito T, Shimizu H. Unusual post-patch testing erythema: A late, granulomatous, non-eczematous reaction to gold sodium thiosulphate. *J Eur Acad Dermatol Venereol* 2018;32:e126–7.
2. García-Arpa M, Gómez-Torrijos E, Relea-Calatayud F, Santiago-Sánchez Mateos JL, Galindo-Bonilla PA, Carmona-Rodríguez M. Cutaneous pseudolymphoma after patch test to gold sodium thiosulfate in two patients. *Contact Dermatitis* 2020;82:322–4.
3. Shpadaruk V, Maidment G, Burova E. Pseudolymphoma due to gold sodium thiosulfate. *Dermatitis* 2020;31:e1–2.
4. Kiyohara T, Tanimura H, Makimura K, Shimada S, Ohnishi S, Miyamoto M, *et al.* Small papular pseudolymphoma induced by a patch test for gold. *Clin Exp Dermatol* 2020;45:267–9.
5. Hervella-Garcés M, García-Gavín J, Silvestre-Salvador JF, en representación del Grupo Español de Investigación en Dermatitis de Contacto y Alergia Cutánea (GEIDAC). The Spanish standard patch test series: 2016 update by the Spanish Contact Dermatitis and Skin Allergy Research Group (GEIDAC). *Actas Dermosifiliogr* 2016;107:559–66.
6. Chessa MA, Filippi F, Patrizi A, Misciali C, Collina G, Savoia F, *et al.* Is dermoscopy useful for the diagnosis of pseudolymphomas? *Dermatology* 2021;237:213–6.