Lymphomatoid contact dermatitis associated with textile dye at an unusual location

Tuğba Kevser Uzunçakmak, Necmettin Akdeniz, Şeyma Özkanlı[1], Zafer Türkoğlu, Ebru Itır Zemheri[1], Ayşe Serap Ka Radağ

Departments of Dermatology and [1]Pathology, Goztepe Research and Training Hospital, Istanbul Medeniyet University, Istanbul, Turkey

ABSTRACT

Lymphomatoid contact dermatitis (LCD) is a rare variant of noneczematous allergic contact dermatitis, which can mimick parapsoriasis or early-stage mycosis fungoides with its atypical clinical and histopathological manifestation. Many different haptens have been reported to be associated with this reaction. Histopathological examination, immunhistochemistry, clonality tests, and patch tests are mandatory for diagnosis and differential diagnosis. We present a 48-year-old male with a four years history of a relapsing erythematous plaque on the glans penis. Topical corticosteroids had been prescribed but he complained of relapse upon withdrawal. Histopathological examination was consistent with LCD. Thin layer rapid use epicutaneous patch test result was (++) for disperse blue and nickel sulfate. We present this case because of its rarity and unusual localization. This kind of allergic contact dermatitis should be remembered in differential diagnosis of nonspesific pruritic plaques over the genital region.

Key words: Disperse blue, lymphomatoid contact dermatitis, nonallergic contact dermatitis, textile dyes

Access this article online

Website: www.idoj.in

DOI: 10.4103/2229-5178.171051

Quick Response Code:

Address for correspondence:
Dr. Tuğba Kevser Uzunçakmak, Department of Dermatology, Goztepe Research and Training Hospital, Istanbul Medeniyet University, Istanbul, Turkey.
E-mail: drtugbakevser@gmail.com

INTRODUCTION

Lymphomatoid contact dermatitis (LCD) is one of the chronic, persistent form of noneczematous allergic contact dermatitis, which may resemble parapsoriasis and early-stage mycosis fungoides (MF) both clinically and histopathologically. Etiopathogenesis is still unclear but chronic antigenic stimulus seems to induce lymphocytic proliferation. Histopathological examination, immunohistochemistry, and patch test application are mandatory for differential diagnosis. Many different haptens have been reported to be associated with LCD but textile dye–associated LCD has not been reported in the literature.

CASE REPORT

A 48-year-old male patient admitted with a four years history of relapsing erythematous, pruritic, and mildly scaling plaque on his glans penis [Figure 1]. He had been to other clinics before and topical low potent corticosteroids had been prescribed. Lesions healed with this therapy but relapsed rapidly in a few weeks, after withdrawal of corticosteroid therapy. A 3 mm punch biopsy was taken from active border of erythematous plaque on glans penis. Histopathological examination revealed parakeratosis, acanthosis, minimal spongiosis, epidermotropism, and focally linear array of lymphocytes in epidermis, perivascular infiltration of lymphocytes in papillary dermis [Figure 2a]. Epidermal lymphocytes had round, hyperchromatic nucleus without cerebriform configuration, and there were no lymphocytes abscess like Pautrier's [Figure 2b]. Immunohistochemically, lymphocytes stained CD3, CD7, and the ratio of CD4 and CD8 was 1:4 [Figure 2c]. There were no similar lesions on other parts of the body or any lymphadenopathy. A thin layer rapid use epicutaneous (TRUE) patch test was performed on him and (++) reaction was detected at 48th hours and on day 4 with disperse

Cite this article as: Uzunçakmak TK, Akdeniz N, Özkanlı &, Türkoğlu Z, Zemheri EI, Ka Radağ AS. Lymphomatoid contact dermatitis associated with textile dye at an unusual location. Indian Dermatol Online J 2015;6:24-6.

blue 106 and nickel sulfate [Figure 3]. He was accepted as LCD with his clinical, immunohistopathological findings, and patch test results. We could not do clonality studies because of technical limitations. He was advised to avoid from dark-colored fabrics such as black, blue, brown, green, violet or purple, polyester and acetate fabrics, and nylon underwear, alternatively to use loose, white and cotton underwear and slips, also advised to wash his clothing before first use. Topical hydrocortisone butyrate 17 oinment was prescribed. Two weeks after this topical therapy total clearance was detected and no recurrence was detected at sixth months follow up visit.

DISCUSSION

LCD is a diagnostic pitfall; it is a kind of allergic contact dermatitis that is also classified as a pseudolymphoma. It was first reported by Gomez Orbeneja in 1976. Etiopathogenesis is still not clear but chronic inflammatory stimulation involving lymphoid cells is suspected in its etiology.[1] This reaction has been reported with 14 different haptens as exotic wood, paraphenylendiamine, diaminodiphenylmethane, ethylenediamine dihydrochloride, para-tertyl-butyl phenol resin, gold, nickel, cobalt naphthenate, and textile dyes in the literature.[1-10] Both clinical manifestation and histopathology can mimick pseudolymphoma and early-stage MF. Diagnosis of LCD should include a comprehensive patient history and examination, patch testing, and histopathological examination with immunohistochemistry, and clonality studies.[10] However, Knackstedt *et al*. reported that no single test or study was diagnostic of LCD.[10]

Histopathological difference of LCD and MF was clearly differentiated by *Bonamento et al*.[11] Spongiosis and perivascular lymphoid infiltrate are more common in LCD, whereas atypical lymphocytes with cerebriform nuclei in a focal abcess and a band-like subepidermal lymphocyte infiltration are more common in MF.[11] At first approach, our case was reported as suspicious for "CD8-positive mycosis fungoides" and "primary cutaneous CD8 positive epidermotropic cytotoxic T-cell lymphoma" because of intensive atypical lymphocytic infiltration but in view of accompanying spongiosis, exocytosis and perivascular infiltration, and the clinical presentation, the reaction pattern was accepted as LCD.

Patch test is also necessary for the diagnosis and eventual management of this reaction. TRUE. test was (++) positive for nickel sulfate and disperse blue 106 in our case. We think disperse blue is more relevant in our patient, because there were no other eczematous or noneczematous lesions on other parts of his body that could be related to nickel sulfate. Also no lymphadenopathy or other lesion associated with MF could be detected on clinical examination.

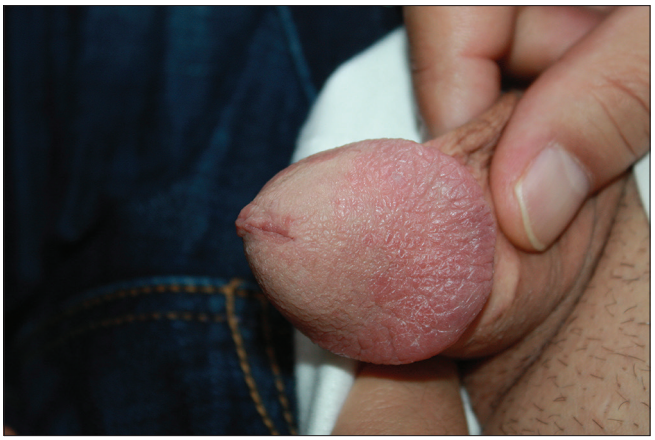

Figure 1: Mild infiltrated erythematous plaque on glans penis

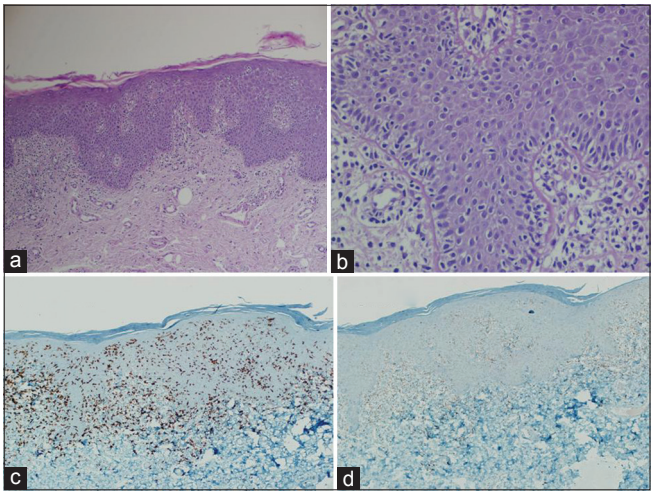

Figure 2: (a) Parakeratosis, acanthosis of epidermis, epidermotropism perivascular infiltration of lymphocytes in papillary dermis (H and E ×10). (b) Epidermotropism and linear array of lymphocytes with round, hyperchromatic nuclei in epidermis (H and E ×20). (c) Diffuse positivity with CD8 in lymphoid cells. (d) Patchy positivity with CD4 in lymphoid cells

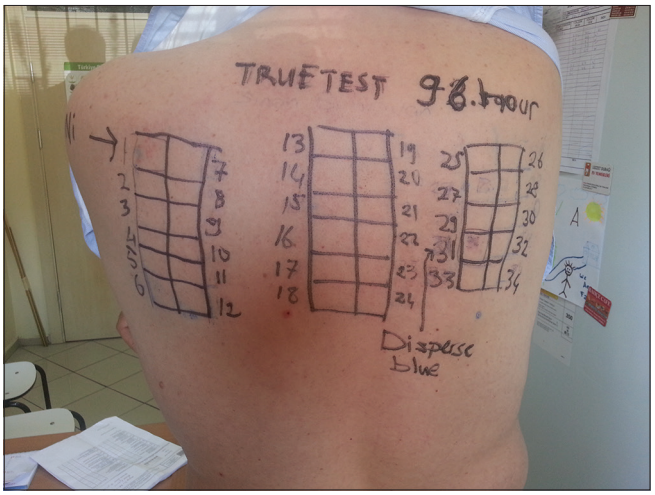

Figure 3: (++) Reaction with disperse blue 106 (Panel 3.2) in T.R.U.E. test on 96th hour

Triggering allergen avoidance is the primary approach to the management of this reaction, but in some selected patients topical or systemic immunosuppression may be prescribed. In our patient we prescribed low potency corticosteroid for his single lesion on the genital region for a short period. We did not observe any further recurrence with allergen avoidance.

Some authors accept LCD as a precursor of serious disease and claim that these lesions may progress into cutaneous lymphoma.[5,9] How many of these patients develop true lymphoma subsequently is not known exactly and this gap in knowledge should lead the speacialist to follow up the patients with LCD regularly to show the real relationship with lymphoma. We think this rare entitiy might be overlooked in daily practice. *Abraham et al.* reported a case with T-cell prolymphocytic leukemia who was diagnosed with LCD before.[12] This report emphasizes the importance of follow up and systemic examination of these patients. When we searched for the progression to real lypmhoma, we could not see enough evidence in the literature. Our case has an atypical manifestation of allergic contact dermatitis with and unusual localization that was confirmed with histopathological examination anad patch testing. Long-term follow up should be maintaned in patients with LCD. We did not detect a new lesion an sixth months follow up visit. The has been advised regular follow-up every six months for at least for 5 years.

We report this case in view of its rarity and unusual localization and also want to reiterate that textile dyes may be one of the triggering factors of allergic contact dermatitis in anogenital region, with either eczematous or noneczematous manifestations. We opine that this reaction is a diagnostic pitfall and needs to be followed up for transformation to a true lymphoma.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Ezzedine K, Rafii N, Heenen M. Lymphomatoid contact dermatitis to an exotic wood: A very harmful toilet seat. Contact Dermatitis 2007;57:128-30.
2. Calzavara-Pinton P, Capezzera R, Zane C, Brezzi A, Pasolini G, Ubiali A, *et al*. Lymphomatoid allergic contact dermatitis from para-phenylenediamine. Contact Dermatitis 2002;47:173-4.
3. Nigro A, Patri P, Stradini D. Lymphomatoid contact dermatitis caused by diaminodiphenylmethane. G Ital Dermatol Venereol 1988;123:379-82.
4. Wall LM. Lymphomatoid contact dermatitis due to ethylenediamine dihydrochloride. Contact Dermatitis 1982;8:51-4.
5. Evans AV, Banerjee P, McFadden JP, Calonje E. Lymphomatoid contact dermatitis to para-tertyl-butyl phenol resin. Clin Exp Dermatol 2003;28:272-3.
6. Conde-Taboada A, Rosón E, Fernández-Redondo V, García-Doval I, De La Torre C, Cruces M. Lymphomatoid contact dermatitis induced by gold earrings. Contact Dermatitis 2007;56:179-81.
7. Houck HE, Wirth FA, Kauffman CL. Lymphomatoid contact dermatitis caused by nickel. Am J Contact Dermat 1997;8:175-6.
8. Schena D, Rosina P, Chieregato C, Colombari R. Lymphomatoid-like contact dermatitis from cobalt naphthenate. Contact Dermatitis 1995;33:197-8.
9. Narganes LM, Sambucety PS, Gonzalez IR, Rivas MO, Prieto MA. Lymphomatoid dermatitis caused by contact with textile dyes. Contact Dermatitis 2013;68:62-4.
10. Knackstedt TJ, Zug KA. T cell lymphomatoid contact dermatitis: A challenging case and review of the literature. Contact Dermatitis 2015;72:65-74.
11. Bonamonte D, Foti C, Vestita M, Angelini G. Noneczematous contact dermatitis. ISRN Allergy 2013;2013:361746.
12. Abraham S, Braun RP, Matthes T, Saurat JH. A follow-up: Previously reported apparent lymphomatoid contact dermatitis, now followed by T-cell prolymphocytic leukaemia. Br J Dermatol 2006;155:633-4.