

# Lymphomatoid contact dermatitis caused by textile dye arising on pre-existing vitiligo lesions

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Lymphomatoid contact dermatitis (LCD) is a cutaneous pseudolymphoma (PSL) with clinical and histological features of allergic contact dermatitis and cutaneous T-cell lymphoma.<sup>1</sup> Herein, we report a case of LCD caused by textile dye arising exclusively on pre-existing vitiligo lesions.<sup>1-7</sup>

## CASE REPORT

A 47-year-old woman with a 20-year history of untreated non-segmental vitiligo, presented with erythematous and itchy skin plaques that had been evolving for 2 years. She was a textile factory worker for 6 years. Dermatological examination revealed two

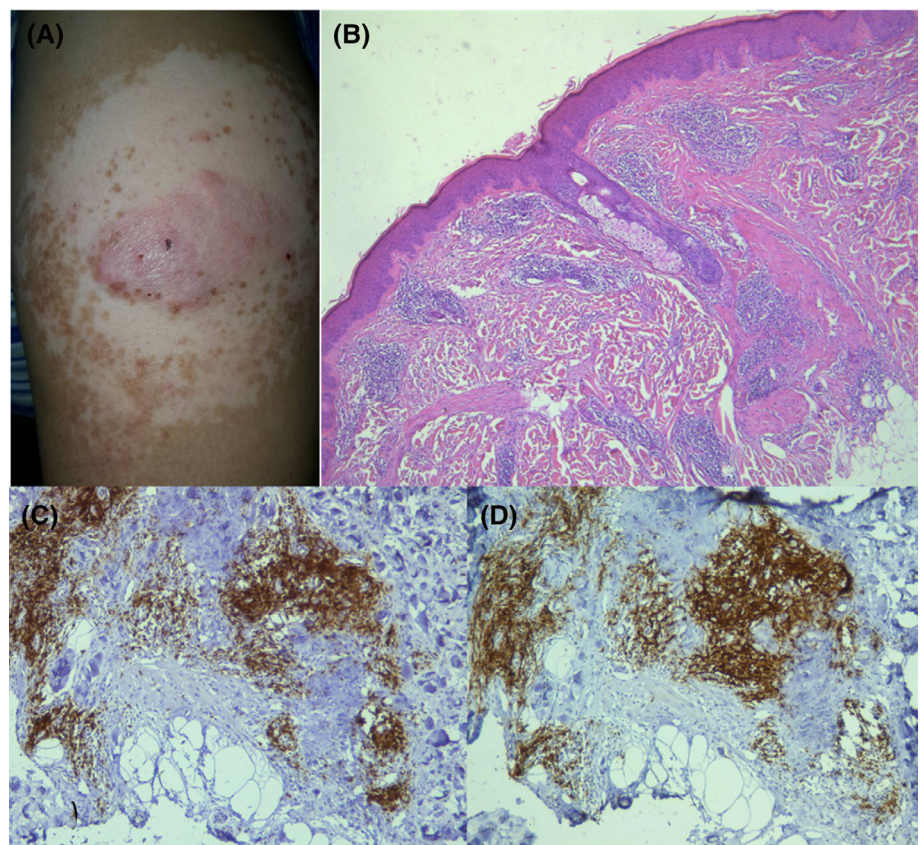


**FIGURE 1** (A), a pseudo-tumoral plaque on left arm localized over a vitiligo patch; (B), superficial and deep perivascular lymphocytic infiltrate (hematoxylin eosin X 40); (C), positive immunostaining of T cell CD3 (hematoxylin eosin X 100); (D), positive immunostaining of B cell (CD20) markers (hematoxylin eosin X 100)

pseudo-tumoural plaques on the lateral side of both arms localized over two patches of vitiligo (Figure 1A). This site was not in direct contact with the textiles. However, it was in contact with textile dust as the patient reported wearing sleeveless shirts during her work. The rest of the physical examination was normal (no palpable lymph nodes or enlarged liver or spleen); other vitiligo lesions were seen on the back and breast, which were not exposed to textile dust. Histological examination of a skin biopsy diagnosed cutaneous PSL over vitiligo lesions (Figure 1B–D). The patient denied application of any topical agents. She reported worsening of the itch in the workplace. Patch testing was performed using Finn Chambers on Scanpor tape (Monastir, Tunisia) with the European baseline series and a textile dyes series, as well as the tissues handled by the patient at her work. Reactions were evaluated on day (D) 2, D3, and D4 according to International Contact Dermatitis Research Group criteria. The results showed sensitization to cobalt chloride (+ / ?+) (purpuric reaction), Disperse Red 17 and textiles tissues handled: gray (+ / ++), green (+ / ++), and pink (++ / ++) (Figure S1). The patch test reaction to cobalt chloride was considered irritant.

## DISCUSSION

We present a new case of LCD induced by textile dye occurring in an occupational setting. Numerous allergens have been implicated in LCD, including textile dyes.<sup>2,3</sup> To the best of our knowledge, we report the first case of LCD developing on pre-existing vitiligo lesions. The occurrence of lymphoproliferative disorders in cutaneous lesions of connective tissue diseases has already been reported<sup>4,5</sup> in the literature as “Wolf phenomenon,” in which dysimmunity pathology promotes the development of subsequent dysimmunity pathology on the same skin site.<sup>6</sup> The co-existence of vitiligo and PSL suggests similar autoimmune processes relevant to their pathogenesis and co-inducibility. In both diseases, T-cell mediated mechanisms play an important role, either targeting melanocytes in vitiligo or stimulating lymphoid proliferation in PSL. With regard to the occurrence of LCD exclusively over vitiligo lesions, we hypothesize that long-standing vitiligo interferes with the suppression or inactivation of antigens, which can later be recognized by T effector cells, leading to cutaneous PSL.<sup>7</sup>

## CONFLICT OF INTEREST

The authors declare no conflicts of interest.

## AUTHOR CONTRIBUTIONS

**Kamar Belhareth:** Data curation; investigation; methodology; writing-original draft; writing-review and editing. **Mouna Korbi:** Conceptualization;

investigation; methodology; resources; supervision; validation; writing-original draft; writing-review and editing. **Asma Khedher:** Investigation; methodology. **Rym hadhri:** Conceptualization; investigation; resources. **Yosra Soua:** Conceptualization; investigation. **Hichem Belhadjali:** Conceptualization; investigation; methodology; supervision; validation; writing-original draft. **Monia Youssef:** Conceptualization; investigation; writing-original draft. **Jameleddine Zili:** Conceptualization; supervision; validation.

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## SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of this article.

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