

Cutaneous Pseudolymphoma in a Red Tattoo

TO THE EDITOR

Cutaneous tattoo reactions are relatively frequent, including skin infections, irritant and allergic contact dermatitis. In some cases lichenoid, granulomatous, sarcoidal, morpheiform and pseudolymphomatous reaction have been also reported. The association with pseudolymphoma, a benign T or B-cell proliferative disorder, has been rarely reported in the literature [1].

A 32 year-old healthy woman presented with a 4 month history of pruritus and nodules in a 2-year-old professionally placed tattoo in the lower limb. On examination of the lower right leg she had nodules limited to the red areas of the tattoo, and not in the other colors (Figure 1). Epicutaneous patch testing revealed a positive reaction to nickel, which was considered as non-causative, because the dye did not contain nickel salts.



Figure 1. Clinical image of the patient. Infiltrated nodules are presented in the red areas of the tattoo.

Histopathological examination showed a diffuse dense infiltration through the entire dermis. The inflammatory infiltrate was mainly composed by lymphocytes, but also included macrophages in the lower dermis that contained pigment granules (Figure 2).

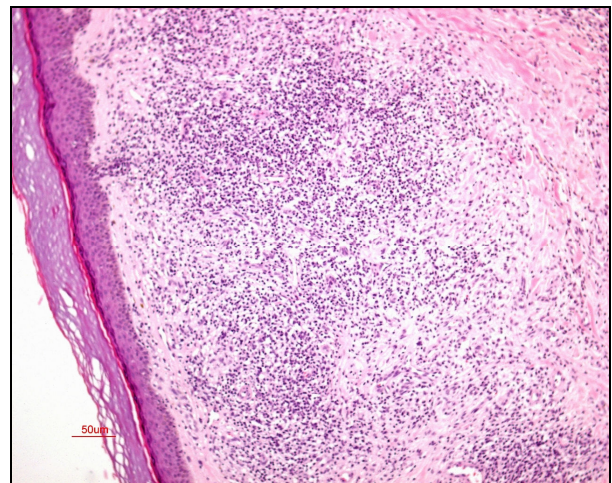


Figure 2: Histological examination showed a dense infiltrate in the dermis composed by small lymphocytes (H&E, x200)

Immunohistochemistry showed that the majority of the infiltrated cells expressed CD4 and CD8, and CD20 was negative in most of the cells. T cell receptor gene rearrangement study was performed on paraffin-embedded skin and showed a polyclonal pattern. Treatment with potent topical (clobetasol) and intralesional steroids (triamcinolone acetonide) was applied with improvement of the lesions.

The pathogenesis of tattoo-induced pseudolymphoma is unknown. Identification of the causative agent is often difficult because the composition of the dye is not provided by the manufacturer [2]. Recent data suggest that chronic antigen stimulation may lead to proliferation of lymphoid cells [3]. Documented cases are generally of the B-cell type [1-3] and limited to the red portion of the tattoo, whereas in our case, the infiltrate was composed by T-cell which was similar to another case described in a semipermanent tattoo [4]. Including our case report, pseudolymphoma has been described in red (n=9), blue (n=2), green (n=2) and black (n=1) tattoo pigments in the English literature [1-4].

The determination of the causative agent is often difficult. Tattoo dyes contain metal compounds and organic substances which have been suggested to be causative agents for delayed hypersensitivity [4]. Among these agents, allergic reactions to red-mercury based dyes are well known [5]. Patch testing to red dyes and their metallic components has not been useful but intradermal testing is positive in some cases [2, 5]. As it was not possible to get the composition of the dye from the manufacturer we considered patch-testing as a possibility to identify the causative compound, but it was negative.

No consistently effective treatments for tattoo pseudolymphomatous reactions have been reported. Topical and intra-lesional corticosteroids have been used with disappointing results. In isolated cases CO₂ laser and Q-switched Nd-Yag laser have been successful therapies [1, 3]. Some authors have described spontaneous regression of the lesions within years, so "wait and see" approach could be another option in the management of these reactions [3, 6].

Malignant transformation of pseudolymphomatous tattoo reactions is rare but has been described in isolated cases, so patients should be followed-up until the clearance of the lesions [7].

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