



Lymphomatoid Drug Eruption Secondary to Tuberculin Skin Reaction

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Abstract

Introduction: The Tuberculin Skin Test (TST) is a skin test for tuberculosis. Although it is deemed benign, incidents can occur. We report a rare case of Lymphomatoid Drug Eruption (LDE) secondary to TST.

Case Presentation: A 31-year-old man with no particular pathological history had a TST injection in the right forearm as part of a hiring assessment. After 72 hours, the TST was positive (10/15 mm). Few days later, the diameter of the induration gradually increased with release of serosities. The patient received nonspecific antibiotics for one month but there was no improvement. Physical examination on admission revealed an induration in the right forearm measuring 5 cm, centered by a fistula giving way to pus. There was no fever or peripheral lymphadenopathy. The puncture of the collection brought back a haematic fluid containing numerous leukocytes with 60% lymphocytes and 40% neutrophils. The culture of the liquid was sterile and did not specifically isolate any acid-fast bacilli. A skin biopsy revealed a histological aspect suggesting a cutaneous pseudolymphoma: lymphomatoid drug eruption. A pharmacovigilance investigation also implicated the role of tuberculin in the genesis of pseudo-lymphoma at the injection site. The lesion spontaneously disappeared 4 weeks later and the final outcome was favorable.

Conclusion: TST is a skin test with major clinical interest. However, rare incidents such as LDE can occur. This clinical entity must be kept in mind to improve its management and avoid its complications

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Introduction

Cutaneous pseudolymphoma refers to a heterogenous group of benign reactive T- or B-cell lymphoproliferative processes of diverse causes that simulate cutaneous lymphomas clinically and/or histologically [1]. There are multiple etiologies for cutaneous pseudolymphomas including drugs, foreign agents

(tattoo dyes, insect bites, vaccinations), infections (such as Borrelia), and photosensitivity. Drugs are likely the most common cause of pseudolymphoma seen in dermatologic practice [2]. LDE is a form of cutaneous pseudolymphoma rarely described in the literature. Several classes of drugs have been reported to



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cause this lesion. Here, we reported an exceptional case of LDE secondary to tuberculin skin reaction.

Observation

A 31-year-old man with no particular pathological history who had a TST injection in the right forearm as part of a hiring assessment. The test result after 72 hours, was positive (10/15 mm). Few days later, the diameter of the induration gradually increased with release of serosities. The patient received nonspecific antibiotics for one month but there was no improvement, so he was admitted in our department. The physical examination revealed an induration in the right forearm measuring 5 cm in long axis and which was centered by a fistula giving way to pus. There was no fever or associated peripheral lymphadenopathy. The puncture of the collection brought back a haematic fluid containing numerous leukocytes with 60% lymphocytes and 40% neutrophils. The culture of the liquid was sterile and did not specifically isolate any acid-fast bacilli. The search for Koch's bacillus in the sputum as well as the Quantiferon-TB assay were negative. Serology of human immunodeficiency virus and viral hepatitis B and C were negative. The chest and right forearm x-ray were normal. A skin biopsy revealed a histological aspect suggesting a cutaneous pseudolymphoma of the lymphomatoid drug eruption type. A pharmacovigilance investigation also implicated the role of tuberculin in the genesis of pseudo-lymphoma at the injection site. The lesion spontaneously disappeared 4 weeks later and the final outcome was favorable.

Discussion

Cutaneous pseudolymphoma is a group of conditions that mimic cutaneous lymphomas. Depending on the predominant cell type in the infiltrate, cutaneous pseudolymphomas are divided into T- and B-cell pseudolymphomas [3]. LDE usually mimics cutaneous T-cell lymphoma, especially mycosis fungoides. Drug-induced cutaneous pseudolymphoma mimicking cutaneous B-cell lymphoma is less frequent [2]. The pathogenesis of LDE is not clear. Unlike other forms of cutaneous drug eruption, the lymphomatoid type does not represent an allergic or hypersensitivity reaction to the drug [4]. The skin eruption most likely is caused by a direct effect of the drug on the lymphocyte function, resulting in immune dysregulation. Most of the cases of pseudolymphoma are associated with drugs known to alter lymphocyte function, particularly in the setting of systemic immune dysregulation or multidrug therapy, where agents may act synergistically or cumulatively to alter lymphoid function [4]. The population of lymphocytes within the infiltrate is usually polyclonal. Gene rearrangement studies, however, have revealed monoclonal lymphocyte proliferations in some cases of LDE [5]. Underlying endogenous immune dysregulation is a concomitant risk factor of this lesion noted in the literature [6]. Several classes of drugs have been reported to cause cutaneous pseudolymphoma. These drugs include anticonvulsants, Angiotensin-Converting Enzyme (ACE) inhibitors, beta blockers, calcium channel blockers, antidepressants, antipsychotics, lipid lowering agents, antihistamines, and others [2,3,7]. The statins and ACE inhibitors are among the most frequently implicated drugs in the broader [6]. To our knowledge, we report the first case of LDE secondary to tuberculin skin reaction. In fact, TST is used as a standard tool for diagnosis of patient exposed to tuberculosis [8]. The resulting inflammatory reaction (delayed-type hypersensitivity) is mediated by T cells. This may explain

the possibility of this incident occurring secondarily to tuberculin injection. The safety and good tolerance of TST was demonstrated in several studies [9]. The adverse events encountered were extremely low and trivial, such as pruritus and local pain [9,10]. LDE has never been observed as a side effect of the TST in the literature. Clinically, the lesion develops after weeks to months and presents with papules, nodules, plaques, or widespread involvement such as erythema [1,11]. The aspect and the clinical context are suggestive. Histological confirmation is necessary to retain the diagnosis. Unlike classical drug eruptions that usually clear up in several days to a few weeks after cessation of therapy, the skin lesions of LDE may persist several weeks to a few months after discontinuation of the drug but the final outcome is often favorable [4].

Conclusion

LDE is a rare entity that can be seen secondary to several drugs and even to tuberculin injection. Misdiagnosis of this lesion as malignant entities could lead to inappropriate chemotherapeutic treatment. That's why heightened awareness during history taking and knowledge of the clinical and histologic presentation of this incident will hasten correct diagnosis and appropriate patient management.

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