Atypical form of transient acantholytic dermatosis with edematous erythema

Nozomi Yanagida, Satoshi Morioke, Emi Murakami, Akio Tanaka

Department of Dermatology, Institute of Biomedical and Health Sciences, Hiroshima University, Japan

Dear Editors,

Transient acantholytic dermatosis, also called Grover's disease, is a benign acquired disorder with a transient course.[1] The typical clinical presentation is the erythemato-papular form; cases presenting with edematous erythema without papules are extremely rare.[2] Here, we report a case of atypical transient acantholytic dermatosis presenting with edematous erythema.

A 25-year-old female with Sjögren's syndrome presented atypical feature with an edematous erythema on her right side of the abdomen 8 months before visiting our department (Figure 1a). After one week of treatment with very strong topical corticosteroids, the skin lesion improved. Three months later, itchy dark reddish-brown macules with infiltration appeared in both inguinal regions and in both axillae. Topical corticosteroids alone were insufficient to improve itching; however, the dark reddish-brown macules and itching improved after additional treatment with oral antihistamines and antileukotriene antagonists. An H2 blocker was also provided at this time for stomach pain. When she visited our department, a palm-sized brownish macule was observed on the right side of the abdomen (Figure 1b). Its dermoscopic appearance included a uniform pinkish background (Figure 1c). The laboratory data showed no abnormal findings. A skin biopsy from the right side of the abdomen revealed lymphocyte and histiocyte infiltration in the shallow dermis. In the deep dermis, there was infiltration of inflammatory cells in the perivascular and periadnexal areas (Figure 2a). High magnification images showed acantholysis, cleft formation, and spongiosis just above the basal cells (Figure 2b). Based on the clinical course and pathological findings, we diagnosed transient acantholytic dermatosis. After 1 month, the skin lesion and pruritus were healed using a topical corticosteroid and oral administration of antihistamine (an H2 receptor antagonist) and a leukotriene receptor antagonist, which were beneficial in relieving the symptoms when used in the previous hospital. In 69 cases of extensive or atypical transient acantholytic dermatosis, Gantz *et al.* found that papulopustular (94%) and papulobullous (35%) forms with papules were the most common.[2] This case presented with a relatively well demarcated edematous erythema, which is atypical for transient acantholytic dermatosis, requiring differential diagnosis from erythema multiforme exudativum, urticarial vasculitis, and pyogenic hidradenitis. These diseases were excluded mainly based on the evaluation of histological features. The histopathology showed acantholysis right above the basal cells, which is not usually observed in the above diseases, rather it is a histological feature seen in epidermolysis bullosa and Darier's disease, except in transient acantholytic dermatosis. However, these diseases usually form blisters as a clinical manifestation and have a chronic course and have therefore been excluded from the diagnosis in this case. Various dermoscopic images of transient acantholytic dermatosis, including polymorphic vessels, star-shaped/polygonal yellow/brown areas with a white halo, and scales on a pink background have been reported.[3,4] The dermoscopic images of our case showed a pink background without polymorphic vessels or yellow/brown structures. This case showed a specific form of skin lesion, which may be reflected in this dermoscopy image. Transient acantholytic dermatosis without blisters or papules is rare and atypical; however, it is important to carefully determine it with reference to histopathology in order to make an appropriate diagnosis.

Correspondence: Akio Tanaka, Department of Dermatology, Institute of Biomedical & Health Sciences, Hiroshima University, 1-2-3 Kasumi, Minami-ku, Hiroshima 734-8551, Japan.
Tel.: +81.822575238.
E-mail: tantanakiotan@yahoo.co.jp

Key words: edematous erythema; Grover disease; transient acantholytic dermatosis.

Contributions: the authors contributed equally.

Conflict of interest: the authors declare no conflict of interest.

Availability of data and materials: data and materials are available by the authors.

Received: 1 March 2023.
Accepted: 23 April 2023.
Early view: 19 Mayy 2023.

This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0).

©Copyright: the Author(s), 2023
Licensee PAGEPress, Italy
Dermatology Reports 2023; 15:9701
doi:10.4081/dr.2023.9701

Publisher's note: all claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article or claim that may be made by its manufacturer is not guaranteed or endorsed by the publisher.

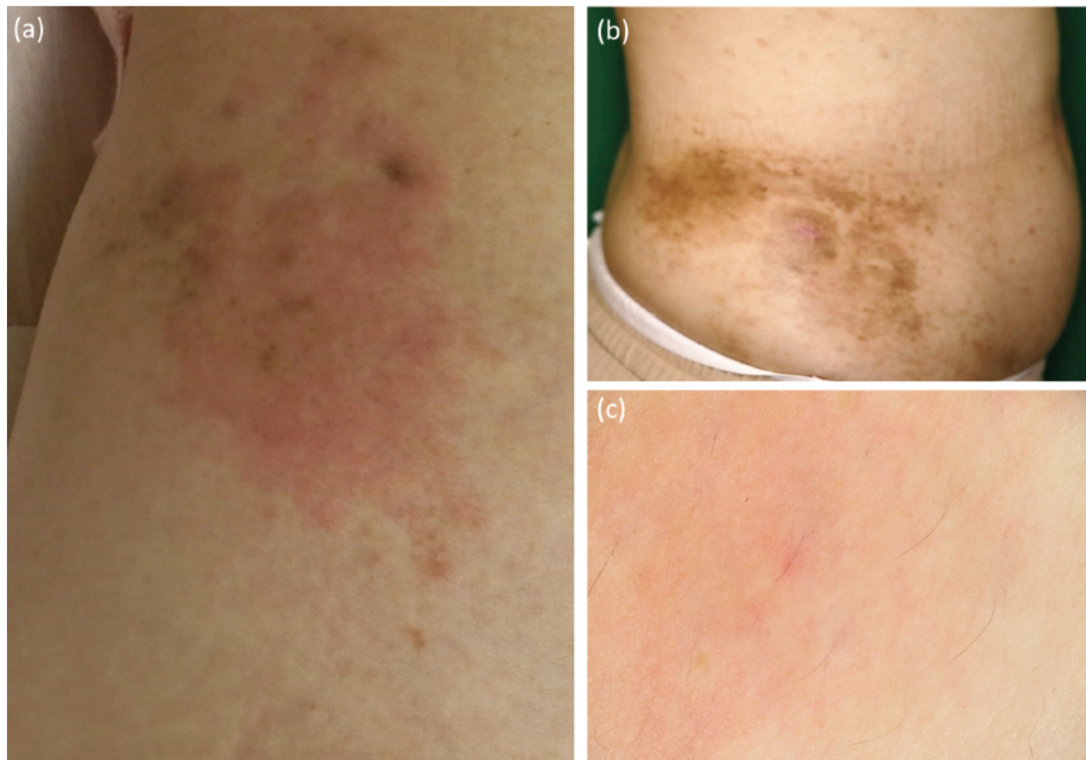
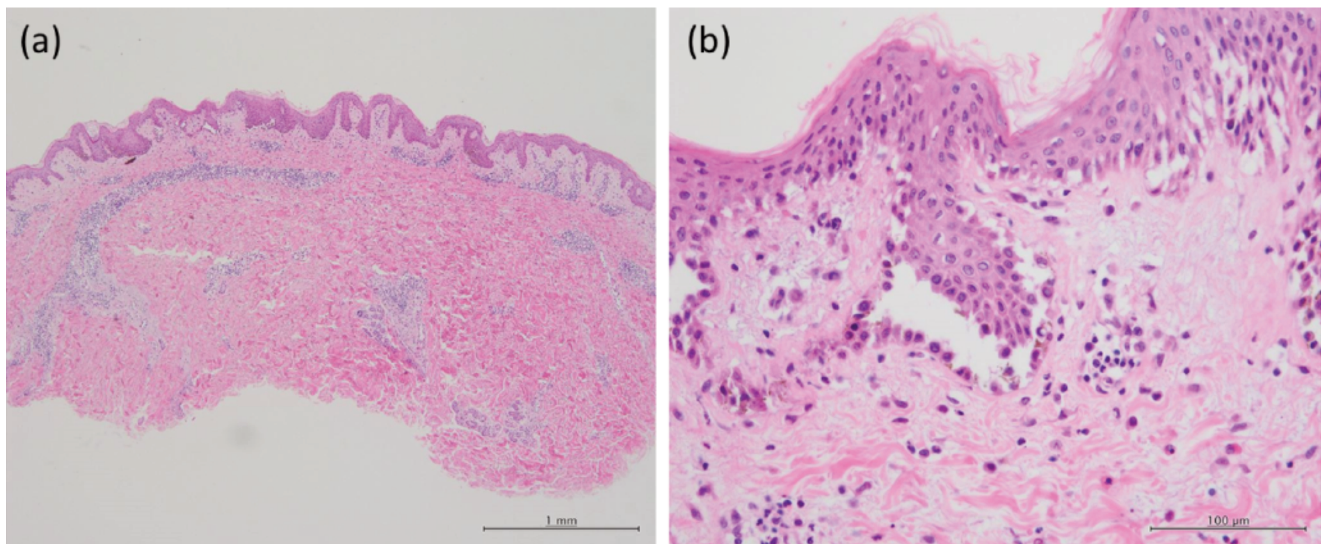


Figure 1. **a**) Edematous erythema on the right side of the abdomen; **b**) clinical presentation on the first visit to our department. Palm-sized brown patch on the right side of the abdomen; **c**) dermoscopic image of the right side of the abdomen revealing only a pinkish background



2. Histopathological image of the right side of the abdomen. **a**) Infiltrated inflammatory cells in the perivascular and periadnexal areas in the superficial and deep dermis. The infiltrated cells were mainly lymphocytes (H&E, ×20); **b**) partial suprabasal cells acantholysis with cleft formation and spongiosis (H&E, ×400).

References

1. Grover RW. Transient acantholytic dermatosis. Arch Dermatol 1970;101:426-34.
2. Gantz M, Butler D, Goldberg M, et al. Atypical features and systemic associations in extensive cases of Grover disease: a systematic review. J Am Acad Dermatol 2017;77:952-7.
3. Errichetti E. Dermoscopy in general dermatology (non-neoplastic dermatoses): pitfalls and tips. Int J Dermatol 2021;60:653-60.
4. Giacomel J, Zalaudek I, Argenziano G. Dermatoscopy of Grover's disease and solitary acantholytic dyskeratoma shows a brown, star-like pattern. Australas J Dermatol 2012;53:315-6.