CORRESPONDENCE

Unilateral discoid lupus erythematosus at the site of a healed abrasion wound: an illustration of isotopic response

Case report

A 35-year-old man presented in February 2010 with a 3-year history of asymptomatic scaly erythema on his right face. Initially, some asymptomatic red-purple, pea-sized papules developed on his right cheek. The papules then increased in number and extended gradually, forming confluent plaques on his right face in 2 years. The skin lesion, however, has been confined to his right face since onset. The patient did not recall any local trauma history but on review of his old medical chart, he had an abrasion wound on the same site of his right face from a car accident, which brought him to our Emergency Department in 1999. He denied any history of photosensitivity or other systemic symptoms. No family history of collagen diseases was noted. He had been treated unsuccessfully with topical corticosteroid ointment and topical Chinese herbal medicine in private clinics before he came to our hospital.

On physical examination, erythematous scaly plaques and papules were found on his right face (Figure 1). The following laboratory investigations were within normal limits, including complete blood cell count, erythrocyte sedimentation rate, creatinine, urine analysis, antinuclear antibody, anti-dsDNA, antiribonucleoprotein, anti-Sm, anti-Ro, and anti-La. A skin biopsy was taken from his right cheek. Histological examination revealed epidermal atrophy, follicular plugging, vacuolar degeneration of the basal layer, basement membrane thickening, and mononuclear infiltrates around perivascular and periadnexal areas (Figure 2). These findings are consistent with discoid lupus erythematosus (DLE).

The patient received oral hydroxychloroquine sulfate 800 mg/d and topical potent corticosteroid ointment once daily for 4 months with significant improvement. No adverse effect was noticed.

Discussion

DLE is an autoimmune skin disease that may or may not have systemic involvement. It occurs most commonly in the third and fourth decades of life and it is the most common form of cutaneous lupus erythematosus. DLE clinically presents as one or multiple sharply demarcated scaly erythematous plaques that can later lead to atrophy and scarring. DLE lesions are most frequently encountered on photodistributed areas with a predilection for face, scalp, and ears. However, lesions can also be disseminated throughout the body surface. Generalized DLE has higher risks of associated systemic involvement than localized DLE.1

Unilateral distribution of cutaneous lupus erythematosus is rare. Some reported cases of cutaneous lupus erythematosus showed unilateral linear distribution following the lines of Blaschko.2,3

Figure 1 (A) One year after the car accident, the abrasion wound on his right face healed without obvious scar or hyperpigmentation. (B) Erythematous scaly plaques and papules have been confined to his right face since onset.
Our patient demonstrated unilateral distribution of DLE on a clinically normal appearing occult abraded facial wound, representing an isotopic response. Isotopic response refers to the occurrence of a new skin disease at the site of an unrelated and already healed one. It was first described by Mason4 in 1955. He reported 26 cases of malignant tumors that grew at the sites of previous herpes infections. This phenomenon was first named “isoloci response” until Wolf et al5 replaced the name by “isotopic response” in 1995. The name was derived from Greek words “iso,” meaning equal and “topos,” meaning place, thus “isotopic” literally means “at the same place.” The etiologies of isotopic response are still not well known and viral, immunological, vascular, and neural factors may all play a role.6–8

There are many therapeutic options for DLE. Our patient was treated with oral hydroxychloroquine sulfate 800 mg/d and topical potent corticosteroid ointment once daily for 4 months with significant improvement.

The unique distribution of skin lesions remains intriguing and sometimes unexplained. As illustrated in our case, an old wound with normal clinical appearance may continue to serve as locus minoris resistentia for the other skin diseases years after the injury and showed lateralization of skin lesions.

Wei-Chih Ko, Chih-Ming Hung, Wang-Cheng Ko, Yu-Fu Chen
Department of Dermatology, Show-Chwan Memorial Hospital,
Changhua city, Taiwan

Tsen-Fang Tsai*  
Department of Dermatology, National Taiwan University Hospital, Taipei, Taiwan  
*Corresponding author. Department of Dermatology,  
National Taiwan University Hospital, No. 7, Chun-Shan South Road,  
Taipei 100, Taiwan  
E-mail address: tftsai@yahoo.com (T.-F. Tsai)

References