International Journal of Women's Dermatology 5 (2019) 387–388

Contents lists available at ScienceDirect

International Journal of Women's Dermatology

Case Letter

Chronic erythema nodosum with koebnerization to plaque psoriasis☆,☆☆

Dear Editors,

A woman in her 20s with a history of severe plaque psoriasis presented with painful bumps on her lower legs. She had no history of similar lesions. Her medications included cyclosporine, hydroxyzine, and topical steroids (clobetasol, triamcinolone, and desonide). Of note, she had no history or current use of antibiotics or oral contraceptives. Physical examination revealed tender, erythematous, nonulcerated nodules on the bilateral shins. These lesions did not radiate or appear elsewhere on the body, and no other abnormal skin findings were present. Moreover, the patient generally appeared to be well, and lymphadenopathy was absent. A diagnostic punch biopsy was performed, and the histopathology results showed a dense neutrophilic infiltrate and negative staining for bacteria, fungi, and mycobacteria. The lesions self-resolved soon thereafter, and further work-up was deferred. Adalimumab therapy was then initiated to treat her psoriasis.

Over the following year, the patient's psoriasis initially improved on adalimumab 40 mg every other week, but after several exacerbations, the dose frequency was increased to every week. Her psoriasis responded and remained stable on this dosing, but the tender nodules on her shins continued to recur and self-resolve every few months. During this time, the patient denied any fever, malaise, gastrointestinal symptoms, respiratory symptoms, or menstruation changes. She further denied any trauma to the shins, and QuantiFERON-TB Gold testing results were negative. The patient continued to appear well and report generally good overall health, and physical examination results remained within normal limits, with the exception of the recurring tender nodules on her shins. Given this history, no imaging was performed due to a lack of concern for systemic disease.

Nearly 2 years after the first appearance of these lesions, the patient presented for routine follow-up and was found to have new psoriatic plaques directly overlying the areas where her most recent tender nodules occurred (Fig. 1). These plaques are uniformly circular, mimicking the preceding tender nodules in that location. During this time, the patient had no modifications to her medications aside from discontinuation of cyclosporine and continuation of weekly adalimumab.

Given the patient's history of tender, erythematous nodules on the shins and characteristic histopathology of a neutrophilic infiltrate, erythema nodosum (EN) is the most likely diagnosis. EN is often associated with an underlying condition, such as infection, inflammatory bowel disease, malignancy, various rheumatologic disorders (e.g., sarcoidosis, Behçet disease, Sweet syndrome), and numerous medications (e.g., oral contraceptives, antibiotics, salicylates). Oral contraceptives are a particularly important etiology to consider in a woman of reproductive age, especially if EN recurrences coincide with the menstrual cycle (Winkelman, 1978). However, no etiology can be determined in up to 60% of reports in the literature (Requena and Yus, 2008), as appears to be the case for our patient, who had no signs or symptoms of underlying conditions and no history or current use of medications associated with EN.

Therefore, the intermittent, recurrent nature of this patient's lesions with no identifiable cause is consistent with chronic EN (CEN), which tends to occur in generally healthy patients without serious systemic disease (Fine and Meltzer, 1969). Furthermore, there is no suspicion for EN from tuberculosis while undergoing anti-tumor necrosis factor therapy given this patient's consistently

Fig. 1. Erythematous, non-ulcerated, well-circumscribed, circular plaques on right shin, directly overlying areas where tender nodules previously occurred.

☆ Financial Disclosure(s): The author(s) have no proprietary or commercial interest in any materials discussed in this article. Mary Patricia Smith, Karen Ly, and Quinn Thibodeaux have no disclosures. Tina Bhutani has received research funding from the National Psoriasis Foundation and has served as a research investigator and/or consultant for Eli Lilly, Janssen, Merck, Celgene, and Regeneron.
☆☆ No human subjects were included in this study. No animals were used in this study.

https://doi.org/10.1016/j.ijwd.2019.08.009

negative QuantiFERON-TB Gold test results at annual screenings. Although there are rare case reports of anti-TNF medications, such as adalimumab, being associated with EN independent of tuberculosis status (Dalmau-Carola, 2013), this cause is unlikely given that the nodules occurred prior to the initiation of adalimumab. Despite the most likely idiopathic nature of this patient's CEN, close follow-up is critical to physically examine the patient and ask any patient with CEN appropriate screening questions about gastrointestinal, respiratory, or other systemic disease.

The appearance of psoriatic lesions in previously uninvolved skin as a consequence of skin injury is known as the Koebner phenomenon (Weiss et al., 2002). The interval from injury to koebnerization varies between patients, ranging from days to months to years. Therefore, this patient's presentation is consistent with CEN with koebnerization to plaque psoriasis, which has not previously been reported in the literature and is a unique observation of high clinical value.

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Mary Patricia Smith, BS *
Karen Ly, BA
Quinn Thibodeaux, MD
Tina Bhutani, MD
Department of Dermatology, University of California, San Francisco, CA, United States
* Corresponding author.
E-mail address: mary.smith2@ucsf.edu (M.P. Smith)
Received 20 May 2019
Received in revised form 14 August 2019
Accepted 26 August 2019