Unusual Case of Granuloma Annulare Associated with Diabetes Mellitus

Dear Editor,

Granuloma annulare (GA) is an asymptomatic, chronic, and relatively common granulomatous skin condition which presents with annular papules usually slowly progressing into plaques on the extremities and the trunk. It usually presents with non-scaly, erythematous, annular plaques on the distal extremity (1,2). The pathogenesis of GA is still unknown, although a variety of possible factors contributing the disease have been reported, including drugs (3), insect bites, sun exposure, trauma, vaccinations, and viral infections (e.g. hepatitis B, hepatitis C, HIV, Epstein-Barr virus) (1). Several cases in which GA developed on residual skin changes from herpes zoster have also been reported (4).

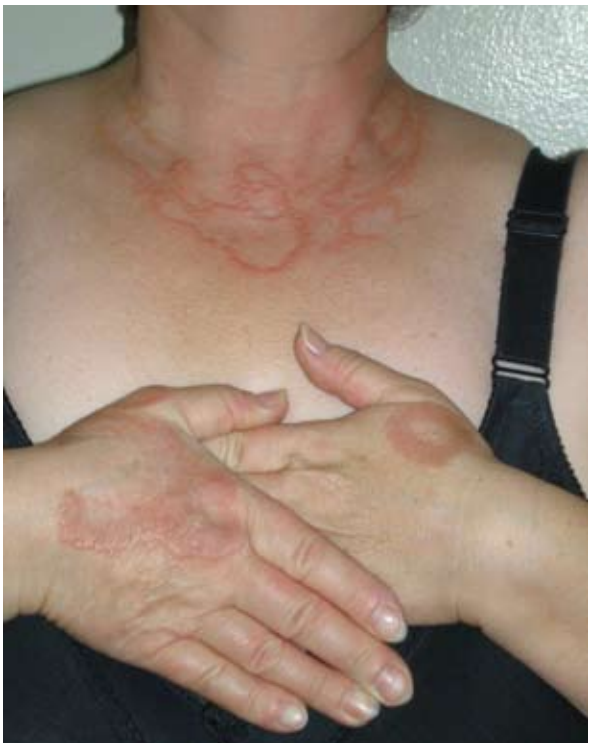

Figure 1a. Erythematous-livid plaques on the dorsum of the patient's hands and linear and circular lesions on the patient's neck.

A 47-year-old woman presented with erythematous-livid plaques on the dorsa of her hands and linear and circular lesions on her neck, gradually spreading for the last 4 months prior to admission at our Department (Figure 1a and Figure 1b). She reported excessive thirst and sweating in the last 30 days, but did not consider it significant since it was summer. The patient was otherwise healthy and was not taking any medications. Mycological swabs taken from the dorsal parts of both hands and the neck were negative. Biopsy of the skin changes was consistent with GA, showing palisading granulomatous inflammation which surrounded degenerated collagen within the dermis. A routine laboratory check revealed increased levels of glucose (23 mmol/L) and HgbA1C, while lipid and thyroid hormone levels were normal. Fasting blood sugar lever was 17 mmol/L. Therapy with topical corticosteroid (betamethasone cream) for skin lesions was initiated and applied two times daily for 2 weeks. The patient was immediately referred to an endocrinologist and insulin therapy was initiated due to diabetes mellitus. Complete remission of the skin changes was observed on the follow-up visit after 3 months.

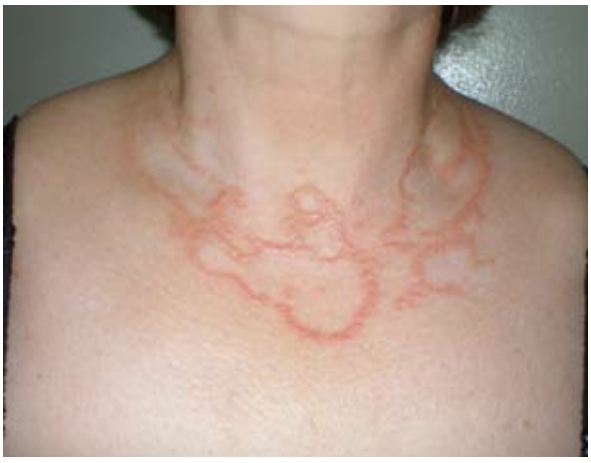

Figure 1b. Linear and circular lesions on the patient's neck.

There are many clinical variants of GA such as localized, generalized, disseminated, subcutaneous, arcuate dermal erythema, and perforating GA (1). The localized form of GA is most common with annular plaques on the distal extremities. In addition to the typical lesions on the dorsal side of both hands, our patient also presented with atypical, circular lesions around her neck. The relationship between GA and systemic diseases such as diabetes mellitus, thyroid disorders, dyslipidemia, and malignancies remains unclear (5). It is also uncertain whether genetic factors influence susceptibility to GA. Familial cases have been documented, but studies investigating the association between the disease and human leukocyte antigen (HLA) genes have yielded inconsistent results (6). Increased frequency of HLA-B35 in patients with the generalized form has been reported in a few studies (7).

GA mostly affects children and young adults, mostly women. Many cases of GA resolve spontaneously within 2 years, but relapses occur in many patients. Treatment is divided into localized skin therapies and systemic therapies (1). High potency topical corticosteroids along with intralesional corticosteroids are the most common localized treatments (8). Systemic therapy includes corticosteroids, chloroquine, dapsone, and isotretinoin (1,9). Cryotherapy and UV-therapy can also be used, although with limited efficacy (10).

GA is a common idiopathic disorder of the dermis and subcutaneous tissue that can be associated with a variety of underlying conditions such as diabetes mellitus. The relationship between GA and diabetes mellitus is still unknown. Since skin lesions preceded the diagnosis of DM in our patient and complete remission of skin changes occurred with induction of insulin therapy, it is important to perform routine laboratory test in every patient.

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