

Granuloma Annulare Arising at Sites of Healed Herpes Zoster: A Case Report

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A 19 year old, otherwise healthy male patient who developed granuloma annulare at the sites of previous herpes zoster infection is presented. Only few similar cases have been reported.

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Granuloma annulare is a chronic benign inflammatory dermatosis of unknown etiology. It can affect any age group, but it is more common among those aged 30 years or less.

Granuloma annulare has been described at sites of healing tuberculin test^{1,2} and at sites of previously documented herpes zoster infection^{1,3,4}. Preceding trauma⁵, sun exposure⁵, insect bite^{6,7}, varicella infection⁸ and verruca vulgaris⁹ have also been associated with the development of granuloma annulare. We present a young patient who developed granuloma annulare at the sites of healed herpes zoster infection.

THE CASE

In December 1997 a 19 year old, otherwise healthy Jordanian male patient presented to the dermatology clinic with mildly itchy skin eruption over his right upper back of two years duration at the same sites of a healed previous skin lesions which were diagnosed as herpes zoster three months before the appearance of the present lesions. The course of herpes zoster was smooth.

On skin examination there were multiple dark red, firm papules and plaques and few hyperpigmented macules over his right upper back in a zosteriform distribution (Figure 1).

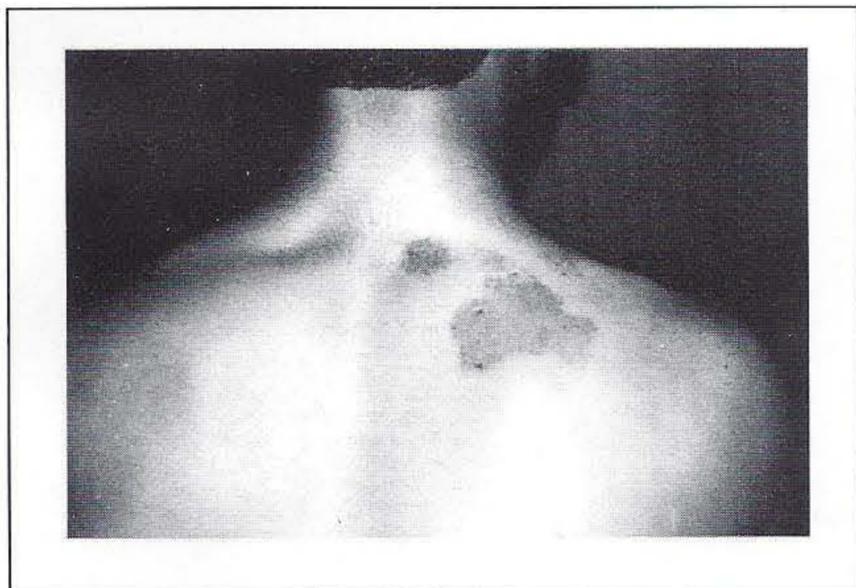


Figure 1. Multiple dark red papules and plaques and few hyperpigmented macules in a zosteriform pattern in the right upper back.

Skin biopsy was performed and showed moderately dense mid-dermal interstitial histiocytic infiltrate, containing few multinucleated giant cells and few eosinophils with increased dermal mucin and foci of altered dermal collagen consistent with granuloma annulare. PAS stain was negative for fungal organisms. Other laboratory and radiological tests including complete blood count and differential, ESR, fasting blood sugar, glucose tolerance test and chest X-Ray were normal.

The patient was started on topical steroid (Betamethazone propionate 1%). Two months later, he came back for follow up and showed good symptomatic relief and regression of some lesions.

DISCUSSION

Granuloma annulare has different clinical and histopathological presentations. Clinically there are; localized, generalized, erythematous, subcutaneous and perforating types¹⁰⁻¹². Histologically two patterns of granuloma annulare can be seen¹⁰⁻¹²; interstitial pattern and palisading pattern. Combination of these two histological patterns can be seen in the same lesion¹¹.

Granuloma annulare arising at the site of previous herpes zoster is rare and to the best of our knowledge only nine cases (except our case) have been reported including one case of granuloma annulare perforans¹¹. Four patients out of the reported nine cases had chronic lymphocytic leukemia¹³ and one patient had Lennert's lymphoma (Lymphoepithelial cellular lymphoma)¹¹. Granuloma annulare arising at the sites of previous herpes zoster infection has also been reported to occur in healthy persons^{14,15} as it is the case in our patient.

Granuloma annulare can occur at the site of resolving and healed lesions of herpes zoster¹⁵. The onset of granuloma annulare after herpes zoster infection varied from one week to eight months, but usually within two months¹⁴. In our patient the onset of granuloma annulare lesions was three months after herpes zoster infection.

Other granulomatous reaction that can develop in herpes zoster scars is sarcoidal granuloma¹⁶. Herpes zoster can be followed locally by other skin diseases such as psoriasis,

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morphea, HIV-associated Kaposi's sarcoma, and leukemic infiltrate^{11,17}.

The occurrence of granuloma annulare at the site of previous herpes zoster infection is believed to be atypical delayed hypersensitivity immune reaction to herpes zoster /varicella virus antigen(s) or a tissue antigen altered by the virus⁶. It has also been suggested that this presentation of granuloma annulare may be as a result of Koebner phenomenon (isomorphic phenomenon)^{3,4}.

Both histopathological patterns of granuloma annulare; the interstitial and the palisaded have been described in cases of granuloma annulare arising at the site of previous herpes zoster infection^{11,13,14,15,18}. Our patient showed the interstitial pattern. Most reported patients showed good response to topical or intralesional steroid therapy¹⁵ as did our patient.

CONCLUSION

In conclusion one should think of granuloma annulare in a patient who had herpes zoster infection and started to have papular lesions at the sites of resolving or healed herpes zoster lesions. This zosteriform pattern of clinical presentation can be added to the rare clinical variants of granuloma annulare.

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