Papular Granuloma Annulare with Subcutaneous Granulomatous Reaction Induced by a Bee Sting

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Sir,

Granuloma annulare (GA) is a benign granulomatous disease of unknown aetiology. The most common clinical manifestation is the appearance of skin-coloured small dermal nodules arranged in an annular configuration; however, several clinical variants are known, including papular (1), perforating (2), linear (3), and subcutaneous types (4, 5). We report here a case with papular GA accompanied by an extensive subcutaneous granulomatous reaction that had peculiar clinical features that were triggered by a bee sting.

CASE REPORT

A 63-year-old man noticed a reddish, oedematous, painful swelling of the left middle finger immediately after a bee sting. The oedema was transient, but a few days after the bee sting, diffuse swelling without tenderness re-appeared and gradually, within one month, spread to both hands and all fingers. The patient was treated unsuccessfully with systemic corticosteroids (prednisolone 15 mg/day). Two months after the bee sting, he was admitted to our hospital.

On physical examination, the patient had diffusely swollen hands and fingers (Fig. 1A). There were also numerous papules scattered on the dorsal side of both hands (Fig. 1B). None of the papules had an annular configuration. Histologically, there was a focus of disorderly arranged collagen bundles and mucin deposition surrounded by palisading histiocytes and lymphocytes in the upper dermis (Fig. 2A and B). In the deep dermis and subcutaneous fat, there were granulomatous cellular infiltrates consisting of histiocytes, lymphocytes and multinucleated giant cells (Fig. 2C and D).

Blood tests, including serum angiotensin-converting enzyme, lysozyme, and HbA1c, were within normal limits. Chest X-ray showed no abnormal findings. Skin symptoms gradually but remarkably improved within 2 months after the skin biopsy.

DISCUSSION

The subcutaneous type of GA is usually characterized by single or multiple nodules present in the subcutaneous tissue. It occurs almost exclusively in children (4–6).

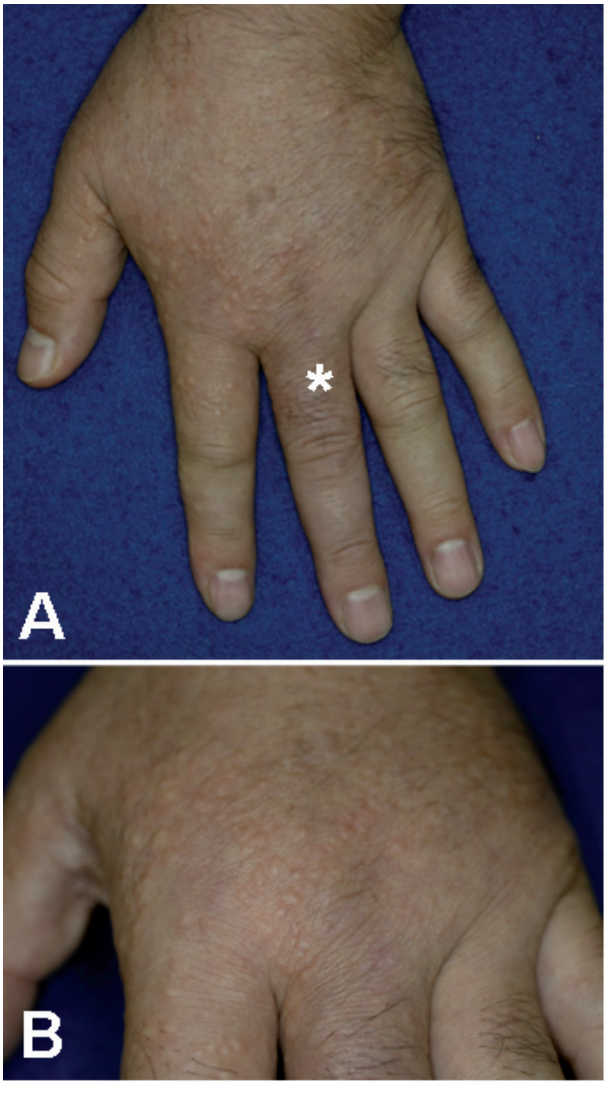

Fig. 1. Clinical manifestations. (A) Both hands and all fingers are diffusely swollen. The site of the bee sting is indicated (∗). (B) There are also small skin-coloured dermal papules.

Our case had peculiar clinical and histological features in that it occurred in an adult and was characterized by diffuse swelling of the hands and fingers accompanied by a number of small dermal papules that did not form an annular configuration. In addition, histologically, there was an extensive subcutaneous granulomatous reaction that seemed to occur in association with pa-

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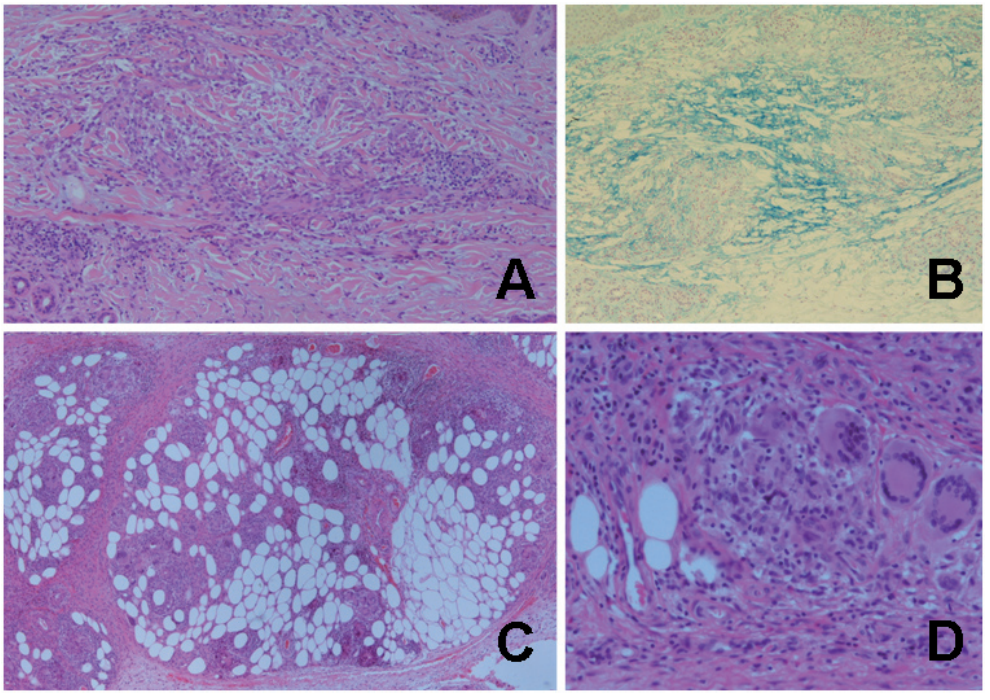

Fig. 2. Histological features. (A) The dermal skin-coloured papules consist of a small focus of palisading granuloma, with histiocytes and lymphocytes in the upper dermis (haematoxylin and eosin; H&E). (B) Alcian blue staining shows mucin deposition in the centre of the focus. (C and D) In the deep dermis and subcutaneous fat, a granulomatous reaction with multinucleated giant cells is noted (H&E).

pular GA in the upper dermis, although necrobiosis or mucin deposition could not be observed in the subcutaneous lesion. The swelling started at the site of the bee sting (the left third finger), but later spread to both hands. Although trauma, such as an insect bite (7), has been suggested as one of the triggering factors for GA, we are not aware of any previously reported cases of GA that were associated with bee stings.

Therapy for subcutaneous GA may be unnecessary, as spontaneous resolution can be expected. Skin biopsy performed to determine an accurate diagnosis has also been known to initiate resolution; however, a high incidence of recurrence has been reported in patients with the subcutaneous type of GA (5). In the present case, neither local nor systemic corticosteroids were effective. The skin symptoms improved either spontaneously or in association with the skin biopsy, and no recurrence has been noted.

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