INFLAMMATORY SKIN DISEASES (OTHER THAN ATOPIC DERMATITIS & PSORIASIS)

BACILLI-CONTAINING GRANULOMA WITH SUBSEQUENT GRANULOMA ANNULARE-LIKE ERUPTIONS FOLLOWING BACILLUS CALMETTE–GUÉRIN VACCINATION

Sy Yang [1]

Kaohsiung Medical University Hospital, Department Of Dermatology, Kaohsiung, Taiwan [1]

Background: Bacille Calmette-Guerin (BCG), an attenuated strain of Mycobacterium bovis, is currently the only licensed tuberculosis vaccine in use. Cutaneous manifestations after BCG inoculation into the dermis may provide an important sign of the host immune response.

Observation: A 3-month-old full-term male infant received BCG vaccination at 1 month of age. A reddish papule was noted at the vaccination site 1 month later. This lesion gradually became an indurated nodule. Then, several scattered erythematous papules and annular plaques, granuloma annulare (GA)-like in appearance, developed on the left arm and back over the subsequent 1 month period. Laboratory values including complete blood count, antinuclear antibodies, and immunoglobulins were within normal limits. An excisional biopsy was performed on the nodule at the vaccination site. Histopathology showed granulomatous inflammation consisting of histiocytes, lymphocytes, and numerous Langerhans' giant cells in the dermis, and acid-fast stain demonstrated bacilli in the Langerhans' giant cells. He was examined 1 week after the skin biopsy. All the GA-like lesions became flat with residual hyperpigmentation without any medical treatment. These lesions came and went for another 4 weeks and finally resolved completely with no further relapse over an 18-month follow-up period.

Key message: Recent studies have demonstrated that regulatory CD4+ T cells, interleukin 17-producing T helper 17 cells, CD8+ T cells, γδ cells, natural killer cells, and components of innate immunity play a role in BCG-induced immunity. Further studies on the dermal immune system are necessary to clarify the mechanisms of insufficiency of macrophage phagocytosis of bacilli in this infant. The case provides insight into how BCG vaccination can be an antigen-presenting event to cause GA, a common pediatric skin disease.