



Transient shift toward T helper 1 cytokine production by peripheral blood mononuclear cells following successful treatment of patients with atopic dermatitis

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Background: The relationship between the severity of atopic dermatitis (AD) and involvements of T helper (Th) 1 and Th2 cytokines has not yet been clarified yet. The aim of the present study was to understand the relationship between the severity of AD and the involvement of Th1 and Th2 cytokines. Thus, we determined cytokine production in vitro by peripheral blood mononuclear cells (PBMC) obtained from patients with AD before and after treatment.

Methods: Cytokine production by PBMC obtained from patients with AD following antigen stimulation in vitro were compared before and after treatment. Enzyme-linked immunosorbent assays were used to measure cytokines. Treatment was undertaken with topical steroids and oral antihistamines.

Results: Interferon- γ and interleukin (IL)-12 production increased significantly after 2 weeks treatment ($P < 0.005$ and $P < 0.05$, respectively), while IL-10 production decreased significantly after 2 and 4 weeks treatment ($P < 0.01$). Granulocyte-macrophage colony stimulating factor and tumor necrosis factor- α production increased significantly after treatment ($P < 0.05$ and $P < 0.05$, respectively). The production of IL-1 β , IL-4 and IL-13 was not changed significantly.

Conclusions: The T cells obtained from patients that were involved in the active inflammation of atopic dermatitis were predominately of the Th2 type and, in addition, the function of these T cells was likely to be affected by the intensity of the skin inflammation.

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