In Th2-biased lymphatic filarial patients, responses to purified protein derivative of Mycobacterium tuberculosis remain Th1.

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Abstract

Natural infection with filarial nematode parasites results in immune responses skewed towards T helper (Th)2, while infection with mycobacteria shows many characteristics of a Th1-dominated response. Cytokines typifying Th1, interferon (IFN)-gamma, and Th2, interleukin (IL)-4, were measured following stimulation of peripheral blood mononuclear cells from filarial patients with Brugia malayi adult worm antigen (BmA) and purified protein derivative of Mycobacterium tuberculosis (PPD). In response to PPD, only 1 out of 81 patients produced IL-4, and this at an amount (4.4 pg/ml) just above the detection limit, whereas 59% of patients responded to BmA by releasing IL-4. Conversely, substantial quantities of IFN-gamma were released in response to PPD (geometric mean 37.43 U/ml) compared to low BmA-stimulated IFN-gamma production in the same patients (geometric mean 5.02 U/ml). These results demonstrate that the strong skewing of the cytokine environment towards Th2 in filarial patients in vivo does not influence the predominance of a Th1 type immune response to PPD.

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