Differential expression of IgE and IgG4 specific antibody responses in asymptomatic and chronic human filariasis.


Abstract

A population of 164 adult individuals resident in an area endemic for Brugia malayi lymphatic filariasis has been studied for humoral immune responses to filarial parasites. Antibody levels to Ag extracted from adult worms were determined for each of the IgG subclasses, for IgM and for IgE. The dominant isotype of antifilarial antibody was IgG4, which represented 88% of total IgG in asymptomatic microfilaremics, most of whom possessed 100 to 1000 micrograms/ml of specific antibody of this subclass (geometric mean 762 micrograms/ml). Patients with chronic disease (elephantiasis), who were generally amicrofilaremic, had substantially higher levels of IgG1, IgG2, and IgG3, but a 3.4-fold lower geometric mean level of specific IgG4 (222 micrograms/ml) than asymptomatics with or without microfilaremia. In contrast, specific IgE antibody levels in cases of elephantiasis were on average 4.5 times higher than those found in the asymptomatic carrier state. The majority of microfilaremics were therefore typified by extremely high specific IgG4 concentrations and relatively low IgE reactivities, whereas clinical cases tended to show the reverse relationship. The possible roles of these isotypes and the implications of changing IgG4/IgE balances in disease are discussed.

PMID: 8473742 [PubMed - indexed for MEDLINE]