

Serum IgE levels in amoebiasis

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Summary

Elevated levels of serum immunoglobulin E (IgE) are found in many parasitic diseases. In order to determine the influence of *Entamoeba histolytica* on IgE levels of clinically symptomatic patients with intestinal amoebiasis, a controlled study was performed. There was no difference between the serum IgE values from Brazilian patients with amoebiasis and those from age-, race- and sex-matched normal Brazilian controls. Based also on our previous similar studies on giardiasis and Chagas' disease, we conclude that protozoan infections do not elevate serum IgE levels.

Introduction

There is evidence that helminths may potentiate IgE antibody responses (Jarrett & Kerr, 1973). IgE levels are elevated in individuals infected with *Ascaris lumbricoides*, *Toxocara canis*, *Ancylostoma* spp., *Trichinella spiralis*, *Capillaria philippinensis*, *Schistosoma* spp., *Echinococcus* spp., *Trichocephalus trichuris*, *Oxyuris vermicularis*, *Strongyloides stercoralis* and *Filaria* spp. (Jarrett & Kerr, 1973; Ishizaka & Dayton 1972; Rosenberg, 1970, 1971; Spitz, 1972). We have previously reported that subjects with *Giardia lamblia* (Geller *et al.*, 1978b) and *Trypanosoma cruzi* (Geller *et al.*, 1978a) infections do not have elevated serum IgE levels.

The present controlled study was undertaken to determine whether symptomatic patients with *Entamoeba histolytica* infections had elevated IgE levels in their serum.

To our knowledge the influence of *Entamoeba histolytica* on circulating IgE levels has not been previously investigated in a controlled manner.

Materials and methods

Subject selection

Sera from fifteen patients with clinically symptomatic intestinal amoebiasis and

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fifteen normal controls were obtained. All subjects in the test group had positive fecal examinations for *Entamoeba histolytica*, and no other associated parasites. They had no personal or family history of asthma, atopic dermatitis, rhinitis or allergies. No other diseases or malnutrition were present. Each patient was carefully matched individually with a normal control for age (± 3 years), sex, race, and socio-economic status. Normal controls were defined as healthy individuals with no personal or family history for asthma, atopic dermatitis, rhinitis or allergies, and negative stool examinations for ova and parasites. There were thirteen males, two females, two black, two mulatto and eleven Caucasian subjects in each group. The average age was 31.6 years (range 16 to 45 years) in the *E. histolytica* group and 32.13 years (range 15 to 46 years) in the normal control group.

IgE determinations

Serum IgE levels were measured by the Phadebas Kit method (Pharmacia Diagnostic AB, Uppsala, Sweden).

Results

The serum IgE levels in the test group (*E. histolytica*) were not different from those of the normal control group. Statistical analysis using the Mann-Whitney *U* test showed that $Z = 0.125$ (not statistically significant). One-third of the individuals in both the test and control groups had an IgE value greater than 915 iu/ml (Fig. 1) (normal serum IgE range used in our laboratory is 33 to 915 iu/ml).

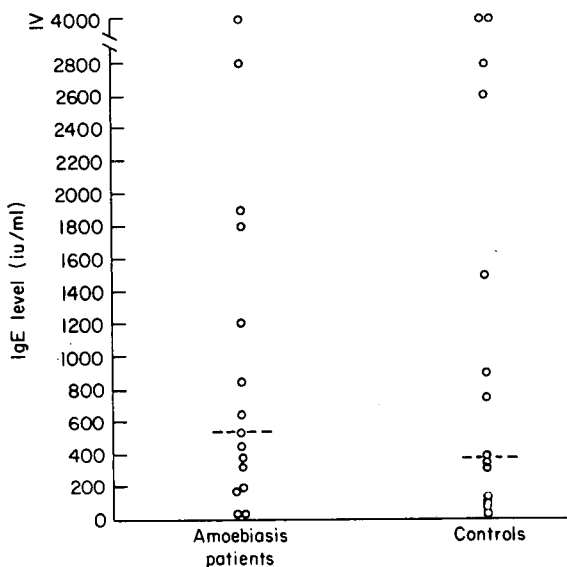


Fig. 1. Distribution of serum IgE levels in patients with amoebiasis and in normal controls; (---) median.

Discussion

Our data showed no difference between the serum IgE levels of patients with intestinal amoebiasis and the IgE levels of matched normal controls from a geographic area where parasitic infection is endemic (State of Rio de Janeiro, Brazil).

We previously failed to show an elevation of serum IgE levels in giardiasis and in trypanosomiasis. Hence the data suggest that protozoan, contrary to helminthic, infections do not seem to increase serum IgE levels.

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