Can humoral host immune responses prevent Giardia infection?: The urinary antibody titers in Indonesian school children

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Summary

Although some host immune status has been considered to be engaged in the differences of symptoms in giardiasis and also in the low prevalence of Giardia intestinalis in higher age, the true picture remains unrevealed. To evaluate the role of host immune responses in G. intestinalis infection in endemic areas, urinary and fecal specimens were collected from Indonesian healthy school children of 4–15 years old. Urine samples were subjected to the analysis of antibody titers and feces were examined microscopically. Comparatively lower positive rates of Giardia infection in higher age group were confirmed, i.e., nursery (<7 years old, 16.8%), primary (7–12 years old, 10.9%) and Junior high school (13–15 years old, 7.0%), whereas no significant difference of urinary antibody titer between age groups was not observed.

Introduction

Giardiasis is the most common protozoon diarrhea worldwide. Infection with Giardia intestinalis (syn. G. duodenalis and G. lamblia) is transmitted through fecal oral routes via food or water contaminated with cysts. Although most of the infection resulting asymptomatic, the disease also could take prolonged diarrheal form and cause malabsorption, malnutrition and weight loss [1].

It is interesting that those matured adults living in endemic areas seem to possess a certain level of resistance against the infection that has been observed as the low incidence of giardial infections in higher age. Moreover, the traveler’s diarrhea that only travelers from developed areas onset symptomatic giardiasis in an endemic area, even though the residents get nothing suffered, is also indicating a possibility of engagement of some host immune status [2].