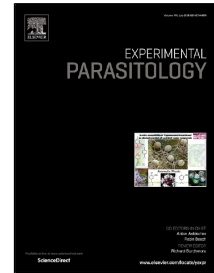


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Longitudinal cohort study of serum antibody responses towards *Giardia lamblia* variant-specific surface proteins in a non-endemic area

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Title: Longitudinal cohort study of serum antibody responses towards *Giardia lamblia* variant-specific surface proteins in a non-endemic area

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Abstract

Introduction/Aims: The long-term humoral immune response after a natural giardiasis infection is not well understood. The aim of this study was to evaluate longitudinal serum IgA and IgG/M responses towards conserved regions of two *Giardia* variant-specific surface proteins (VSP) and whether these responses differ between *Giardia* assemblages and durations of infection.

Methods: We recruited thirty *Giardia*-positive patients, mainly returning travellers, and eighteen healthy adults presumed to be *Giardia* unexposed. Blood samples were collected before treatment, and at 6 weeks, 6 months and 12 months after the infection cleared. We used a multiplex bead-based flow cytometry immunoassay to measure *Giardia* specific IgA and IgG/M responses targeting two recombinant antigens from *G. lamblia* VSP proteins 3 and 5 (VSP3 and VSP5).

Results: Serum levels of anti-VSP5 and anti-VSP3 IgA decreased rapidly to low levels after treatment but continued to be substantially higher than that of presumed unexposed controls even after 6 and 12 months. The IgG/M response decreased more gradually but remained significantly higher than presumed unexposed controls at all time points, except for anti-VSP3 at 12 months. There were no significant difference in responses for infections with

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