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DIFFERENTIAL IGG SEROREACTIVITY TO *Toxocara canis* IN IMMUNOCOMPETENT AND AUTOIMMUNE RHEUMATIC PATIENTS: FREQUENCY, ASSOCIATIONS, AND FUNCTIONAL CORRELATIONS

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Toxocara canis is a zoonotic helminth transmitted through ingestion of embryonated eggs from contaminated soil, water, or food, and by consuming raw or undercooked meat from paratenic hosts such as poultry, swine, and small mammals. Immunocompromised individuals may be more vulnerable to chronic infection.

This study evaluated IgG seroreactivity to *T. canis* in immunocompetent (children and adults) and autoimmune rheumatic patients, comparing antibody frequency within and between these groups and their controls.

A total of 424 serum samples were analyzed: 168 from immunocompetent individuals (51 children, 117 adults) and 256 from immunosuppressed patients (88 rheumatoid arthritis [RA], 57 spondyloarthritis [SpA], 76 systemic lupus erythematosus [SLE], 18 other lupus [LU], and 17 other autoimmune rheumatic diseases). ELISA was performed using *Toxocara canis* excretory-secretory (Tc-TES) proteins, and positives were confirmed with a highly specific recombinant chimeric protein (99.3% sensitivity, 97.8% specificity).

Seroprevalence was 8.93% in immunocompetent individuals, 32.42% in immunosuppressed patients, and 23.11% overall. RA and SLE patients had higher IgG anti-*T. canis* seroreactivity ($p = 0.0071$ and $p = 0.0007$) and antibody frequency ($p = 0.0130$ and $p < 0.0001$) than controls. In RA, the IgG reactivity index showed a significant inverse correlation with physical disability (HAQ-DI, $r = -0.2508$, CI = -0.4423 to -0.0373, $p = 0.0092$).

RA patients had significantly higher seroreactivity than adults ($p = 0.0430$) and children ($p < 0.0001$), SLE patients showed higher values than adults ($p = 0.0445$) and children ($p < 0.0001$), and SpA patients had higher levels than children ($p = 0.0081$). Among immunocompetent individuals, adults showed greater seroreactivity ($p = 0.0009$) and antibody frequency ($p = 0.0217$) than children, suggesting increased exposure with age.

These findings highlight distinct serological profiles in immune-compromised and healthy individuals, reinforcing the need for further research on *T. canis* exposure, immune responses, and clinical impact.

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