

Parasite specific IgG and immune complex levels in serum samples for strongyloidiasis diagnosis in alcoholics

Alana Arantes Santos Gonçalves¹, Camila de Almeida Lopes^{2*}, Ana Lúcia Ribeiro Gonçalves², Marcelo Arantes Levenhagen², Henrique Tomaz Gonzaga², Luiz Carlos Marques de Oliveira¹, Julia Maria Costa-Cruz²

¹ Programa de Pós-Graduação em Ciências da Saúde, Faculdade de Medicina, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brasil.

² Laboratório de Diagnóstico de Parasitoses, Instituto de Ciências Biomédicas, Universidade Federal de Uberlândia, Uberlândia, Minas Gerais, Brasil

*camiladealmeidalopes@hotmail.com

Strongyloidiasis is a human parasite infection caused by the nematode *Strongyloides stercoralis* and is considered a public health problem. Early detection of strongyloidiasis is extremely important in immunosuppressed patients due to high rates of mortality and morbidity found in this group, which includes alcoholics. The aim of this study was to evaluate parasite specific IgG and immune complex (IC) levels in serum samples from alcoholics and nonalcoholics individuals and compare them with the results found in a parasitological method. A total of 140 serum samples were collected from male individuals divided into two groups: 70 alcoholics (G1) and 70 nonalcoholics (G2). Three stool samples were collected from each individual to perform the parasitological test of choice, Agar Plate Culture (APC). Serum samples were analysed by ELISA for detection of IgG antibodies using detergent fraction of *Strongyloides venezuelensis* third-stage infective larvae, and detection of immune complexes using IgG anti-*S. venezuelensis* produced in rabbits immunized with total saline extract of third-stage infective larvae. Data were analyzed using Fisher's exact test to compare the frequency of positivity between the two groups in both parasitological and serological tests, followed by Wilcoxon and Mann Whitney's tests for comparison of ELISA Index (EI) of IgG anti-*Strongyloides* and IC. The correlation between the groups was analyzed by Spearman (r_s) coefficient and statistical significance was set at $p < 0,05$. APC found presence of larvae of *S. stercoralis* in 12 (17.1%) alcoholic individuals and in 1 (1.4%) nonalcoholics ($p = 0.0022$). In G1, IgG antibodies and immune complexes were detected in 39 (55.7%) and 27 (32.8%) serum samples, respectively ($p = 0.0002$). In G2, IgG and immune complexes were detected in serum from 25 (35.7%) and 12 (17.1%) individuals, respectively ($p = 0.0044$). When comparing the two groups, G1 showed higher IC ($p < 0.0047$) and IgG ($p < 0.0065$) levels than G2. Spearman test found a positive correlation between IgG and IC in G1 ($r = 0.3156$, $p = 0.0078$) and no correlation in G2 ($r = -0.1523$, $p = 0.2082$). In conclusion, ELISA showed a higher positivity of strongyloidiasis infection in alcoholic individuals than the parasitological method (APC). In the serological methods, alcoholic individuals had higher levels of IgG and IC when compared with nonalcoholic ones.

Key-words: Alcoholism, strongyloidiasis, serological diagnostic, agar plate culture.

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