

EFFECT PRODUCED BY MUSCLE LARVAE OF *TRICHINELLA SPIRALIS* ON THE DESIALYLATION APPLYING DIGITAL IMAGE ANALYSIS

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Sialic acids contained in glycoproteins and glycolipids are involved in various biological functions Today is considered to be involved in the host-parasite interaction. The infective form of trichinosis is housed in the muscle, which is rich in sialic residues. The complex (larva-nurse cell) modulates the host immune response and it can remain viable for years. Erythrocytes (RBCs) were used in this study as a model to investigate the effect of muscle larvae (ML) of *T. spiralis* on sialic acid. It has been reported that RBCs incubated with infective larvae of *T. spiralis* exhibit higher aggregation than Control RBCs incubated with saline solution, indicating that the parasite captures erythrocyte sialic acid.

The objective was to study the desialylation produced by ML of *T. spiralis* using Digital Image Analysis.

We worked with larvae concentrates of *T. spiralis*, (8000 ± 500 larva/mL) which were incubated with an equal volume of O Group RBCs in saline and enzymatic mediums (Treated RBCs), for 120 minutes at intervals of 15 minutes. Control RBCs were incubated with equal volume of saline solution. Digital Image Analysis was applied. and the value of Isolated Cells Coefficient (*ICC*) was calculated as the difference between the number of initial individual cells (Control) and final (Treated RBCs), in relation to the number of isolated cells observed before treatment. To analyze the effect of incubation time on the *ICC* values, an analysis of variance was used to design randomized complete block.

The results showed that the average value of *ICC*, both saline and enzymatic medium, varied significantly with incubation time. It showed that the increase in the contact of the larvae with erythrocytes produces the decrease of globular sialic acid, which is reflected in higher *ICC* values. The experience would suggest that during their stay and viability in the trichina cysts, the larvae could be capturing muscle sialic acid in order to interfere and/or evade the host immune response.