

Alterations in the myenteric plexus in rats infected with *Toxoplasma gondii*

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The *Toxoplasma gondii* is the agent of toxoplasmosis. The transmission takes place with the consumption of contaminated water or food with oocysts and cysts or in a congenital way. After the host ingests the *T. gondii* cyst or oocyst, a dispersion occurs in the intestinal lumen, due to the rupture of the gastrointestinal barrier, until it reaches the bloodstream and spreading in the body of the individual. The aim of the study was to quantify the NADH-diaphorase positive (NADH-dp) neurons present in the myenteric plexus of the ileum of animals infected with oocysts of *T. gondii*. Eleven 60-day-old male Wistar rats (*Rattus norvegicus*) were used, they were divided randomly into two groups, five for control and six for the infected group, this group received, by intragastric gavage 1000 sporulated oocysts of *T. gondii* (ME-49 strain). After thirty days the rats were euthanized, had their ileum collected and submitted to the NADH-diaphorase histochemistry technique. Following microdissection, wholemount preparations with the myenteric plexus were obtained to analysis. The quantification of neurons was made in in both groups in 50 400X-magnified fields under the microscope. The statistics were done by the Shapiro-Wilk test and the comparison of data was done by the Student t test ($p < 0.05$) and were expressed by mean \pm SD. This study was approved by the Committee on Animal Experiments of the State University of Maringá by 081/2012 protocol. The results showed a statistically significant increase in the infected group (30.41 ± 3.69 neurons/field) when compared to the control group (15.58 ± 8.63 neurons/field). Therefore the infection caused a plastic alteration in the myenteric plexus from the ileum of infected rats may to prevent damages in the intestinal structure and function (ARAÚJO, 2015). We can conclude that the infection with 1000 oocysts of *T. gondii* during 30 days caused a significant neuronal increase in the myenteric plexus in the ileum of rats.

ARAÚJO, E. J. DE A. *Toxoplasma gondii* causes death and plastic alteration in the jejunal myenteric plexus. **World Journal of Gastroenterology**, v. 21, n. 16, p. 4829, 2015.