RESUMO SIMPLES - PROTOZOÁRIOS E AGENTES TRANSMITIDOS POR VETORES DE IMPORTÂNCIA EM SAÚDE

CHARACTERIZATION OF THE FCWF-4 FELINE MACROPHAGE CELL LINE INFECTED WITH THE PARASITE LEISHMANIA AMAZONENSIS AND TREATED WITH GLUCURONOXYLOMANNAN (GXM).

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Leishmaniasis is a disease caused by parasites of the genus Leishmania. Although it predominantly affects humans and dogs, studies suggest that immunosuppression caused by FIV and FeLV viruses may make felines more susceptible to Leishmania infection, potentially acting as secondary reservoirs of the disease. This study aimed to evaluate the interaction between the parasite Leishmania amazonensis (L. a.) and a feline macrophage cell line

(Fcwf-4) in vitro. We analyzed whether the presence of the fungal polysaccharide glucuronoxylomannan (GXM) from Cryptococcus neoformans, which has been shown to inhibit the activity of murine and canine macrophages, could immunomodulate feline Fcwf-4 macrophages during Leishmania infection. Initially, cell viability in the presence or absence of GXM (100 µg/mL) did not show toxicity to Fcwf-4 macrophages infected or not with L. a. Subsequently, Fcwf-4 cells were infected with L. a. In the presence or absence of GXM, the data demonstrated that Fcwf-4 cells can phagocytose L. a. promastigotes and, after 2 hours of interaction, 62% of feline macrophages were infected with L. a.; however, in the presence of GXM, this percentage was 49.03%. On the other hand, in the presence of GXM, 24% of macrophages were infected with L. a. after 48 hours, while in the control group, 10% of Fcwf-4 cells were observed to be infected with L. a. Regarding parasite load, preliminary results showed that feline macrophages treated with GXM presented 41 x 10^6 parasites/ml, while untreated cells presented 20 x 10^6/ml. Nitric oxide (NO) production did not differ between treated and untreated cells, nor between LPS-stimulated cells, compared to the control group. The data showed an approximately 1.4-fold increase in ROS production in LPS-stimulated Fcwf-4 cells, and a 1.0-fold decrease in production in GXM-treated cells, compared to control cells. Understanding the biology of feline macrophages is essential for understanding immune responses and disease mechanisms.

Palavras-chave: leishmaniasis; fcwf-4; macrophages; gxm; feline.