ATORVASTATIN INTERFERES WITH C57BL/6 MICE RESISTANCE AGAINST *LEISHMANIA MAJOR*

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Atorvastatin is a cholesterol-lowering drug that also promotes immunomodulation. The aim of this study was to investigate if atorvastatin could alter C57BL/6 mice resistance profile against *L. major*. Animals were infected with stationary forms of parasite in hind footpads. Atorvastatin (10mg/Kg per os) was administered daily in the evening starting at the second week post-infection. Phosphate-buffered saline (PBS) was used as control. The treated group presented more expressive lesion progression and higher parasitism at the infection site at 4, 8 and 10 weeks post-infection. Histopathological analyses of footpad tissue revealed a similar inflammatory infiltrate in both groups; however, in the atorvastatin-treated group more parasites and infected macrophages presenting a granulomatous aspect were visualized. Treated mice presented higher levels of IFN-γ and IL-10 in the draining lymph node. Arginase generates L-ornitine, which contributes to *Leishmania* proliferation. Therefore, uninfected mice were treated during two weeks and their peritoneal resident macrophages were collected to assay arginase activity. Treated animals presented higher arginase activity in peritoneal macrophages. These findings suggest that atorvastatin favors *L. major* proliferation and harms the parasite control modifying the immune response in C57BL/6 mice.

Key-words: atorvastatin, *Leishmania major*, immunomodulation

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