

Influence of the infection for *Leishmania major* in the lipid profile and atherogenesis in apoE deficient mice

Fernandes, L.R.<sup>1</sup>; Portugal, L.R.<sup>1</sup>; Amaral, J.F.<sup>1</sup>; Seixas, V.A.R.<sup>1</sup>; Alvarez-Leite, J.I.<sup>1</sup>

<sup>1</sup>Departamento de Bioquímica e Imunologia, ICB, UFMG, MG.

Atherosclerosis is a chronic inflammatory disease that affects arterial walls. Besides traditional risk factors, infectious agents are also related to atherosclerosis. Different from infection with other parasites, *Leishmania major* elicits a local and self-limited disease in C57BL/6 resistant mice. The aim of the present work was investigate the possible effects of *L. major* infection on lipid metabolism and on the development of atherosclerosis. Our results showed that *L. major* infected mice presented an increase in serum total cholesterol as well as in atherogenic and non-atherogenic fractions, associated to the decrease of serum and hepatic triglycerides levels. Concerning atherogenesis, *L. major* infected group showed an increase in atherosclerotic lesion and higher levels of inflammatory cells when compared to the control group. Specific *L. major* DNA was detected in the heart of infected mice, highlighting the possibility of infected-cells recruitment to the atherosclerotic lesion area. The visceral form of the disease was discarded, as confirmed by the absence of *Leishmania* in spleen and liver. We suggested that the migration of activated cells to the lesion site aggravated the inflammatory status and contributed for the atherosclerosis development. In conclusion, infection caused by *L. major* in apoE<sup>-/-</sup> mice, although not showing an important inflammatory systemic response, was able to alter the lipid profile and accelerate atherogenesis in these animals.

Key words: atherosclerosis, apoE<sup>-/-</sup> mice, infection, *L. major*.