

## Negative association between *Lactobacillus* sp from intestinal microbiota and adiponectin plasma levels In Hamsters Infected With *Leishmania Infantum*

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**INTRODUCTION:** Intestinal microbiota (MI) has an important role in resistance against pathogenic bacteria and interaction with immune system. Bacteria from genus *Bifidobacterium* and *Lactobacillus* are common members of MI, which have an important role in keeping host homeostasis. Leishmaniasis are a cluster of disease caused by protozoans of the genus *Leishmania* that are transmitted by the bite of vector insects. We have shown that bifidobacteria from MI of infected hamsters are associated to less parasite load. In this work, we evaluate associations of bacteria from MI with adipokine levels in an experimental model of leishmaniasis. **OBJECTIVES:** To evaluate the correlation between *Bifidobacterium* sp and *Lactobacillus* sp from MI and leptin and adiponectin plasma levels, in hamsters infected with *Leishmania infantum*. **MATERIAL AND METHODS:** Golden hamster (*Mesocricetus auratus*) males were infected with *L. Infantum*, and euthanized after 4 and 8 months. The body weights were monitored weekly. The parasite load was evaluated by the limiting dilution technique. The serum level of leptin and adiponectin were quantified by kit of enzyme-linked assay. Real-time quantitative PCR (qPCR) was used to quantify two groups of bacteria: *Bifidobacterium* sp and *Lactobacillus* sp. **RESULTS:** There were no body weights differences in the animals. The hamsters exhibited parasites in spleen and liver. There were no differences between infected hamsters and controls, in the levels of leptin ( $130,7 \pm 258,0$  pg/mL and  $42,83 \pm 20,55$  pg/mL,  $P= 0,5196$ , respectively) and adiponectin ( $1,468 \pm 0,9817$  µg/mL,  $1,876 \pm 1,016$  µg/mL,  $P= 0,3412$ , respectively). We found a strong negative correlation between the bacteria of the *Lactobacillus* genus (relative abundance) and level serum in adiponectin  $r= -8286$ ,  $P= 0,0416$ ). **CONCLUSIONS:** These results indicate that there are associations between adipokines and bacteria from MI. More studies are necessary to evaluate the role of these associations in the pathogenesis of visceral leishmaniasis.

Key Words: *Bifidobacterium* sp; *Lactobacillus* sp; Visceral Leishmaniasis.  
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