Gender differences in biochemical parameters in the experimental model of visceral leishmaniasis

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INTRODUCTION
Leishmaniasis are contagious diseases caused by different species of Leishmania parasites. This disease have different clinical manifestations: cutaneous leishmaniasis (CL), mucocutaneous (ML) and visceral leishmaniasis (VL) or calazar. Some alterations in biochemical parameters have been described in patients with VL and animals infected with Leishmania such as decrease in cholesterol and LDL levels. We were looking for changes in biochemical markers in experimental VL and evaluated gender differences comparing male and female hamsters infected with L. chagasi.

MATERIAL AND METHODS
Golden hamsters (Mesocricetus auratus), males (n=25) and females (n=25), were infected with L. chagasi (10⁵ parasite) in the ear and after 3, 5, 7 and 8 months were euthanized. The parasite load was evaluated in the spleen and liver and was determined by the limiting dilution technique. Albumine, cholesterol, LDL, HDL and glucose levels were quantified in serum by photometry.

RESULTS AND DISCUSSION
After 3 months of infection, parasites were detected in spleen and liver of hamsters. The parasite load was more elevated in males than females, in spleen (1.44 x 10⁸ ± 7.55 x 10⁸ parasites and 2.21x10⁵ ± 1.13x10⁵ parasites, respectively, P=0.0195) and liver (8.26x10⁶ ± 6.43x10⁶ parasite and 1.35x10⁴ ± 5.73x10⁴ parasites, respectively, P=0.0159). Only females showed alterations in biochemical parameters. Infected females exhibited lower levels of albumin (3.00±0.154g/dL and 3.82±0.198g/dL, P=0.016), cholesterol (114.0±3.962 mg/dL and 153.8±13.74 mg/dL, P=0.0317) and LDL (8.20±1.93 mg/dL and 21.40±3.50 mg/dL, P=0.0159) than controls.

CONCLUSIONS
These results indicate that there are gender differences in experimental VL. Females showed important changes in biochemical markers despite the lower parasite load.

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