Myocardial tissue damage in ovariectomized mice and experimentally infected with trypanosoma cruzi [Daño cardiaco en ratones ovariectomizados y experimentalmente infectados con trypanosoma cruzi]

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This study aimed to evaluate the damage in the myocardial tissue in ovariectomized and non-ovariectomized Balb/c mice and the relationship with inflammatory damage, number of pseudocysts and correlation with parasitemia levels and mortality after experimental infection with 2000 blood trypomastigotes from clone Dm28c of Trypanosoma cruzi. Results showed a 3-day blood prepatency and higher parasitemia levels (p<0.001) during the first 9 days of infection (p.i.) in ovariectomized females when compared with non-ovariectomized females which showed a 5-day prepatency. However, the maximum parasitemia level reached by the ovariectomized females (18.09 x 104 ± 1.66 x 104 parasites/ ml) at 11 days p.i. was lower (p<0.05) than the maximum parasitemia level of 26.03 x 104 ± 1.83 x 104 parasites/ml, observed in the non-ovariectomized females at 11 days p.i. The histopathological analysis showed a correlation between the high number of intracellular parasites (pseudocysts), the magnitude of mononuclear inflammatory infiltrate, the severity of cardiac tissue damage and the 100% mortality reached by the ovariectomized females at 21 days p.i. in comparison with the lower values and the 70% mortality showed by the non-ovariectomized females in the same period. Sexual-based differences in susceptibility or resistance to infection should not be overlooked as an additional variable but as an important risk factor in the development of infectious diseases.

Chagas disease

Histopathological study

Inflammatory infiltrate

Ovariectomy

Tissue damage

Trypanosoma cruzi strains

Blood

Mammals

Chagas disease

Histopathological study

Inflammatory infiltrate

Ovariectomy

Tissue damage

Trypanosoma cruzi

Tissue