The use of Ivermectin and DMSO in treatment of Angiostrongyliasis (Angiostrongylus cantonensis) in Wistar rats

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Resumo

Angiostrongyliasis is caused by Angiostrongylus cantonensis in humans and can cause death. To evaluate the treatment with Ivermectin and DMSO, twelve rats were infected and were divided in control (treated with dechlorinated water only), Ivermectin, DMSO and Ivermectin/DMSO (treated with both). The stool examinations in the sixth/seventh week after the infection revealed the control group presented a higher number of larvae when compared to others. In the eighth, this pattern reversed.

Keywords: Angiostrongylus cantonensis, rats, Ivermectin.

Introdução

The increase of angiostrongyliasis is a concern in Brazil as well as the severe clinical cases are a challenge for the diagnosis/treatment of this disease. It is necessary to find a treatment to eliminate the parasite and lessen the local inflammatory response, thus avoiding worsening the patient’s clinical status.

Resultados e Discussão

Twelve male Wistar rats were infected through gastro-oesophageal tubing, with 20 larvae of A. cantonensis each. The animals were divided into four groups: control; DMSO; Ivermectin; Ivermectin and DMSO. The treatments started a week after the infection, using Ivermectin at a dose of 20 µL/kg of body weight, and 10% DMSO at a dose of 200 µL per animal. Five weeks after that the animals’ stool was harvested to check the presence/number of larvae of A. cantonensis.

In the sixth/seventh weeks after the infection the control group showed more larvae when compared to others. In the eighth week this pattern of elimination was reversed (Figure 1).

Figure 1. Number of larvae per gram of stool from the groups from the fifth to eighth week after infection.

Conclusões

The L1 larvae were seen in the stool by the sixth week of infection in all groups and the treatments with Ivermectin and DMSO did not seem to demonstrate an effect on the elimination of larvae until the eighth week.

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