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COMPARISON OF HUMORAL IMMUNE RESPONSE, NEUTRALIZATION CAPACITY OF ANTICROTALIC SERUM IN YOUNG OVINES, CLINICAL AND WEIGHT EVALUATION BETWEEN ANIMALS INOCULATED WITH *CROTALUS DURISSUS TERRIFICUS* VENOM, NATURAL OR COBALT-60-IRRADIATED

THESIS: R. S. Ferreira Junior submitted this thesis for his Doctorate in Tropical Diseases at Botucatu School of Medicine, São Paulo State University, UNESP, Botucatu, São Paulo, Brazil, 2005.

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ABSTRACT: The Elisa technique was used to evaluate and compare the humoral immune response of young ovines to anticrotalic serum production. During serum production, the clinical and weight evaluation of the animals was performed. The parameters utilized were complete blood count, and dosage of urea, creatinine, aspartate aminotransferase, total proteins, albumin and globulin. The animals weight was verified fortnightly during the experiment. The neutralization capacity of the serum produced from the snake C*rotalus durissus terrificus* natural (NV) and Cobalt-60-irradiated venom (IrV) was evaluated by *in vitro* challenges. One group of six animals received natural venom, the second group received irradiated venom, and the third was the control group. The animals received six immunizations during 84 days with an interval of 14 days. There was a significant difference ($p<5\%$) in the ELISA test for the profile of the antibodies produced by the experimental groups (NV<IrV). There was no significant difference ($p<5\%$) for biochemical tests, complete blood count, and animals weight between the three groups tested. The group immunized with irradiated venom showed antibodies profile higher than the group immunized with natural venom. The neutralization capacity of the serum produced from the IrV was fivefold higher when compared to the serum produced with NV. The clinical and weight evaluation showed that the ovines in post-weaning phase did not have their physiological profiles altered, and showed an excellent increase in weight during the experimental period. These results indicate a new perspective for the utilization of ovines, aiming the commercial production of anticrotalic serum, which may be applied in the treatment of human and animal envenomation. The cost for its production may be reduced by the posterior utilization of hyperimmunized ovines in human feeding.

KEY WORDS: *Crotalus durissus terrificus*; hypermmunization; ovines; anticrotalic serum; irradiation.

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