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USE OF SBA-15 NANOSTRUCTURED SILICA AS ADJUVANT IN THE IMMUNIZATION PROCESS OF YOUNG OVINES WITH NATURAL AND COBALT 60-IRRADIATED *Crotalus durissus terrificus* VENOM

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ABSTRACT: The administration of heterologous antivenoms produced in horses is considered the only treatment for envenomations by venomous animals. However, it may cause hypersensitivity reactions. New hyperimmunization processes in other animals have been developed, associated with venom detoxication and alternative adjuvants. In the present study, natural (NV) and Co-60-irradiated (IrrV) venoms of *Crotalus durissus terrificus* were employed in four different protocols to assess the immune response of four ovine groups by ELISA test. Clinical evaluation of the animals was carried out daily and weighing was checked every fourteen days. At the end of the experiment, the animals were killed, then inspected in a slaughterhouse for consumption approval and their kidneys were histologically tested. The neutralization capacity of the produced serum was evaluated by *in vitro* analysis. The first group (G1) – inoculated with NV associated with Freund's incomplete adjuvant (FIA) and aluminum hydroxide – presented the major titers when compared to the other ones – inoculated with NV associated to SBA-15 (G2), IrrV associated with FIA (G3) and IrrV associated with SBA-15 (G4). There was no statistical difference among the groups concerning weight analyses and no renal damage was found under histological tests. Only one animal revealed lesion at the inoculation site. Sera produced by the four groups were able to neutralize the lethal effect of *Crotalus durissus terrificus* venom. The conventional immunization protocol employed in G1 revealed greater neutralizing capacity when compared to the others groups.

KEY WORDS: *Crotalus durissus terrificus*, hyperimmunization, ovines.

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