ACROTALIC VENOM FRACTION AS PROMOTER OF THE TRANSFECTION MECHANISM FOR THE PLASMID AT A RABIES EXPERIMENT IN BOVINES

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Introduction: The bovine paralytic rabies has a geographic distribution within 24 states of México. There are a wide number of vaccines available for its control nevertheless the problem is still in latency. The rabies control by DNA immunization could provide an innocuous guarantee. In a previous study concerning the genetic vaccine against rabies, an experimental plasmid (clone 38, structured by the insertion of Glycoprotein (G) of rabies virus with in the commercial plasmid pCLneo) and the crotalic fraction AL27 was evaluated as promoter of the in vitro and in vivo expression in mouse and dogs, with an adequate immune response.

Objective: To determine the capacity of AL27 to promote the response towards the experimental vaccine in bovines.

Methodology: The experimental plasmid was inoculated (clone 38) with 300 µg/animal alone or either combined with 2.125 µg/ml of AL27 fraction dosage. Four groups (G) with five calves each were vaccinated: G1) only the plasmid, G2) plasmid + AL27 fraction, G3) commercial vaccine in 2 ml/animal dosage, and G4) PBS steril solution. The neck subcutaneous via (SC) was selected, with the exception of G3, which was an intramuscular (IM) leg via leg. Blood samples were collected monthly (during 6 months). The sera were analyzed using a RFFIT seroneutralization test. The immune response was confirmed by Western Blot test.

Results: Seroconversion was observed in G1 since the third sampling with a maximum of 0.17UI; increase of seroconversion was detected in G2 from 0.32 to 0.8 UI between the second and last sampling; the best results were obtained in G3, where levels ranged from 0.32 up to 1.7 UI (within the 6 sampling); and G4 was negative. A 69 kDa band was detected by Western Blot (rabies virus G protein), with high intensity in G3 and low intensity for G2. The rest of the groups were negative.

Conclusions: Within this working conditions, the commercial vaccine had better results. Comparing these results with other study reports, it is consider, that the antigenic charge and inoculation via, was not the adequate; nevertheless, the detection of an immune response indicates that the AL27 fraction could act as DNA carrier agent.