

Humoral immune response of mice immunized with lyophilized vaccine against *Corynebacterium pseudotuberculosis*.

Caseous Lymphadenitis is a chronic infectious disease that affects goats and sheep, caused by the bacterium *Corynebacterium pseudotuberculosis*, characterized by the presence of abscesses in the superficial and internal lymph nodes as well as in organs such as liver, spleen, kidneys and lungs. One of the ways of control is to prevent the entry of infected animals and the use of vaccines. The lyophilization process retains the biological properties of the vaccine antigen, which ensures greater shelf-life and immunological stability for the product. In this context, the objective of the study was to evaluate the humoral immune response of 50 balb/c mouse immunized with attenuated lyophilized vaccine of strain 1002, with an amount of antigen less than that used in a commercial vaccine. The animals were divided into five groups (n = 10 / group) that received the following doses of vaccine antigen: G - control saline solution, G1 -  $10^6$  UFC / mL, G2 -  $10^6$  UFC / mL revaccinated with 21 days; G3 -  $10^7$  UFC / mL; G4 -  $10^7$  UFC / mL revaccinated with 21 days and blood collection occurred on days 0, 14, 30 and 45 days. The culture supernatant of a 48h culture of *Corynebacterium pseudotuberculosis* cultivated in BHI broth was used as antigen for ELISA test. There was significant p <0.01 of IgG from the 45 days by the Tukey test with mean optical density above 400DO, but don't have significant differences were observed between the groups at the different observation times, leading to the conclusion that the dose with the lowest amount of vaccine antigen without revaccination may represent an estimate of the production of antibodies also for goats and sheep since the balb/C mice reproduce the dissemination and pathogenicity of the bacterium in the animal organism, chronic clinical signs, the characterization of histopathological lesions, the hemogram and serum biochemistry profile very similar to the characteristics of the disease observed in small ruminants. It can serve as a model for observations of the humoral response dynamics and of vaccines used against caseous lymphadenitis.