COMPARISON OF RECTAL TEMPERATURES AND SPECIFIC HUMORAL IMMUNE RESPONSES AFTER VACCINATION OF FATTENING LAMBS WITH TWO POLYCLOSTRIDIAL VACCINES UNDER FIELD CONDITIONS

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Objectives: A study was performed to compare the systemic reactions in terms of rectal temperatures after vaccination of fattening lambs with two polyclostridial vaccines, as well as to establish the specific immune response induced by either vaccine.

Materials and methods: The study was established as randomised blind comparative trial under field conditions. Fifty lambs at the age of 2-3 weeks were included in the study. The animals were randomly assigned to two vaccinated groups of 20 animals each and a control group of 10 animals. The animals were vaccinated with 2 ml of saline, 1 ml of vaccine B (Bravoxin®-10; Polibascol®-10, Intervet/Schering-Plough Animal Health) or 2 ml of vaccine C (Cevac® Ovine Clostridium, Ceva Sante Animale). All vaccinations were performed subcutaneously and repeated after 28 days.

Rectal temperatures were taken prior to the vaccinations, and then daily for 4 days. Blood samples were taken from each lamb prior to the application of the first vaccine dose 14 days after the administration of the second vaccine dose. The serum samples were pooled by group and sample date and tested for specific antibodies against C. tetani, C. novyi B, C. perfringens C, C. perfringens D, C. septicum y C. sordellii in a toxin neutralisation test. Antibodies against C. tetani, C. novyi B, C. perfringens A, B, C, D, C. septicum, C. sordellii y C. chauvoei were measured in an indirect ELISA assay.

Results: Following the administration of the first vaccine dose the temperature evolution was very similar in both vaccinated groups B and C and both were higher than the control group (Group A). After application of the second dose, the temperature levels were higher in Group B than in the two other groups. At no time, the increase in body temperature had an effect on the general health of the animals. However, the increase in temperature might be associated with an increased serological response as the serological response obtained 14 days after the administration of the booster, was higher in Group B than in Group C for all of the antigens studied, common for both vaccines except for C. septicum, which was higher in Group C than in group B.

Conclusions: It can be concluded that

i) both vaccines induced acceptable systemic reactions and

ii) the specific antibody response against all but one antigen tested (C. septicum) was higher after vaccination with vaccine B.

Keywords: Clostridia, sheep, vaccination