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Clinical evaluation of the efficacy of inoculating cattle with a vaccine containing Tritrichomonas foetus.

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Abstract

To test the efficacy of a polyvalent Tritrichomonas foetus vaccine, 130 nulliparous heifers were randomly assigned to either receive the test T foetus vaccine or to serve as nonvaccinated controls. The polyvalent test vaccine consisted of a Campylobacter fetus/Leptospira canicola-grippotyphosa-hardjo-icterohaemorrhagiae-pamona bacterine containing 5 x 10(7) killed T foetus/dose. The polyvalent control vaccine consisted of the aforementioned formulation without T foetus. Heifers were administered 2 doses of control or experimental vaccine at 3-week intervals. Heifers were bred to T foetus-infected bulls and their conception and pregnancy rates were determined throughout gestation. In addition, serum samples were analyzed to determine induced concentrations of antitrichomonal antibodies and vaginal secretions were sampled to determine T foetus infection rates in control and vaccinated animals. One week after each of the 15-day breeding periods, 60% (6 of 10) of tested vaccinates and 80% (8 of 10) of tested control animals were T foetus culture-positive. The mean duration of infection of vaccinates was 3.8 weeks (+/- 7.5 days), compared with 5.4 weeks (+/- 7.5 days) of infection for control heifers. All vaccinates developed increased immunofluorescence and serum neutralizing antibody titers following the first immunization, and had additional increases of at least fourfold in response to the second injection. In contrast, no consistent increase in immunofluorescence or serum neutralizing antibodies was observed in control animals. Conception rates were 89.2% for vaccinates and 85.9% for control animals 30 days after breeding and 80 to 90% of these remained pregnant 60 days after breeding.(ABSTRACT TRUNCATED AT 250 WORDS)