

Specific antibodies in serum and vaginal mucus of heifers inoculated with a vaccine containing *Tritrichomonas foetus*.

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Abstract

Thirty-five heifers were allotted to 3 groups. Group 1 (control) consisted of 10 heifers that were not vaccinated and were challenge exposed by breeding to infected bulls. Group 2 (natural challenge exposure) consisted of 10 heifers that were vaccinated and challenge exposed by breeding to infected bulls. Group 3 (experimental challenge exposure) consisted of 15 heifers that were vaccinated and challenge exposed by breeding to infected bulls and by intravaginal inoculation with 10(7) *Tritrichomonas foetus*. Total immunoglobulin concentrations and specific trichomonal antibodies were determined in serum and vaginal secretions of heifers, using radial immunodiffusion and ELISA procedures. Control heifers remained infected for a mean of 10.6 weeks (range, 0 to 18 weeks), and heifers of the natural and experimental challenge-exposure groups remained infected for 3.2 and 5.0 weeks, respectively (range, 0 to 12 weeks). Total serum and cervicovaginal mucus concentrations of IgM, IgA, IgG1, and IgG2 did not change significantly after vaccination or challenge exposure. However, ELISA titers of total trichomonal antibodies increased up to 1:10,000 (range, 1:400 to 1:10,000) in serum after vaccination, and increased approximately tenfold above background in cervicovaginal mucus. In serum, the predominant trichomonal antibody isotype was IgG1, although trichomonal IgA and IgM antibodies also increased. The predominant trichomonal antibody detected in cervicovaginal mucus was IgA. Antibody titers in serum and cervicovaginal mucus of vaccinated heifers were not increased by infection. However, in control heifers, the total local trichomonal antibody response increased three- to fivefold after infection.(ABSTRACT TRUNCATED AT 250 WORDS)