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Titers of Anti-Brucella Antibodies by Enzyme Linked Immunosorbant Assay in Vaccinated and Unvaccinated Brucellosis Infected Cattle

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Abstract

Brucellosis is an important re-emerging zoonotic disease caused by *Brucella* organisms. In the absence of a Differentiation of Infected from Vaccinated Animal (DIVA) assay for bovine Brucellosis, it becomes difficult to assess whether the anti-*Brucella* antibody response in an animal is due to vaccination or infection. We compared the anti-*Brucella* antibody titers of naturally Brucellosis affected unvaccinated cows, previously vaccinated infected cows, normal healthy vaccinated cows and healthy unvaccinated calves. The titers of anti-*Brucella* antibodies were estimated by indirect ELISA. The mean titer ($\log_{10}$) was found to be 1.518 ± 0.005 in case of naturally Brucellosis affected cattle which had been vaccinated during calf hood. The mean titer in case of naturally infected cattle which had never been vaccinated was 1.5441 ± 0.005. The mean titer in healthy unaffected cattle vaccinated during calf hood was 1.504 ± 0.002 and that of unvaccinated healthy calves was 0.560 ± 0.016. It was interesting to find that the antibody titers in naturally affected cattle which had never been vaccinated were very significantly ($p < 0.01$) higher than those of Brucellosis affected cows which had been vaccinated during calf hood. The titer in vaccinated infected cattle was very significantly ($p < 0.01$) higher than that of uninfected vaccinated cows.

Keywords

Antibody Titer, Brucella, Brucellosis, Bovine, ELISA

1. Introduction

Brucellosis is endemic in India and is prevalent in all parts of the country. It