ABSTRACT

Bovine viral diarrhea virus (BVDV) has emerged as the major pathogen in cattle. One of the major questions involves cross protection of vaccines containing Type I against Type II BVDV infection and disease. A balanced study in 500 # feeder calves was done with 4 controls, 4 animals vaccinated with Bovishield (Type I vaccine; Pfizer) and 4 animals vaccinated with Virashield 5 (Type I and II vaccine; Grand). The cellular and humoral response was monitored for 4 months prior to challenge with type II BVDV strain 890 and for one month following challenge. Both groups of vaccinated animals were protected but the magnitude of the protection was mirrored by the cellular response prior to challenge. The Virashield group showed no clinical signs throughout the study while the Bovishield had lower clinical signs than the control group. The cellular response was increased in the Bovishield following challenge indicating good immunological memory. The cytotoxicity assay used in this study was unique and provided evidence of the role of cytotoxicity in protection against BVDV challenge. The Virashield group appeared to protect against infection while Bovishield protected against disease. This study indicates that vaccines need to contain both types of BVDV to provide adequate protection.