ter. Similarly, all cattle entering the sick pen were sampled, and all calves dying necropsied, with samples for histopathology and viral and bacterial isolation. The number of calves in each study ranged from 120-205.

Results and Conclusions

In the fall 2000 study, there were no BVDV persistently infected (PI) calves detected, as all calves were BVDV-negative when PBL was examined by cell-culture inoculation. Six calves died during the study. At least 32/120 calves were positive for BVDV in the PBL during the study, and one calf was positive in the nasal secretions. The BVDV-viremic calves were detected throughout the study beginning on Day 5 and through Day 26. There were seroconversions to BVDV in calves during this study, although some calves initially viremic in the last week failed to seroconvert. These BVDV isolates from the PBL, nasal secretions, and serums were all noncytopathic (NCP). The isolates are currently being typed by polymerase chain reaction and the 5'-UTR region sequenced. Subsequently, genetic stability of the BVDV occurring in this natural infection will be determined.

The calves were quite susceptible to viral infection, as the seropositive rate for several viruses was low at Day 0 collections: 86.7% seronegative to BRSV; 65.8% seronegative to BVDV; and 95% seronegative to BHV-1. For some calves, the antibody levels may have been due to maternal transfer. Other calves had increasing antibodies to some viruses, indicating they had been exposed just prior to commingling with resulting active infection.

Evaluation of Vaccinations of Calves and their Impact on Feedlot Performance: Assessment of a Retained Ownership Program of Postweaning Calves

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Introduction

The objective was to assess vaccination programs for calves in a Retained Ownership Program (ROP) and their effect on feedlot performance.

Materials and Methods

There were 24 cooperating ranchers with 417 calves from southern Oklahoma and north central Texas participating in the Noble Foundation (NF) ROP. Guidelines included vaccinations and anthelmintic administration to be completed prior to delivery. The calves were delivered to the NF on November 8-10, 2000 with processing including weight, identification, and sample collection. The calves were shipped to a panhandle Oklahoma feedlot. Sample collection included nasal swabs for viral and bacterial isolation, EDTA blood sample [peripheral blood leukocytes (PBL)] for bovine viral diarrhea virus (BVDV) isolation, and blood samples for serums to be tested for viral and bacterial antibodies.

Oners provided a herd health history including weaning date, vaccines used, vaccination dates for all calves as well as anthelmintic used, and annual cowherd vaccinations. Cattle entering the sick pens had the same samples collected as at delivery. Calves dying in the study were examined by necropsy and tissues were collected for histopathology and viral/bacterial isolation.

Results and Conclusions

None of the 417 calves were persistently infected with BVDV, as PBL at delivery were negative by cell culture isolation for both cytopathic (CP) BVDV and other CP agents or noncytopathic (NCP) BVDV. To date, at least 10 calves were positive for CP agents in the nasal swabs collected at delivery. Approximately 30% of the calves were positive for *Mannheimia haemolyticia*, *Pasteurella multocida*, and/or *Haemophilus somnus* in nasal swabs at delivery. Vaccination histories indicated a variety of viral and bacterial immunogens. For the 24 herds, 10 received killed viral vaccines; nine received modified live virus (MLV) vaccines; and five received a combination of killed and MLV vaccines (killed initially with subsequent MLV). The viral vaccines contained bovine herpesvirus-1 (BHV-1), parainfluenza-3 virus (PI-3V), bovine respiratory syncytial virus (BRSV), and bovine viral diarrhea virus (BVDV) type 1. Several herds use viral vaccines with the BVDV2. Ten herds received *M. haemolyticia* and/or *P. multocida* products, with 8 herds receiving *H. somnus* products. The array of viral antibody levels to BHV-1, PI-3V, BRSV, BVDV1, and BVDV2 varied as to vaccine, number of vaccinations, and timing of vaccination prior to delivery. In a few cases, only one dose of killed vaccine was used and, as anticipated, the neutralizing antibody levels were low or absent. Two doses of killed vaccines in some cases exceeded the antibody levels induced by one dose of MLV vaccine. Herds using the vaccines with BVDV2 immunogen plus BVDV1 had increased BVDV2 antibody levels compared to those receiving BVDV1 alone. By May/June 2001, the calves will be fed to market weight and processed with various economic data obtained including carcass information. Ultimately, each animal will have economic information which will include profit/loss for each calf. We will analyze these data and attempt to determine if various preconditioning programs affect economic return.

Teat Endoscopy (Theloscopy) - Equipment and Procedure

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Introduction

The objective of this presentation is to describe a practical method for teat endoscopy (theloscopy). The goal of theloscopy is to diagnose reasons of milk-flow disorders and to monitor their treatment.

Materials and Methods

The equipment consists of a small, wireless battery-operated theloscope for air insufflation and endoscopy, and instruments for small surgery.[a] The patient is prepared by xylazine sedation, mechanical fixation of head, tail and hindlimbs, cleaning and disinfection of the teat, injecting an anesthetic into a teat vein, draining off milk, clamping teat basis and flushing the teat cistern with saline. Theloscopy can be performed via the teat canal or via the lateral teat wall. A small opening in the teat wall is made for endoscopy via the lateral teat wall which is sutured after finishing endoscopy. Endoscopy via the teat canal enables the teat canal and teat cistern to be inspected. In this scenario, the view is directed upwards. By endoscopy via the lateral teat wall, the teat cistern and inner opening of the teat canal can be inspected. In this scenario, the view is directed downwards.

Conclusions

This procedure has been developed in veterinary practice on several hundred patients. The authors find it useful for diagnosis of milk flow disorders and for monitoring treatment.

[a]Equipment for teat endoscopy, The Butler Company, Dublin Ohio.