AN OUTBREAK OF NEONATAL DIARRHEA BY GROUP A ROTAVIRUS IN A VACCINATED BRAZILIAN BEEF CATTLE HERD

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The group A bovine rotavirus (BoRV-A) is one of the main etiological agents of neonatal diarrhea in dairy and beef cattle herds worldwide. For the infection control some herds use vaccination programs with commercial vaccines. This study was carried out for the identification of the cause of a diarrhea outbreak in a regularly vaccinated Brazilian beef cattle herd. The neonatal diarrhea outbreak occurred in 2009, September in a farm with extensive management of cross-breed Nelore (Bos indicus) and Angus (Bos Taurus), in the state of Mato Grosso do Sul, Brazilian center-west geographical region. All the cows were vaccinated at the end of the gestation with commercial vaccine containing *Escherichia coli* (K99), *Clostridium perfringens* type C, bovine coronavirus, and BoRV-A genotypes G6P[1] and G10P[11]. In the birth season the calves (15 to 40 day-old) of a group of 450 cows presented aqueous diarrhea with morbidity rate of 70% and were treated with one to three doses of wide spectrum antibiotic. The BoRV-A diagnosis was carried out in 31 diarrheic fecal samples by silver stained-polyacrylamide gel electrophoresis (ss-PAGE). Nineteen (61.3%) of the diarrheic stool samples analyzed were positive for BoRV-A with long electropherotype in ss-PAGE. In Brazil, THE CALF diarrhea by rotaviruses was more frequent in dairy cattle herds. The diarrhea outbreak described in this study highlight for some characteristics as:

i) occurrence in beef cattle herd with extensive management;

ii) the high rate of morbidity;

iii) to occur in calves of cows regularly vaccinated against neonatal diarrhea.

The identification of the BoRV-A in 61.3% of the evaluated stool samples suggests that this virus is the main causal agent of the diarrhea outbreak described in this study and can represent a possible vaccine failure. Some risk factors for calf diarrhea observed in this farm as: the smallest degree of rusticity of the cross-breed calves; the greater milk production of crossed cows; the management fail of the calves with highlight for the fecal contamination of the drink water; and the probably occurrence of BoRV-A genotype distinct from those presents in the commercial vaccine; can explain the vaccine failure observed in this rotavirus outbreak.

**Keywords:** Beef herd, outbreak, diarrhea, BoRV-A, failure vaccine

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