

Passive immunity stimulated by vaccination of dry cows with a trivalent vaccine against neonatal calf diarrhea

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Abstract

Passive transfer of colostrum immunoglobulins from cow to newborn is extremely important because calves under 5 weeks of age do not have active immunity and colostrum antibodies are the only source of immunoglobulins to protect calves from infectious diseases immediately after birth. One of the most common causes of calf death is acute neonatal diarrhea caused by pathogens such as rotavirus, coronavirus and Escherichia coli. In the first weeks of life, calves acquire maternal antibodies from colostrum and milk can have a local protective effect against intestinal enteropathogens. Vaccination of pregnant cows reduces the morbidity and mortality rates of the calf. Vaccination of cows even in the early stages of pregnancy (6 months before calving) can provide passive protection in newborn calves against etiological agents such as enterotoxigenic Escherichia coli. Previous studies have shown that continuous administration of colostrum from immunized cows prevents severe diarrhea and mortality in calves. In North America and Europe, various vaccines against neonatal calf diarrhea have been developed to increase antibody titers in colostrum and cow's milk. However, there are not many studies on maternal vaccination to protect against diarrhea in calves in Romania. In this article we have detailed the results of a field study on improving passive immunity in calves by administering a multipurpose maternal vaccine available in Europe.

Key words: calf, colostrum, neonatal calf diarrhoea, passive immunity, vaccination.