

Dairyhealth BYTES

Number: 20

Rotavirus

Your own reference source on dairy health

Construct your own digital library on dairy health

To receive your regular updates
please send your email address to:

dairybytes@positiveaction.co.uk



Diamond V

GEA

Holland Animal Care

Jefo

Norel

Nuscience

Olmix

Pancosma

R2Agro

Vettec

Introduction

Rotaviruses cause diarrhoea in many animals, including man. They are classified by a complicated system into serogroups (groups), serotypes and subgroups. Even though these viruses share certain antigens and cross infections do occur, in general resistance is specific and cross protection against heterologous strains is poor.

The situation in calves

The common cause of infection in calves is by group A serotypes and, less commonly, by group B. Based on serological surveys, rotavirus is common globally. Older calves act as a reservoir of infection and rotavirus carriers. They intermittently shed the virus.

Rotavirus coexists with other pathogens in young calves afflicted by diarrhoea, such as ETEC and *Cryptosporidium parvum*. Mixed infections of rotavirus and bovine viral diarrhoea (BVD) virus is more severe than that caused by each virus on its own.

Neonatal calves are at greatest risk from rotavirus infection and most infections occur in the first week of life. Morbidity is usually high (50-100%) and mortality variable. Clinical disease and mortality is influenced by several things including level of immunity, magnitude of dose, viral serotype, concurrent intestinal infections and degree of crowding. Uncomplicated infections are often self-limiting but in the field infections range from inapparent to mild or moderate to fatal. Generally the younger the calf, the higher the likelihood of severe disease with mortalities. This is due to the loss of water, electrolytes and nutrients as a consequence of the diarrhoea.

Pathology

Rotavirus infections are confined to the small intestine where they destroy the cells on the enteric villi. The infection is characterised by maldigestion and malabsorption.

The level of local passive immunity conferred from colostrum intake determines the risk and relative severity of the infection.

Clinical signs

Rotavirus infection can not be differentiated from ETEC and other enteric pathogens on clinical signs alone. It has previously been noted that the manifestation of this disease can be influenced by a variety of factors. In rotavirus infection the faeces are usually watery and yellowish in colour.

Rotavirus infection in the youngest calves is accompanied by depression, dehydration and shock. These signs are rarely seen in calves over two weeks of age.