



Ambic

Berg & Schmidt

Boumatic

CCPA

CID Lines

Coventry Chemicals

Diamond V

GEA

Henke-Sass Wolf

Norel

Schaumann

Introduction

Bovine viral diarrhoea was first described in 1946. Initially this disease was highly infectious, contagious and with high mortality. Typical clinical signs were high fever, diarrhoea, mucosal lesions and leukopaenia. Later on, the causative agent – a virus – was isolated.

From 1950 to 1975 the disease was disregarded in many areas because serological surveys suggested that most cows had protective serum neutralising titres. This led to the conclusion that bovine viral diarrhoea frequently affected animals as a subclinical or mild clinical entity. Thus, there was no interest in vaccinating cattle. The major clinical evidence for this disease until 1975 was subacute or chronic infections in one or two heifers. These heifers were typically between 6 and 24 months of age and they developed diarrhoea, mucosal lesions, fever and weight loss and they survived in poor bodily condition for varying lengths of time before dying.

During the period 1950 to 1975 the reproductive and foetal consequences of bovine viral diarrhoea were studied. The BVD virus was shown to be a cause of abortion and congenital abnormalities such as cerebellar hypoplasia and ocular defects.

Since 1975 there has been a lot of research on the 're-emergence' of BVD virus as a major bovine pathogen.

Virus classification

The virus that causes BVD is a pestivirus and was originally classified within the togavirus family. More recently, the virus has been classified as flavivirus within the pestivirus group. BVD viruses are classified in vitro into two biotypes – cytopathic (CP-BVD virus) and non-cytopathic (NCP-BVD virus) based on their activity in cell cultures. In addition, a multitude of strains of BVD virus have been found within these two biotypes.

Nowadays, as a consequence of genetic sequencing, BVD virus can be divided into two major (geno)types – Type 1 and Type 2. Type 1 are the classic genotypes from the 1950s. Type 2 BVD virus was first detected from cases of severe BVD in the northeastern USA and eastern Canada in 1993-1994. Now there are at least 11 subgenotypes of BVD virus Type 1 and these are designated 1a, 1b, 1c and so on and two subgenotypes of the Type 2 virus.