



CONTROL OF PARATUBERCULOSIS IN CATTLE IN AUSTRIA

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INTRODUCTION

Paratuberculosis (Johne's disease) is an important disease in ruminants. Its distribution is worldwide and the disease is causing severe financial losses among cattle producers.

AETIOLOGY AND EPIDEMIOLOGY

The disease is caused by *Mycobacterium avium* subspecies *paratuberculosis* (MAP). Although mainly considered a disease of cattle, sheep and goats, all ruminants are susceptible. There are also infrequent reports of infections and increased incidence of specific antibodies against MAP in humans suffering from Morbus CROHN, leading to ongoing discussions about a possible connection between the two diseases.

Most cattle with paratuberculosis are infected as young calves. The postnatal faecal-oral transmission is the most important means of exposure. After a long incubation period of up to 8-10 years infected animals can shed high quantities of MAP in their faeces. The majority of herds that

acquire MAP do so through purchase of subclinical infected animals.

CLINICAL FINDINGS

Four different stages of the infection can be distinguished with the majority of clinical cases occurring between 3–6 years of age, depending on the pressure of infection within the herd. Young infected cattle do not show clinical signs (silent infection). No examination or tests are available to detect the infection at this stage. Subclinically infected adult animals do also not show visible signs of paratuberculosis, although they carry MAP. The first clinical sign can usually be seen after calving as intermittent diarrhoea with periods of physiologic manure consistency. Associated with the diarrhoea there is a chronic weight loss despite normal appetite. Most animals test positive for MAP by faecal culture and show increased antibody titers at this time. In advanced clinical disease affected cattle become weak and emaciated. Decreased milk produc-

tion, diarrhoea and cachexia characterize the terminal stage of the infection.

DIAGNOSIS

Diagnosis of the infection is based on clinical examination, history and necropsy findings. If clinical symptoms are missing or to confirm the suspected clinical diagnosis, laboratory tests (ELISA, bacteriological culture, PCR) have to be used to rule out the diagnosis. Unfortunately the sensitivity of these tests is low, especially in early stages of the infection. Better diagnostic tools for young and subclinically infected animals are needed followed by measures in livestock trading to decrease the prevalence of paratuberculosis in ruminants.

PROGNOSIS AND TREATMENT

The prognosis is poor, in most cases the disease ends with the death of the affected animal. There are no drugs approved for the treatment of paratuberculosis.

CONTROL

Prevention of the disease is difficult. Many different countries have established voluntary or mandatory programmes to control paratuberculosis and prevent further spreading of the disease. In Austria the clinical form of paratuberculosis is a notifiable disease since 2006. Thereby diseased cows have to be culled within three days and the government pays compensation for these animals. Furthermore, hygiene precautions, proven to be effective and cheap measures to prevent MAP infections of calves and young stock, have to be applied in affected farms. For example colostrum should be used from antigen / antibody free cows and only MAP-free animals should be purchased.

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