

Pighealth BYTES

Number: 130

Roundworms VII

Your own reference source on pig health



Arm & Hammer

Berg & Schmidt

BCF

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Trichinellosis: pathology

The intestinal phase is characterised by a subclinical enteritis.

Lesions associated with the muscle phase are centred on the cysts and their associated nurse cell. During the period of nurse cell formation malaise, pyrexia and myalgia occur accompanied by an eosinophilia. In severe cases there may be a slight check in growth rate but, typically, this disease runs a silent course.

The nurse cell is created by the dissolution of the myofibrils and hypertrophy of the muscle cell nuclei. These changes are local and the affected part of the myofibril is walled off by collagen with the larvae coiled up in the cysts.

Once the development of the nurse cells is complete, clinical signs regress and normal growth rate occurs.

Diagnosis

Traditionally, diagnosis is based on finding the muscle cysts. These tend to be concentrated in certain muscles, for example, the diaphragm, the extrinsic muscles of the eye, and the muscles involved in posture as these have a greater supply of capillary blood vessels. There are two traditional methods for finding muscle cysts – both are labour intensive and prone to give false negative results.

A more reliable, efficient and sensitive testing method is the ELISA method using a larval excretory antigen.

Public health issues

Trichinella are zoonotic. The source of Trichinella for man is varied but often pork is implicated, especially since one contaminated carcase can go into many sausages. Recently in the USA, more cases of human trichinellosis have been associated with the consumption of trichinous bear meat or home slaughtered pork. If trichinellosis is associated with venison or beef sausage it is due to adulteration with trichinous pork.

In northern Europe human trichinellosis has virtually been eradicated as a consequence of long term use of trichinoscopy. Another important aspect of control is the banning of swill feeding.

Cooking of pork to an internal temperature of 63°C and allowing it to rest for three minutes between cooking and slicing and the freezing of fresh pork products less than 15mm thick for 20 days at -20°C or six days at 29°C kills most larvae. The exception to this is *T. nativa*, which is cold adapted. Fortunately, this Trichinella species is not a major issue in the pig and pork sectors.

Over the last half of the 20th Century the number of cases of human trichinellosis fell from about 450 to 12 cases a year.