TAPEWORM-ASSOCIATED COLIC... IS YOUR HORSE AT RISK?

Colic, or by definition *'a pain in the belly'* can strike any horse at any time, and is the main cause of death in horses[1].

It has long been recognised that there is a relationship between parasitic [redworm and roundworm] infections of horses and colic; however, it is only in recent years that a strong association between tapeworm and certain causes of colic has been identified: namely spasmodic colic, ileal impaction and intussusception.

Tapeworm-associated colic:

- **Spasmodic colic:** The most common form of colic, whereby abnormal spasms cause intestines to contract painfully.
- **Ileal Impaction:** Can be caused due to an obstruction by tapeworm at the junction of the small (ileum) and large intestine causing thickening of the wall of the bowel**,** resulting in abnormal gut motility.
- **Intussusception:** Results when one piece of gut telescopes into an adjacent piece.

The equine tapeworm

Three species of equine tapeworm infect horses: *Anoplocephala perfoliata*, *Anoplocephaloides mamillana* and *Anoplocephala magna.* However the latter two species are rare in the UK and rarely cause disease. It is only the species *A. perfoliata* that has been proven to be associated with causing colic.

Tapeworm-related health problems

Besides causing colic, equine tapeworms are also responsible for a number of health problems in horses ranging from loss of performance and hair loss to diarrhoea and painful, potentially fatal perforation of the intestine.

So what about colic, what are the risks to a horse infected with tapeworm? Research has shown that 81% of ileal impaction cases and 22% of spasmodic colic cases can be tapeworm related[2].

So what are the actual risks of a horse-developing tapeworm-associated colic? The startling facts are that a horse infected with tapeworm is 26 times more likely to develop ileal impaction colic than a non-infected horse, and 8 times more likely to experience spasmodic colic[3].

Risk of tapeworm-associated colic

Experts estimate that equine tapeworm infections are being under-diagnosed, and with horses being regularly wormed against roundworm, tapeworm numbers are increasing through lack of competition within the horse.

Evidence suggests that up to 69%[4,5] of horses in the UK have some level of tapeworm infestation. All horses are at risk of infection, with tapeworm infestations having been found in horses as young as 5 months of age, and in horses over 30 years old[6]. However, horses most at risk of developing high levels of tapeworm infestations are those less than 5 years of age[3].

Infection by equine tapeworm

Horses are infected by equine tapeworm through the ingestion of oribatid (forage) mites - the intermediate host of the equine tapeworm. Found on all pasture-land, as well as in hay, bedding and feed, there is no practical way in controlling these tiny but numerous mites.

Lifecycle of the equine tapeworm

The lifecycle starts with the adult tapeworm shedding egg-containing segments in the horse's droppings. These tapeworm eggs can survive on the pasture for 9 months. Eaten by the oribatid mites, the eggs develop within the mite into infective immature tapeworm [cysticercoids] within 2-4 months. After ingestion of the mites, the immature tapeworm take 6-10 weeks to develop into mature worms, and within a few months the next generation of adult worms release egg-laden segments in the horse's droppings... and the cycle starts all over again.

The problem of tapeworm diagnosis

Unfortunately, due to the sporadic release of tapeworm eggs, faecal egg counts are unreliable as tapeworm eggs will not be found in every dropping sample of an infected horse. Blood tests for tapeworm antibodies are more reliable; however, they are not 100% effective as they cannot differentiate between no and low infections. There is also a potential for false positive results, as they may not reflect an effective recent treatment.

Management of tapeworm infections

Tapeworm infection shows no strong seasonality; however, exposure is greater during periods of prolonged grazing. Therefore, treatment should be undertaken in the autumn following summer turnout on pasture[3], with treatment thereafter recommended every 6 months[7].

Traditionally, treatment for tapeworm involved a double-dose of a pyrantel-based wormer, but in more recent years, praziquantel based (e.g. EQUEST PRAMOX) wormers have become available, offering single dose tapeworm control.

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