



Breeding out neosporosis in dogs

Neosporosis is a debilitating and often fatal disease of dogs. It is characterised in most cases by paresis progressing to paralysis, although it can cause a variety of signs ranging from myocarditis to dermatitis. It can affect dogs of all ages but is most common in puppies and young adults. In older dogs there may be an association with immunosuppression or concurrent disease.

We would expect around 10% of the pet dog population to be seropositive (i.e. will have been exposed to the parasite), but only a small proportion will develop signs of neosporosis. Infection may occur post-natally by ingestion of infective stages from the environment. However, it is not known how long the parasite remains viable in the environment or indeed whether dogs are infected by oocysts or just the tissue stages consumed in raw meat or aborted material/placentae. It is thus difficult to control infection from these routes and it also seems that post-natal infection is much less likely to lead to the development of clinical signs.

Since we do know that transplacental infection from a clinically normal bitch to her pups does occur and does lead to clinical signs in some offspring, this would appear to be the area in which we should concentrate efforts to try to reduce the incidence of this disease.

When we studied breeding bitches, we found that around 20% of their pups were seropositive and fewer than half of those developed clinical signs. The

proportion infected varied from none to all of a litter and was higher in litters from bitches with higher antibody titres (around 5% seropositive when the bitch had a titre of 1:50 and 33% when the titre was 1:800). Transmission can occur in the first and subsequent pregnancies, although transmission rates do seem to gradually decline with time. We should ideally test bitches prior to each pregnancy as post natal infection can occur and a previously seronegative bitch could subsequently become infected and transmit the infection to her pups.

So the risks of breeding from a seropositive bitch are not huge, but considering the number of pups born each year, many cases of neosporosis could be avoided. Cases can be treated but this is often prolonged and not entirely successful. Neosporosis causes much distress to owners and often causes much ill feeling towards the breeders. This could largely be prevented by testing bitches (a simple, cheap blood test) before mating and not breeding from any seropositive individual.

Go on, spread the word to your breeder clients!

Neospora caninum testing is available at TEST-A-PET - see page four of this newsletter and our website for further details.

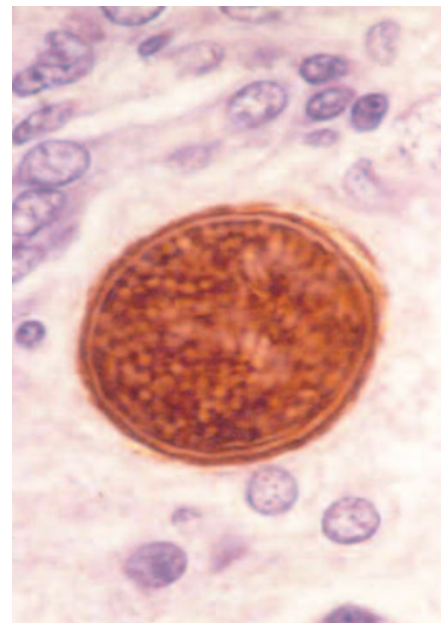
The Veterinary Parasitology Group initiated research into canine neosporosis in Europe and is a world authority on this disease.

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Above: **Puppy showing hindlimb paresis due to neosporosis.**



Above: **Brain stem section showing an immunoperoxidase stained bradyzoite cyst of *Neospora caninum*.**

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