

## **MENINGITIS / ENCEPHALITIS IN DOGS**

Meningitis is a term that is used to mean swelling and inflammation of the nervous system. The terms encephalitis and meningitis are usually used to mean the same thing. Meningitis is one of the most frequently diagnosed neurological diseases in dogs. Unlike meningitis in people, it is usually NOT from a bacterial infection, and it is usually NOT contagious.

The most common forms of meningitis seen in dogs are immune mediated ones, in which the immune system attacks the body's own cells, causing inflammation and swelling of the nerves. In this case, the onset of meningitis is spontaneous, and is not something that is caused by outside factors, such as diet or environment.

The most common type of meningitis that occurs in dogs is the immune mediated disease, GME, which stands for granulomatous meningoencephalitis. The symptoms of GME vary a lot, depending on which part of the nervous system is affected the most. Dogs may have seizures, or may experience loss of balance or equilibrium, or weakness in their legs. Some dogs with GME suffer from severe spinal pain.

The treatment for GME and most types of meningitis in dogs is aimed at suppressing the abnormal immune response that is the underlying cause of the disease, and decreasing inflammation of the nerves. The treatment that is most effective for this is steroid therapy at high doses. Usually prednisone is used. Sometimes, additional medications are also prescribed, and may work synergistically with prednisone, or help to allow use of a smaller dose of prednisone, so that its side effects can be minimized. Occasionally, in patients that have the focal form of GME, radiation treatment may be used.

Unfortunately, meningitis in dogs is rarely curable. It is treatable, and in the short term, patients may improve and their symptoms may be controlled with medication. Most patients need to remain on medication long term. However, relapse is common, and ultimately, meningitis can be fatal in many dogs.

The diagnosis of GME or other forms of meningitis is usually made with a combination of spinal fluid analysis and imaging. Sometimes, additional tests or titers are also performed.

Other uncommon causes of meningitis in dogs include rickettsial (tick-born) infections, such as Ehrlichia or Rocky Mountain spotted fever; protozoal infections, such as Toxoplasmosis; fungal infections; or viral infections, such as distemper virus.

The only contagious form of meningitis seen in dogs is caused by distemper virus infection. Although it can happen in any dog at any time, it is most common in very young, unvaccinated puppies that are in an environment with a lot of other puppies, or in patients with an impaired immune system.