

Steroid - Responsive Meningitis-Arteritis

Also Called: Juvenile polyarteritis, Necrotizing vasculitis, Steroid-responsive meningitis-arteritis, Canine juvenile polyarteritis syndrome, idiopathic suppurative meningitis.

Disease description: Steroid-responsive meningitis-arteritis syndrome (SRMA) is a disease of unknown cause, believed to be an auto-immune disease, where the body's immune system attacks its own tissues. In this case, the tissues under attack are the membranes that cover the brain and spinal cord, as well as the blood vessels (arteries) in the brain and spinal cord. It is thought that an altered immune response may be triggered by environmental factors such as infection. The most common symptom of SRMA is severe neck pain in a young dog (usually less than 2 years of age), with no other identifiable cause. Dogs with SRMA can also have intermittent fever, poor appetite, depression, hunched posture, 'guarding' or stiffness of the neck, and pain on movement. As the disease progresses, weakness or lameness in one or both front legs may develop. As the disease becomes more chronic, scarring of the spinal cord can occur, and the spinal cord can possibly become damaged if the problem is left untreated. Large breeds of dogs tend to be more commonly affected. Breeds with a tendency to have this disease include the Beagle, Bernese Mountain Dog, Boxer, German Shorthaired Pointer, and Toller Retrievers

Diagnosis:

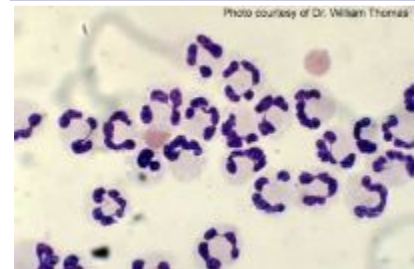
Bloodwork. Complete Blood Count (CBC) often shows a high white blood cell (neutrophil) count. The remainder of routine bloodwork is usually normal.

X-rays of the neck. X-rays must be done to rule out other causes of neck pain in a young dog, including trauma to the neck, and infected vertebral discs. X-rays of the neck of dogs with SRMA are usually normal.

Spinal Tap. Spinal tap can diagnose SRMA as well as other types of meningitis. Doing a spinal tap requires putting your dog under general anesthesia. When performed by someone with proper training, spinal tap usually results in no adverse effect, though rarely there can be complications, which your veterinarian will discuss with you prior to performing the procedure.

Normal spinal fluid looks clear like water, while spinal fluid from dogs with SRMA is often cloudy, and may be blood tinged. Spinal fluid is sent to a lab which might take up to 3-4 days to provide a report on protein levels, as well as numbers and types of cells present in the fluid. High protein in spinal fluid indicates inflammation, which can be caused by infection, SRMA, other types of inflammation, or even tumors in the brain or spinal cord. The numbers and types of cells found in the spinal fluid will tell us if the kind of inflammation present is consistent with SRMA, or some other disease. SRMA is characterized early in disease by a type of inflammation called "Suppurative Inflammation." Suppurative inflammation can also be caused by bacterial infection. A negative bacterial culture and failure to see bacteria in the spinal fluid are required for diagnosing SRMA.

Spinal fluid cytology with corticosteroid-responsive meningitis



Spinal fluid analysis shows increased protein and a marked increase in neutrophils. The neutrophils typically have a hyper-mature appearance with no evidence of sepsis or organisms and culture is negative.

Treatment:

The drug used to treat SRMA in most cases is prednisone, or prednisolone. Relatively high doses of prednisone will be used for at least 10-14 days, then the dosage will very slowly be decreased over a long period of time. Occasionally, a dog who responds very well can be weaned off of prednisone as quickly as 2 months, but it may take 6 months or even longer in some cases. Dose of prednisone should not be reduced until pain has been completely controlled for at least one week. If pain returns after reducing the dose as planned, increase to the previous dose, and call your veterinarian as soon as possible in order to get new instructions for weaning off of prednisone even more slowly.

If prednisone alone fails to control neck pain and other signs of SRMA, other drugs to suppress the immune system can be used, such as azathioprine (Imuran). If side effects to prednisone are unacceptable, this

drug can be used to lower the dose of prednisone faster than would otherwise be possible. Both prednisone and Imuran, and occasionally other drugs also, can be used together.

Prognosis:

Early aggressive therapy with high doses of prednisone, about 60 % of the dogs are cured. The other 40 % have a more protracted course with relapses. The most severe cases can occasionally result in death due to euthanasia, because pain can not be adequately controlled.

Other diseases that can closely resemble SRMA include bacterial meningitis, fungal meningitis, viral encephalitis, granulomatous meningoencephalitis (commonly called "GME"), protozoal infection (toxoplasmosis or neosporosis), or spinal cord tumor.