



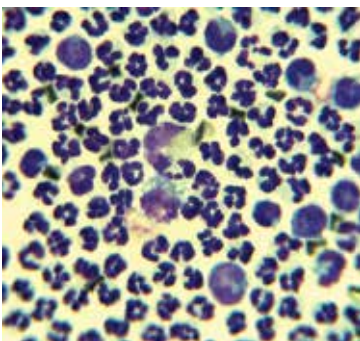
Steroid Responsive Meningitis Arteritis

Who can be affected?

The disease is most common in large breed dogs like the Boxer, Bernese mountain dog, Newfoundland and Great Pyreneese but has also been reported in a colony of research beagles where it was called Beagle Pain Syndrome. The dogs are typically about 8 months of age when signs develop but can be 2 years of age or older.

Symptoms

The signs of SRMA include a moderate to high fever, spontaneously yelping out, unwillingness to move the neck and a short choppy gait in all 4 limbs. The signs can wax and wane and interestingly, prior to presentation to a neurologist, many dogs had improved but not become normal on any antibiotic or NSAID.



This is a CSF cytospin prepared slide at 40x of a patient with SRMA. A normal slide would have only a few cells. This is teeming with inflammatory cells that are predominantly neutrophils.

Cause

The meninges are a layer of concentric membranes that surround the spinal cord and brain. Between these layers are blood vessels, many nerve endings, and cerebrospinal fluid. If white blood cells are present in the layers of the meninges then the term meningitis gets applied. The white blood cells could be present as part of the normal immune response and fighting an infection OR they could be there as part of an abnormal immune response in the absence of an infection. There is a common condition called Steroid Responsive Meningitis Arteritis (SRMA) where the immune system inappropriately attacks the meninges. Evidence that this is an immune disease and not infection comes from the fact that a product of the immune response called immunoglobulin A is consistently elevated in the blood and CSF fluid and nearly all dogs get rapidly better when treated with immune suppressive doses of steroid.

Diagnostics

The diagnosis is made by performing a cerebrospinal fluid tap and analysis and identifying very large numbers of a white blood cell called a neutrophil and ruling out infection. Some neurologists will perform MRI or radiographs of the cervical spine to rule-out bone infection, test the spinal fluid for infection, and place a patient on a 3 week trial of antibiotic in order to address the possibility of infection. However, in a young large-breed dog with all the clinical signs mentioned above, a highly neutrophil-laden spinal tap makes a diagnosis of SRMA very likely.

At BVNS we will also submit a blood test for C Reactive Protein (CRP) at the time of diagnosis. This will help to confirm the diagnosis, makes it easier to judge response to treatment and is the least invasive and most consistent way of identifying disease relapse.

Treatment

The disease is initially treated with steroid (prednisone) and following complete remission of the clinical signs the dose can be reduced. How fast the dose is reduced often is related to how well the patient is tolerating what can be the unpleasant and even dangerous side-effects of steroids. For more information on these side-effects, please see our informational sheet on "Steroids."

If the patient relapses while we are lowering the dosage of steroid, we will often restart steroid therapy along with an immune suppressive medication like Cyclosporine. For more information on Cyclosporine, please see our medication handout series.

Prognosis

The prognosis for this disease is excellent.

To learn more about neurologic diseases, treatments, medications and our practice, please visit www.bvns.net.