



Brain Tumor

Who can be affected?

Any breed of dog and cats can be affected with a brain tumor. Older dogs or cats and certain breeds like the Golden retriever, Boxer, and larger breed dogs in general are at higher risk for brain tumors.

Cause

The cause of brain tumor or cancer in general is not known. However, because certain breeds are at higher risk, there must be a genetic and environmental component.

Symptoms

Brain tumors can affect any part of the brain and therefore can cause a variety of problems. Symptoms include seizure, confusion, sedation, poor balance, weakness and with progression stupor, coma and death. In dogs, seizure can be the only sign of a brain tumor. Pain can be associated with brain tumor by affecting the pain processing portion of the brain or spinal cord or inflaming or stretching the lining of the brain, the meninges.

Diagnostics

The diagnosis of a brain tumor is made by imaging a mass next to or within the axis of the brain and ruling-out the possibility that the mass is from infection. Often MRI characteristics alone are thought to be sufficient to diagnose a brain tumor. Ruling out infection is often done by performing infectious tests on the blood or/and spinal fluid and by performing an analysis of the cerebrospinal fluid (CSF).

Treatment

Treatment to reduce or eliminate the brain tumor can include surgery, radiation, and/or chemotherapy. Treatment to control the signs of a tumor can include steroid therapy, pain medication, and seizure medication.

Prognosis

Meningioma is the most common brain tumor and therefore the best prognostic information is available regarding this tumor type in the dog and cat. Prognostic information is often expressed in time until euthanasia. Happily most patients live pain free and have a high quality of life up until the time of euthanasia. Euthanasia is often performed due to refractory seizure or a sudden decompensation to the clinical signs that existed prior to treatment.

The prognosis for canine meningioma treated with steroid and seizure medication is thought to be very poor with most dogs surviving only about 3 months. This time can be extended to about 6 months with the addition of a relatively safe and very well tolerated chemotherapy called hydroxyurea. Surgery plus hydroxyurea or radiation therapy alone are thought to provide about 1 year. Surgery plus radiation may result in an average survival of about 1½ years.

Surgery in cats for meningioma is typically recommended because success rates (complete removal, return to normal) are about 95%. There is about a 15% chance of recurrence with meningioma surgery in cats. In dogs, the success rates are slightly lower and the recurrence rate much higher. Radiation therapy is often recommended after or instead of surgery in dogs with meningioma.

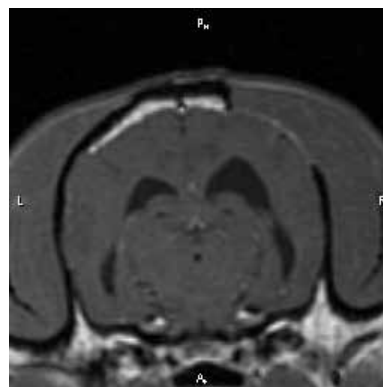
When the tumor type is something other than a meningioma, surgery is thought to carry a poorer prognosis, although this is not likely to be uniformly true. Some tumor types (glioma, nasal tumors) likely carry a worse prognosis than meningioma while round cell tumors (lymphoma, reticulosis) likely have a better prognosis. With radiation therapy, across all tumor types, patients are thought to survive on average at least a year.

Pre and post surgery MRI of a 13 year-old Bichon Frise with surgical removal of meningioma.

Pre surgery Meningioma



Pre surgery: Post contrast axial MRI



Five months post-surgery: Pre contrast axial MRI



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