



BVNS neurotransmitter

Welcome to the latest edition of the BVNS Neurotransmitter. We are excited to continue to offer these case reports and hope they provide a valuable learning opportunity for our team and yours.

CASE STUDY: MAX



Max is a 19 year-old, male castrated mixed breed that presented to BVNS for circling and a head tilt. He was diagnosed with two meningiomas and ten months later he is thriving at home.

Presenting Complaint:

One month lethargy, 4 days of stiffness after walks, not jumping into the car and suddenly circling to the right, head tilt right.

Examination Abnormalities and Localization:

Max had a right head tilt, fast phase nystagmus to the left, and would lean and fall to the right but also make large circles to the right. His right eye was droopy, the third eyelid was prolapsed and he did not menace well on the right. A central vestibular problem was likely due to the poor menace with a normal palpebral response. However, a poor menace response and large radius circling can indicate forebrain dysfunction. Therefore disease in more than one area was also considered.

Diagnosis:

MRI of the brain showed a large, right-sided mass at the level of the pons and a second mass in the left olfactory lobe. The characteristics were the most compatible with TWO meningiomas. However, lymphoma or a fungal infection called Cryptococcus were also considered. A CSF analysis was inconsistent with lymphoma and Cryptococcus antigen testing was negative, therefore Max was diagnosed with TWO meningiomas.

Treatment:

Palliative or symptomatic treatment with prednisone allowed Max to do so well that definitive treatment was considered. BVNS worked with Dr. Rick Joseph and Dr. Sarah Charney at the Animal Specialty Center in Yonkers, New York to obtain cyber knife radiation treatment for Max. This technologically advanced form of radiation therapy can direct the radiation such that larger doses of radiation can be given per treatment, reducing the amount of anesthetic episodes from 15 to 3.

Outcome:

Max is currently about six months out from his radiation and is doing well. We received this update from his family last week: "Max is still doing fantastic! ...chasing bikers, joggers, deer and puppy wrestling. His hearing is good, sight seems very good too.

He sleeps very well and is alert and active when he's awake. He's walking 1-2 miles/day, and back to playing with stuffed animals and throwing them around, and playing with squeaky toys (He can hear them again!)."

While Max was in Yonkers he met another dog who was twenty-four years old and was going in his for second round

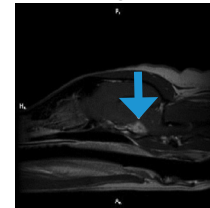
of radiation therapy four years after his first treatment of a meningioma, and was otherwise happy and healthy.

We are thrilled with Max's progress and look forward to hearing more positive updates from his family in the future.

Take Home Points:

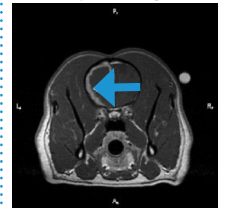
1. Patients with head tilt + poor menace and a normal blink reflex have disease within the brain and therefore do not have Old Dog Peripheral Vestibular Disease. Furthermore, when the signs just do not seem to fit, often more than one lesion is present or at a minimum the disease is within the brain rather than Old Dog Peripheral Vestibular Disease.
2. Meningiomas are the most common type of primary brain tumor in cats, dogs, and humans. Surgery and/or full course radiation have been the mainstay of treatment. Technological advances and research are providing excellent long term outcomes with a high quality of life in many patients.

Mass 1:
Meningioma

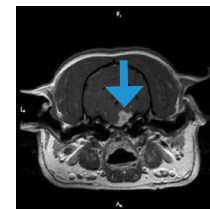


Post contrast sagittal view of meningioma

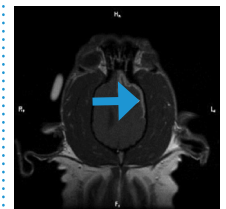
Mass 2:
In-Plaque Meningioma



Post contrast axial view of in-plaque meningioma



Post contrast axial view of meningioma



Post contrast coronal view of in-plaque meningioma

3. BVNS strives to offer as many treatment options as possible and partners with many different experts nationwide. Current treatment options and average survival times are as follows:
 - a. Steroid alone – 3 months
 - b. Steroid + Hydroxyurea – 6 months
 - c. Conventional surgery – 10 months
 - d. Full course radiation or cyberknife – 12-14 months, may be longer with cyber knife
 - e. Surgery + Autologous Vaccine - pilot data shows 75% of dogs alive 600 days post-treatment
4. BVNS is working with Dr. John Ohlfest at University of Minnesota where the patient's meningioma is developed into an intradermal vaccine that is then administered along with a topical immunostimulant every 2 weeks for 12 weeks. The patients we have treated had complete excisions of their tumors prior to vaccine and are doing exceedingly well.

This case was referred to BVNS by Dr. Renee Welch of Anderson's Corner Animal Hospital. Max was originally seen by Dr. Jarboe, Dr. Neary and Dr. Bush in Leesburg and has since had follow-up visits with Dr. Young in Richmond. For more information or to discuss this case please email Dr. Young at myoung@bvns.net.

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- We are open for regular and emergency neurology referrals Monday through Saturday in Leesburg and Monday through Thursday in both Springfield and Richmond.
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