



Lois Bates Acheson Veterinary Teaching Hospital
 172 Magruder Hall
 Corvallis, OR 97331-4803

Small Animal Services: 541-737-4812 Fax 541-737-4818
 Monday-Friday, 8 a.m. – 5 p.m.
Large Animal Services: 541-737-2858

Owner Name: Grazier, Greg
Patient ID: 522-355
Species: Canine
Sex: SF
Date: 02/11/2020

Name: Miss Pennylane
Breed: Labrador mix
Age: 9 years
Weight: 26 kg

TESTS PERFORMED	RESULTS
None performed today	

CURRENT DIAGNOSIS	COMMENTS
Suspected meningioma	Diagnosed via MRI on 2/11/20.
Geriatric onset laryngeal paralysis and polyneuropathy	Right sided unilateral laryngeal paralysis and esophageal reflux, diagnosed 6/10/19
Left cranial cruciate rupture	Previously diagnosed
Type II degenerative disc disease	Previously diagnosed
Osteoarthritis of the hips and lumbar spine	Previously diagnosed
Severe spondylosis	Previously diagnosed

Please follow these instructions for care at home:

FEEDING: Usual Diet No food tonight after 10 p.m. (water OK) Special:
EXERCISE: No restrictions Keep quiet tonight – pet was sedated

MEDICATION	SIZE/QUANTITY	INSTRUCTIONS
Prednisone	20 mg tablets	Give one tab by mouth every 24 hours as directed, do not discontinue abruptly
Codeine	30 mg tablets	Give 1 tablet by mouth every 6 to 8 hours as needed for pain as directed.
Meclizine	25 mg	Give 2 tablets by mouth every 24 hours as directed.
Omeprazole		Continue as previously prescribed.

OTHER INSTRUCTIONS AND COMMENTS: Miss Pennylane is a 9 year old spayed female Labrador mix who was presented to OSU Oncology for consultation regarding her recently diagnosed meningioma. Miss Pennylane recently presented to OSU Internal Medicine with a history of neurological symptoms (difficulty standing, falling). Additionally her appetite had been decreased and she had been experiencing watery diarrhea. A work-up was performed including

an MRI which noted an intra-cranial, extra-axial mass with peritumoral edema, most consistent with a meningioma. She was started on prednisone, Cerenia, Entyce, and a probiotic. Her symptoms have markedly improved as she is ambulatory, and her diarrhea has resolved. Her appetite has returned to nearly normal. Miss Pennylane's previous medical concerns include geriatric onset laryngeal paralysis and polyneuropathy.

On physical exam, Miss Pennylane was bright, alert, responsive, and ambulatory. She weighed 26 kg with mild generalized muscle wasting. No abnormalities were appreciated on cardiac or bronchovesicular auscultation. Her peripheral lymph nodes were of normal size and consistency. On abdominal palpation, her abdomen was soft with no focal pain or organomegaly. A rectal exam was unremarkable. A focused neurologic exam found a right sided head tilt and a decreased sensation of the right side of her face. The remainder of her cranial nerve tests were within normal limits. Proprioception was appropriate in all four limbs. The remainder of Miss Pennylane's physical exam was unremarkable.

Today, we discussed treatment options regarding Miss Pennylane's recently diagnosed meningioma. Below is further information about meningiomas, treatment options, and prognosis.

Meningioma

Brain tumors most commonly occur in dogs older than 9 years of age. They are typically diagnosed based on the location and appearance of the mass on advanced imaging (MRI, CT) as tissue samples are generally difficult to obtain. Miss Pennylane's mass appears most consistent with a meningioma. The meninges are a type of tissue that line the skull and vertebral column. Meningiomas have a low rate (18-27%) of metastasis to other locations and are typically slow growing. They cause symptoms when they become large enough to compress the brain and/or impede flow of cerebrospinal fluid causing inflammation, which leads to additional swelling impeding the function of the brain and/or local nerves.

Clinical signs reflect the location of the tumor in the central nervous system. Common neurologic signs observed in animals with brain tumors include altered mentation (e.g. mental blunting, stupor, coma), behavior changes, seizures, loss of coordination and circling. Miss Pennylane's mass is compressing her vestibular system in her brain which caused symptoms similar to vertigo in humans. Her symptoms have markedly improved on prednisone, which is likely due to reduction of the edema (swelling) surrounding her mass.

Treatment

Goals for treatment of brain tumors are complete tumor removal (when possible) or size reduction and control of secondary effects (e.g., edema, increased intracranial pressure).

1. Palliative medical care: For animals with brain tumors, palliative therapy has been focused on controlling brain edema and seizures. Corticosteroid treatment counters the secondary effects of peritumoral edema and obstructive hydrocephalus and reduces intracranial pressure that can lead to brain herniation. Anticonvulsant therapy for acute

(e.g., diazepam) and maintenance (e.g., phenobarbital) seizure control is indicated for tumor-associated seizures. If Miss Pennylane experiences seizures, these medications would be recommended. A prognosis with palliative care is difficult to estimate, but we would hope to provide Miss Pennylane a high quality of life for a couple weeks to months.

2. Surgical resection can be used as a definitive treatment method but is often limited by anatomy and extent of disease. Miss Pennylane's mass is unlikely to be surgically resectable, however consultation with a neurosurgeon at Washington State University or Colorado State University should be considered.
3. Radiation therapy is the most common, definitive method of treating brain tumors in dogs. Unfortunately, radiation is not available at OSU. Radiation as the only therapy has produced median survival times of 11.5 to 19 months in dogs with histologic or suspected diagnosis of meningioma.

The nearest treatment facilities are:

- Washington State University, Pullman Washington: (509) 335-0711
 - o A treatment protocol of 18 treatments over 3.5 weeks is recommended. A planning CT would be performed beforehand. An estimated cost is likely around \$5500.
- Colorado State University, Fort Collins, Colorado: (970) 297-5000
 - o A treatment protocol will be recommended upon consultation, but will likely involve 5-7 days of treatment. An estimated cost is likely \$9-10,000, however there may be cost assistance available for service animals.

We have contacted both facilities to further discuss Miss Pennylane's case. **If you are interested in pursuing treatment at either facility, please call and schedule an appointment with a facility of your choosing. Please also let us know which facility you choose and we will send her MRI images and full medical records.**

Please continue Miss Pennylane's prednisone, codeine, omeprazole, and meclizine as previously prescribed. As discussed, CBD oil is not recommended in dogs, particularly formulations which contain THC. Please monitor Miss Pennylane closely for the development of seizures, and if you are concerned she has had a seizure event, please call OSU on an emergency basis. A recheck examination is recommended in 2-3 weeks.

Thank you for bringing Miss Pennylane in to the OSU VTH oncology service. Please do not hesitate to contact us with any questions or concerns.

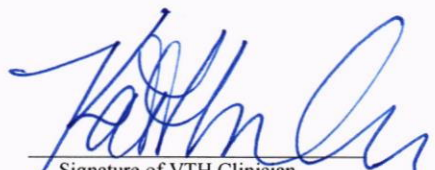
Follow-up examination and communications:

Follow-up Please call with an update to discuss how you'd like to proceed with Miss Pennylane's care

At VTH: Please set up appointment for: **Recheck exam in 2-3 weeks**

Signature of Owner/Agent

Signature of VTH Intern / Resident
Megan Duckett, DVM



Signature of VTH Clinician
Katie Curran, DVM, DACVIM (Onc)