



NWVS Oncology Discharge & Referral Instructions

Patient Information: Honey Miller 6 year spayed female Staffordshire Bull Terrier	PI #: 55160
Owner: Nicole & John Miller	Date Admitted: 9/18/14
Referring Veterinarian: Linwood Animal Clinic	Date Discharged: 9/18/14
Attending Doctor: (Oncology)	Recheck Date: 9/22/14

DIAGNOSES: Lymphoma
History of skin allergies
Multiple subcutaneous masses

CASE SUMMARY: Honey, a 6 year old female spayed Staffordshire Terrier, presented to NWVS oncology service today to discuss staging and treatment options for lymphoma.

Honey originally presented to Dr. Cain on 9/15/14 for evaluation of lymphadenopathy. A fine-needle aspirate of an enlarged lymph node was performed and cytology consistent with lymphoma.

Honey is a previously healthy dog. She has a history of skin allergies and has multiple subcutaneous masses. Honey is eating, drinking, urinating and defecating normally. She is not currently on any medication at this time.

PHYSICAL EXAM:

Today's body weight is 31.5 kg

Heart rate is 92 beats per minute

Respiratory rate is panting

Mucous membranes are pink & moist

Capillary refill time is < 2 seconds

Honey was bright, alert and responsive, and very sweet. Her eyes, ears, nose and throat were clear. Her mandibular and prescapular lymph nodes are enlarged. All remaining peripheral lymph nodes were within normal limits. No heart murmur or arrhythmias were noted and she had a normal sinus rhythm and strong, synchronous pulses. Her lungs were clear and eupneic. Abdominal palpation was unremarkable. Honey demonstrated normal mentation and no obvious neurologic deficits. Rectal examination was not performed this visit.

DIAGNOSTICS: No diagnostics were performed today. We discussed full staging in the form of flow cytometry, thoracic radiographs, abdominal ultrasound and a bone marrow aspirate,

however, as these results would not change treatment recommendations, a decision was made to forgo additional diagnostics.



GENERAL INFORMATION ON LYMPHOMA IN DOGS:

Background

Lymphoma is a relatively common cancer in dogs. It is a cancer of lymphocytes (a type of white blood cell) and lymphoid tissues. Lymphoid tissue is normally present in many places in the body, including lymph nodes, spleen, liver, digestive tract and bone marrow. In most cases, we cannot tell what causes lymphoma.

Clinical Signs

The most common form of lymphoma in dogs is involvement of one or more of the external lymph nodes. Many dogs may not feel sick or may have only very mild signs such as tiredness or decreased appetite. Other dogs may have more severe signs such as weight loss, vomiting, diarrhea, excessive thirst or urination, weakness, or difficulty breathing. The severity of the signs depends upon the extent of the disease and on whether the cancer has caused changes in organ function. Often, the only noticeable sign is an enlargement of the lymph nodes under the neck, behind the knees or in front of the shoulders. Other organs, such as the liver, spleen and bone marrow can be involved as well.

Diagnosis and Work-up (Staging)

A complete evaluation of a dog suspected of having lymphoma involves obtaining a biopsy or needle aspirate of the affected tissues and a search for lymphoma in other locations. A complete blood count (CBC), a serum chemistry profile and urinalysis are always performed and provide important information regarding the effects of the cancer on body functions as well as the ability of the patient to handle chemotherapy. Chest X-rays allow us to look for enlarged internal lymph nodes or lung involvement. A bone marrow aspirate allows us to look for lymphoma cells infiltrating the bone marrow as well as to evaluate the marrow's ability to produce normal blood cells. Abdominal ultrasound allows us to evaluate the liver and spleen, as well any enlarged internal lymph nodes in the abdomen. Special molecular tests (flow cytometry) can be applied to lymphoma tissue to determine the cell of origin of the lymphoma (B cell vs. T cell). Once we have these results, we can give the owner a more accurate prognosis about the outcome with various types of treatment.

Treatment and Prognosis

Chemotherapy is the mainstay of treatment for lymphoma. Lymphoma is very sensitive to chemotherapy, and up to 95% of dogs treated will go into remission when our most effective treatment protocols are used. The definition of remission is the complete disappearance of all signs of cancer. A remission is NOT a cure but it does allow your pet to experience a good quality of life. It is important to remember this because chemotherapy should not be discontinued as soon as a remission is achieved. The length of remission depends upon many factors including the primary site, how sick an animal is at the start of treatment, blood calcium level, B cell vs. T cell origin, and potentially the presence of lymphoma in the bone marrow. For those dogs that have the most common type (external lymph nodes enlarged) and are treated with the most aggressive treatment protocol, the average survival time is about 1 year; approximately 20% of dogs may live longer than 2 years.

There are several different treatment options to consider, depending upon owner preference, how aggressive the cancer is behaving, how sick an animal is at the start of treatment and any abnormalities in organ function (especially important are changes in liver and kidney function).

On a typical schedule, a patient will receive weekly treatments for approximately 4 months. Several different drugs (prednisone, vincristine, cyclophosphamide and doxorubicin) are



alternated in order to reduce the chance that the tumor cells will become resistant, and to reduce the risk of side effects. Following completion of this chemotherapy protocol, we will recheck them monthly to insure that remission persists. If and when recurrence of lymphoma is noted, the same drugs are often effective again, although the duration of remission is often shorter.

There are other treatment protocols that require less frequent hospital visits and/or may be less expensive. These may not be quite as effective as our most aggressive treatment, but are considerably better than pursuing no treatment at all. These will all be discussed at the time of your pet's initial visit.

Most dogs will tolerate their chemotherapy well and have minimal side effects. Serious side effects are only seen in about 5% of the patients treated. These could include nausea, vomiting, and loss of appetite, diarrhea, tiredness or infection. Hair loss or slow hair growth may also occur in certain instances. Each chemotherapy agent has their own unique side effects which will be discussed by your veterinarian or veterinary oncologist.

TREATMENT OPTIONS DISCUSSED:

1) **CHOP (Madison-Wisconsin) chemotherapy protocol:** Twenty five week protocol involving four chemotherapeutics (Doxorubicin, Vincristine, Prednisone and Cyclophosphamide) with an average survival time of 1 year. This protocol involved weekly visits with both injectable and oral drugs. Total cost, \$4000-6000.

2) **Single agent Doxorubicin chemotherapy** administered intravenously once every 3 weeks for a total of 3 treatments with an average survival of 6-9 months. Cost of each treatment is approximately \$500.

3) **Single agent Lomustine chemotherapy** administered orally once every 3 weeks for 4 treatments as long as tolerated with an average survival of 6 months. Cost of each treatment is approximately \$500.

4) **Prednisone therapy alone** with an average survival of 6-8 weeks. Cost of this therapy is approximately \$20 per month.

TREATMENT: A decision was made to pursue CHOP chemotherapy. We will begin Prednisone therapy today, and CHOP on Monday, September 22nd, 2014.

MEDICATIONS:

1) **Prednisone 20 mg tablets:** Please give (3) tablets orally ONCE daily for 7 days, then give (2) tablets orally ONCE daily for 7 days, then give (1) tablet orally ONCE daily for 7 days, and then give ½ tablet orally every other day for 7 days and then discontinue this drug. Prednisone is a steroid and is generally well tolerated. Prednisone can be associated with gastrointestinal upset, i.e. nausea, vomiting and diarrhea. If you notice these signs, or dark, tarry stool, please contact

Dr. Anderson. Prednisone can also cause increased panting, increased appetite, increased water intake and increased urination. Please do NOT give any other steroids, any nonsteroidal anti-inflammatories, such as Rimadyl or aspirin, while Honey is on this medication.

DIET: Honey may continue with her regular diet.

ACTIVITY: Honey may continue to dictate her own activity level.



PLAN FOR RE-EVALUATION:

- 1) Honey is scheduled to return to NWVS oncology service on Monday, September 22nd, 2014 to begin chemotherapy with drop off between 7:30 am and 8:00 am.

**Honey is a sweetheart and we wish her well.
Thank you for entrusting us with her care.
Please keep us updated on how Honey is doing.**