



VETERINARY ONCOLOGY CONSULTANTS

helping veterinarians treat pets with cancer

Chemotherapy for Lymphoma in Dogs

The treatment options below are tiered according to risk of toxicity, cost, and efficacy. First-level protocols provide a low risk of toxicity at low cost but have low efficacy; as the level rises, so do efficacy, cost, and risk of toxicity.

First Level: For clients who cannot afford or will not accept a combination chemotherapy protocol due to the risks of toxicity, a protocol using prednisolone alone or in combination with chlorambucil may provide palliation with few risks of side effects. A CBC should be collected every 2 to 3 weeks to make sure that myelosuppression is not occurring.

Second Level: The COP (vincristine, cyclophosphamide and prednisolone) protocol is a relatively inexpensive chemotherapy protocol with a low risk of toxicity. Dogs tolerate the treatments,

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VOC's newest staff member and paper shuffler, Jasper, just recruited from the RSPCA!

Oncotip

Recent studies have shown that the preoperative level of serum total alkaline phosphatase (T-ALP) is highly prognostic for dogs with osteosarcoma undergoing amputation and chemotherapy. Dogs with a T-ALP greater than the upper limit of normal have a worse prognosis than dogs with a normal level regardless of the chemotherapy used. In one study dogs with normal T-ALP that were treated with cisplatin and doxorubicin had a median survival of 12.5 months, while dogs treated with the same protocol that had an elevated T-ALP had a median survival of 5.5 months. Checking T-ALP prior to discussing treatment options with an owner may help them in their decision-making.

Newsletter

November 2005

Wow, time flies and we've had our "doors" open for 2 years! As always, we thank those of you who have worked with us in the past and the many who have started using us more recently.

We've always felt that education is an important part of our mission, and we're excited to tell you that in the coming months we'll be expanding this in a new direction! More details below...

We are always interested in hearing your feedback about our service, and from time to time we formalize that interest by asking you to reply to our Customer Satisfaction Survey if you have anything to tell us. Please let us know if there is any way we can better meet your needs.

Enclosed for your convenience is a copy of our new consultation form, which will go into use as of January 1, 2006.

In this newsletter you'll find an article about chemotherapy approaches for lymphoma, one of the most common cancers in dogs; and a literature abstract about mammary cancer in cats.

We hope you have fun with this!

Best regards, *Tony and Angela*

Veterinary Oncology Consultants' mission is to assist other veterinarians in providing the highest possible quality of life for pets with cancer and their human families, by making evidence- and compassion-based recommendations for their care and providing educational materials.

Minicourse in Oncology

for Veterinary Practitioners

Continuing Professional Development ~ Interactive Learning
Rydgges Port Macquarie, March 4 - 5, 2006

In the past we've worked with diverse groups to lecture on oncology at various venues in Australia as well as around the world, but we've always wanted to take advantage of our location and provide our own CPD course direct to veterinarians. At last, we're looking forward to bringing the dream to reality!

We plan to combine a relaxed, small group atmosphere with a high-quality learning experience that will update clinically relevant topics in veterinary cancer management.

This should be a fun weekend by the sea, with lots of extracurricular activities on offer in Port Macquarie, and partner's packages will be available.

Registration is limited, and early registration discounts will apply.

More information can be found on our website (www.vetoncologyconsults.com). If you're receiving this newsletter we will send you a registration information package as soon as they are ready. We hope to see you there!

New Literature

This article is interesting because although most of us know that early spay almost completely prevents mammary carcinoma in dogs, the same correlation has not been established in cats. The authors of this article demonstrated there is good rationale for early spay of cats to reduce their risk of mammary cancer, albeit not as strong as in dogs. Since there appears to be a strong breed predilection for developing mammary carcinoma in Oriental breeds and in tortoiseshell cats, this information may help in reducing the risk in those predisposed individuals.

Association between ovariectomy and feline mammary carcinoma. Overley B, Shofer FS, Goldschmidt MH et al.

J. Vet Internal Med. 2005; 19:560-563

The causes of feline mammary carcinoma are not well understood. Unlike the situation in dogs, an association between age at ovariectomy and mammary carcinoma development has not been established. Therefore, a case-control study was performed to determine the effects of OHE age, breed and parity on feline mammary carcinoma development. Questionnaires

were sent to veterinarians for 308 cases and 400 controls. The overall questionnaire response rate was 58%.

Intact cats were more than twice as common in the mammary carcinoma population than in the control population.

Cats spayed prior to 6 months of age had a 91% reduction in the risk of mammary carcinoma de-

velopment compared with intact cats.

Those spayed prior to 1 year of age had an 86% reduction in risk. Parity did not affect feline mammary carcinoma development.

Results indicate that cats spayed before 1 year of age are at significantly decreased risk of feline mammary carcinoma development.

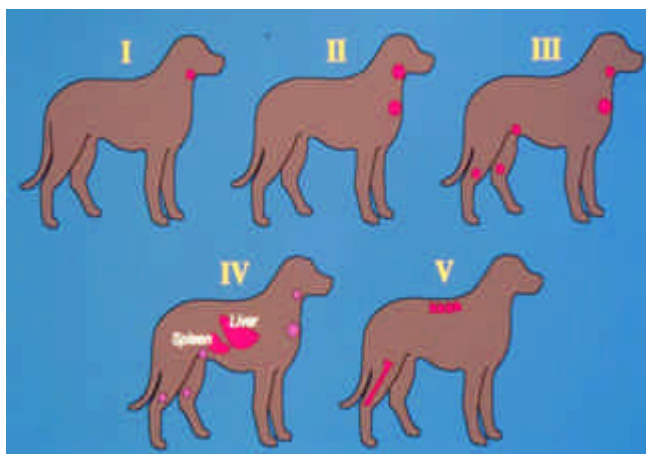
Chemotherapy approaches for lymphoma in dogs, continued

and veterinarians find the protocol very manageable. CBCs should be taken 1 week after each dose of cyclophosphamide to ensure that myelosuppression (if it occurs) is not severe and that doses do not need to be adjusted.

Doxorubicin administered every 3 weeks for five to eight treatments is the most effective *single* chemotherapeutic agent. This treatment regimen results in a relatively high remission rate with relatively few serious life-threatening toxicities (<5%). Because the drug is given every 3 weeks, this treatment approach is less time intensive than most chemotherapeutic protocols. A second remission seems more likely if doxorubicin is used as first-line therapy and COP is used after relapse than if COP is used first. Overall remission time for this two-protocol treatment approach is similar to that when the drugs are used in combination, rather than sequentially (in other words a COPA or CHOP protocol).

Third Level: The most effective chemotherapy protocols use a 5-drug combination of L-asparaginase, vincristine, cyclophosphamide, doxorubicin, and prednisolone. Similar remission rates and survival times have been obtained for all protocols that include these drugs. Although these protocols require more intense client-veterinarian communication and monitoring for toxicity,

the overall level of satisfaction for owners, pets, and veterinarians is high. Most oncologists (including us) now recommend discontinuous protocols (short-term, intermittent periods of treatment) such as VELCAP-B for most patients; however, some clients will not restart chemotherapy when first remission is over. For such clients



Clinical Stages of Lymphoma in Dogs

a less intensive *maintenance* schedule may be preferred over restarting induction treatment at relapse. For dogs with T-cell lymphoma, protocols that rely heavily on alkylating agents, such as VELCAP-T, should be used.

Fourth Level: If available, the addition of radiation therapy or autologous bone marrow support to allow chemotherapy dose intensification represents the most aggressive treatment option for a dog with lymphoma. The poten-

tial for long-term remission and possibly cure is much higher than with other protocols. Dogs with T-cell lymphoma may not benefit to the same extent as those dogs with B-cell lymphoma. Although risks of toxicity are higher, the addition of radiation or chemotherapy dose intensification has not negatively affected the quality of life for treated dogs.

In summary, the best protocol for lymphoma currently available for routine clinical use is a “5-drug protocol”. As long as these drugs are being used, the exact protocol may not have much of an overall influence on canine patients. However, it does seem that using combinations of drugs wherever possible (rather than single drugs given sequentially) may be more effective. In the future, the use

of “dose intensification” such as autologous bone marrow transplant, or radiation therapy may further improve on these data, but those techniques are still likely to be limited to specialty practices. In the absence of referral to a veterinary oncologist, the practitioner is encouraged to use a protocol that they feel comfortable with, and make use of expert advice if problems are encountered during treatment.