



VETERINARY ONCOLOGY CONSULTANTS

September 2004

helping veterinarians treat pets with cancer

Diagnosing soft tissue sarcomas

Soft tissue sarcomas (STS) are common malignancies in the skin and subcutis of dogs and cats. Preoperative biopsy can help to plan a definitive treatment. When planning the biopsy, consider the effect on future surgery or radiation therapy, as the biopsy tract will need to be treated with a margin. After obtaining a biopsy it is a good idea to consult with an experienced surgeon and/or oncologist. If aggressive surgery or radiation therapy is planned, CT or MRI can help to delineate the margins of the tumour for appropriate treatment planning.

A needle-core biopsy is generally safe and rapid, and can be performed with the patient lightly sedated and employing a local anaesthetic block. Histologic examination is more accurate than a needle aspirate, but not as accurate as from a punch or incisional biopsy due to the small tissue samples obtained. Additional care should be taken that damage to the small tissue fragments does not occur during tissue handling.

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Oncotip

The prognosis for dogs with lymphoma derived from T-lymphocytes is considerably worse than if it is derived from B-lymphocytes. In addition, new treatment protocols are being developed for dogs with T-cell lymphoma. You can request staining for T and Bcell markers (CD3 and CD79a, respectively) from your pathology laboratory on biopsy samples (but not cytology samples). We strongly recommend that you make this additional test a routine part of your canine lymphoma workup, as it dramatically affects the prognosis and treatment recommendations for your patient.

Newsletter

Welcome!

We are very excited to be sharing our first newsletter with the veterinarians who have worked with VOC in our first year. Thank you for your support and patience as we work to improve our service for you and your clients.

We hope to publish this newsletter periodically (i.e., as we get time) to keep in touch with you, help keep you up to date with new information about cancer, and offer helpful hints in caring for your patients with cancer.

In this issue we have included an abstract from the recent veterinary oncology literature that you might find interesting.

We also have included some information about biopsy procedures for soft tissue sarcomas. This cancer is common in dogs and cats, and is often difficult to treat. The initial approach to diagnosis may determine the success of definitive treatment..



Jerome, VOC housecat and paperweight

Best regards,
Tony and Angela

How are we doing so far?

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.

We have included a survey to ask your opinion as to how effectively we are meeting our mission so far. We are interested to know where we can do better. Please take the time to fill it out honestly (and if necessary, brutally), and fax your response to VOC at 02 6586 1210.

Consulting Fees

We've enclosed a new Consultation Request Form for your convenience. You may notice a fee increase that went into effect on September 1. However, in gratitude for your loyalty, we are pleased to honour the previous fee schedule for existing clients through the end of 2004.

New Literature

The article by Dobson et al is of particular interest to veterinarians practicing in Australia, as it describes the successful use of coarsely fractionated (large weekly doses) radiotherapy for mast cell tumours. Finely fractionated radiotherapy has long been known to be a highly effective treatment for this tumour. However, in Australia we currently have access only to coarsely fractionated radiotherapy, and prior to this article, there was little published data to support its use in mast cell tumours.

Treatment of canine mast cell tumours with prednisolone and radiotherapy

Dobson, J.; Cohen, S.; Gould, S. *Veterinary Comparative Oncology* 2: 132-141,

This retrospective study describes 35 dogs with non-resectable mast cell tumours on the head or limb treated with prednisolone for 10-14 days prior to radiotherapy (4 fractions at 7-day intervals). Prednisolone was continued at a reduced dose rate during radiotherapy and for 2 months or longer afterwards. By 6 to 8 weeks following radiotherapy, 12 dogs had achieved a

complete remission and 19 a partial response. Two tumours remained static and two progressed during the course of treatment. The overall response rate was 88.5%. With long-term follow-up, 11 dogs experienced local recurrence (n=4), metastasis (n=5) or both (n=2). The median progression-free interval was 34 months, with 1- and 2-year progression-free

rates of 60 and 52%, respectively. Tumour location affected the outcome. Dogs with tumours located on the limb survived longer than those with tumours on the head. The combination of prednisolone with coarsely fractionated radiotherapy appears to have a useful role in the management of measurable mast cell tumours.

Diagnosing soft tissue sarcomas, continued

A **3mm or 6mm diameter punch biopsy** instrument is inexpensive and versatile. A punch biopsy may often be obtained with light sedation and a local anaesthetic block, little suturing is required, and a larger tissue specimen is obtained than when a needle biopsy is performed. A limitation is that tissues that are subcutaneous or deep-seated may not be adequately biopsied.

An **incisional biopsy** may be preferred over a punch biopsy when a larger piece of tissue is needed to make assessments of invasion and malignancy, or when the tumour is subcutaneous. This technique requires general anaesthesia.

STS may be diagnosed as fibrosarcoma, neurofibrosarcoma, and a range

of other sarcomas. These all behave similarly, and the specific type of STS is not as important as the histologic grade. Tumour grading was best described in "Prognostic factors for surgical treatment of soft-tissue sarcomas in dogs" by Kuntz et al. *JAVMA* 1997; 211:1147-51. Tumour grade, consisting of mitotic index, percent necrosis, and differentiation (table below) was the most important prognostic factor. Dogs with grade 1 tumours have a high likelihood of recurrence after conservative surgery, but with aggressive surgery approximately 90% were tumour free 12 months later. Most importantly, dogs with grade 1 tumours showed very low metastatic rates (13%) compared to 41% for dogs with Grade 3 tumours. This means that with aggres-

sive therapy, the likelihood of long-term control for dogs with grade 1 tumours is very high and also implies that dogs with grade 3 tumours require adjunctive treatment (chemotherapy) in addition to aggressive local treatment.



| Score | Degree of Differentiation | Mitotic Figures Per 10 HPF | Necrosis |
|-------|---|----------------------------|----------|
| 1 | Resemble normal adult mesenchymal cells | <10 | None |
| 2 | Specific histologic type | 10-19 | <50% |
| 3 | Undifferentiated | >19 | >50% |
| Grade | Description | | |
| 1 | Cumulative score of <5 | | |
| 2 | Cumulative score of 5 or 6 | | |
| 3 | Cumulative score of >6 | | |