

Synovial Cell Tumors

Surgery Service



**Michigan Veterinary
Specialistssm**

www.michvet.com

We Can Help

Available Services

- 24/7 Emergency & Critical Care
- Cardiology
- Computed Tomography
- Dermatology & Allergy
- Internal Medicine
- Interventional Radiology
- MRI
- Neurology
- Neurosurgery
- Oncology
- Oncologic Surgery
- Ophthalmology
- Orthopedic Surgery
- Radiology & Fluoroscopy
- Soft Tissue Surgery
- Ultrasound

Locations

Auburn Hills

3412 E. Walton Blvd.
(West of Squirrel Rd.)
(248) 371-3713

Grand Rapids

1425 Michigan St. NE
(East of Fuller Rd.)
(616) 284-5300

MVS Southfield

29080 Inkster Rd.
(North of 12 Mile Rd.)
(248) 354-6660

Background

Synovial cell sarcomas originate from the synovium or the lining of joints. Normally there are three types of cells that form the synovium: type 1, phagocytic macrophages (they eat up debris...a cleaning cell); type 2, antigen-presenting dendritic cells (helps the body to recognize foreign material and bacteria in the joint); and type 3, fibroblast-like mesenchymal cells that produce glycosaminoglycans (joint lubricant). Other kinds of tumors that affect the joint include fibrosarcoma, rhabdomyosarcoma, osteosarcoma, malignant fibrous histiocytoma (MFH), liposarcoma, hemangiosarcoma, myxoma, malignant giant cell tumor of soft tissue, and undifferentiated sarcoma. All of these tumors have roots that extend well beyond the primary tumor. The spread rate of these tumors depends on they type and grade of the tumor.

Common features

Synovial cell tumors have a common set of features. They can develop in any joint in the body, have poorly defined microscopic margins, they have roots that infiltrate through tissue planes around the joint, commonly regrow after conservative surgery, spread through the blood stream, and respond poorly to radiation and chemotherapy when used without the addition of surgery.

Signs

A swelling surrounding a joint is the most common finding of a synovial cell sarcoma. Most sarcomas have a firm consistency, however, some have a softer texture. Once these tumors get larger they may become ulcerated and develop a secondary infection. As the tumor grows, it commonly will cause the pet to become lame on the affected limb. If the tumor has spread to the lungs, breathing difficulty may be seen. Spread of the tumor to other organs may cause loss of appetite, weight loss and malaise.

Diagnosis

Diagnosis of synovial cell sarcoma or soft tissue sarcoma of the joint is based upon a biopsy performed by aspirating the tumor with a small needle or surgically collecting a piece of tissue from the mass. These tumors may not exfoliate cells very well as the cells may be tightly fixed together, thus necessitating a surgical biopsy. An x-ray of the tumor commonly shows soft tissue swelling around the joint and in some cases



Synovial Cell Tumors Continued...

erosion of the bones (see photo right). A complete blood count, chemistry profile and urine testing are done to evaluate the health status of your companion's internal organs prior to anesthesia and surgery. Chest x-rays are used to help rule out spread of cancer to the lungs and lymph nodes in the chest. Abdominal ultrasound is also performed to rule out spread of tumor to the internal abdominal organs.



The day of surgery

Our anesthesia and surgical team will prescribe a pain management program, both during and after surgery that will keep your companion comfortable. This will include a combination of general anesthesia, injectable analgesics, local anesthetics, oral analgesics and anti-inflammatory medication.

Treatments

For the best outcome, amputation of the limb is the treatment of choice for synovial cell sarcomas.

Chemotherapy may be indicated to help stunt the growth of metastatic cancer from a high-grade sarcoma. In the literature, there is not overwhelming evidence that chemotherapy will improve the survival rate. If chemotherapy is recommended, it is administered every three weeks via intravenous injection by our oncologist for a total of four to five treatments. The treatments are typically done on an outpatient basis and may take a total of 90 minutes to complete each visit. Unlike humans, most dogs do not lose their hair and usually have only mild side effects from the medication such as transient loss of appetite and vomiting.

Aftercare

After surgery, a prescribed pain reliever should be given to minimize discomfort. It's also extremely important to limit your companion's activity and exercise level for three weeks after surgery. The incision should be checked daily for signs of infection. If indicated, adjunctive chemotherapy can be started 2 weeks after surgery.

Results

The grade of the tumor, based on the biopsy report, will have a dramatic impact on the long-term survival times. Grade 1 and 2 synovial cell sarcomas are commonly cured with survival times commonly exceeding 3 years. Grade 3 synovial cell sarcomas generally have a high rate of tumor metastasis and reported median survival times of 7 months. Special stains of the biopsies can also be done to help differentiate the specific types of joint tumors and predict potential patient survival.

Short-term complications following surgery are uncommon and may include temporary dehiscence (opening) of the incision, bleeding and infection. Local recurrence is uncommon with amputation of the limb, unless the tumor is involving a joint that cannot be removed with large margins. Metastatic disease is always a potential complication, therefore chest x-rays are recommended every 3 months for the first year, then once every 6 months thereafter.

Synovial Cell Tumors Continued...

References

1. Setling KA, et al. Outcome of dogs with high-grade soft tissue sarcomas treated with and without adjuvant doxorubicin chemotherapy: 39 cases (1996–2004). J Am Vet Med Assoc 2005;227:1442-1448.
2. Ehrhardt N. Soft-tissue sarcomas in dogs: a review. J Am Anim Hosp Assoc 2005;41:241-246.
3. Fox DB, Cook JL, Kreeger JM, et al. Canine Synovial Sarcoma: A Retrospective Assessment of Described Prognostic Criteria in 16 Cases (1994-1999). J Am Anim Hosp Assoc 2002;38:347–355.
4. Craig LE, Julian ME, Ferracone JD. The diagnosis and prognosis of synovial tumors in dogs: 35 cases. Vet Pathol 2002;39:66-73.

Assessment and recommendations

Patient name: _____ Date: _____

Treatment

- Surgery is recommended
- Surgery is not recommended
- Please make an appointment for a consultation with one of our oncologists

The following has been prescribed

- No medications or special diet are necessary at this time
- Narcotics: _____
- Nonsteroidal anti-inflammatory: _____
- Other medication: _____

Exercise

- Unlimited
- Confine your pet to the house

Preparation for surgery

- Start fasting your companion at midnight before the surgery; water should not be withheld
- Pepcid AC 10 mg tablets: give _____ tablet(s) with water (use a syringe if needed) at 6 AM on the day of surgery

*Composed by Daniel A. Degner, DVM, DACVS
Edited by Ned F. Kuehn, DVM, MS, DACVIM*



**Michigan Veterinary
Specialistssm**

www.michvet.com

