Osteosarcoma
By Dr. Karen Becker

Hi, this is Dr. Karen Becker. Today we will be discussing osteosarcoma. Osteosarcoma is a very aggressive cancer of the bone, which unfortunately tends to spread rapidly (or metastasize) to other parts of the body. Osteosarcoma is rare in cats, but is diagnosed in 8, 000 to 10,000 dogs each year in the US, and accounts for about 85 percent of all canine bone tumors.

The median age at diagnosis is about 8 years, and dogs over 90 pounds account for almost one-third of cases. In large and giant breed dogs, most tumors occur in the limbs, called the appendicular skeleton. Dogs under 30 pounds account for less than 5 percent of osteosarcoma cases. In these dogs, the cancer typically affects the axial skeleton, which includes the bones of the skull, vertebral column, ribs, and sternum. Breeds at highest risk for osteosarcoma include the Saint Bernard, Great Dane, Irish setter, Doberman, Rottweiler, German shepherd, and golden retriever.

Environmental factors that can increase risk include rapid growth in large and giant breed puppies; gender (males are at 20 to 50 percent increased risk); the placement of metallic implants to repair fractures; spaying or neutering at an early age; and possible trauma to the bones, especially blunt bone injuries.

Symptoms

Early signs of bone cancer are subtle and can include swelling, intermittent lameness, and joint or bone pain. Sometimes there is also lethargy and loss of appetite. Because a bone with a cancerous tumor isn't as strong as a normal bone, even a minor injury can cause a pathologic fracture of the weakened bone.

If the osteosarcoma is in another part of the body, symptoms will depend on the location. For example, if the cancer is in the jawbone, the animal will have difficulty opening its mouth or eating. In cats, the nasal bones are occasionally affected by this type of tumor, which can cause nasal discharge or problems breathing. As the disease progresses, it becomes more and more painful as the tumor grows and the bone is destroyed. Intermittent lameness will become more frequent until it's consistent, where there is constant, non-weight bearing, or intense bone pain, which is usually within 1 to 3 months of onset.

Diagnosis

The primary diagnostic tests for osteosarcoma are X-rays and histopathology or examination of tissue. On an X-ray, osteosarcoma has a characteristic lytic or "moth-eaten" appearance. A fine-needle aspirate or bone biopsy of suspicious areas must be performed to confirm the diagnosis. Since many kitties become more lame and painful after a bone biopsy, it's preferred when possible to do a fine-needle aspirate instead.

Blood tests and chest X-rays are usually performed as well to look for additional lesions and underlying medical conditions. Since up to 90 percent of osteosarcoma tumors have spread to the lungs by the time the diagnosis is received, computed tomography (CT) scans and magnetic resonance imaging (MRI) are also often used to better assess lung involvement and to evaluate a pet's overall condition in more

detail. The disease will also be categorized as stage I (low-grade tumors without evidence of metastasis), stage II (high-grade tumors without metastasis), or stage III (when metastasis has already occurred).

Treatment

Unfortunately, many pets diagnosed with osteosarcoma have a poor prognosis. Treatment is aimed at relieving pain and extending the animal's quantity and quality of life for as long as possible. Depending on the situation, traditional treatment options are unfortunately surgery, which may or may not involve amputation of the affected limb, and chemotherapy for animals that undergo amputation. Radiation therapy, which is used strictly as a palliative treatment to relieve bone pain and discomfort, can also be prescribed as well as pain medications.

Sadly, often pet owners must make what is known as the "leg or life decision" for their pet. Survival times of about 1 year are achieved in 50 percent of dogs with osteosarcoma that undergo amputation of the affected limb, followed by chemotherapy. However, some dogs have actually survived 5 to 6 years after diagnosis.

Chemo is only given in cases where the primary tumor has been surgically removed, and is totally ineffective in animals that aren't candidates for surgery.

Many owners actually choose not to pursue amputation and focus on giving their pets the best quality of life for the time that their pet has left. I follow veterinarian and naturopathic physician Dr. Steve Marsden's protocol for my clients choosing not to pursue surgery. His protocol involves using the injectable form of vitamin A and D, bromelain, omega-3 fatty acids, and a blend of herbs called Hoxsey Boneset. I also use Chinese herbs in conjunction with Dr. Marsden's protocol for kind of an added oomph. And I really feel that using this protocol in conjunction with eliminating all processed foods, as well as reducing carbohydrate intake is important for cancer patients and can give them good quality of life for the time that they have left.

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