



Osteosarcoma

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Osteosarcoma is the most common bone tumor of dogs. It usually occurs in the leg, but can also affect the skull and jaw, backbone, pelvis, and in rare cases, internal organs. Osteosarcoma is an aggressive cancer that causes severe damage to the bone and spreads (metastasizes) rapidly to the lungs and other tissues of the body. Osteosarcoma is estimated to occur in more than 8,000 dogs in the United States each year. Dogs are affected more often than cats, and large breeds, such as Irish Wolfhounds, Greyhounds, German Shepherds, Rottweilers, Doberman Pinschers and Great Danes, are affected more often. It usually occurs in dogs during middle age. Due to the aggressive nature of this cancer, early diagnosis and treatment are important to maximize survival time and quality of life.

Symptoms

- Lameness
- Broken bone with minimal or no known trauma
- Swelling of a limb
- Difficulty breathing
- Coughing
- Exercise intolerance or reluctance or inability to exercise normally

Causes

The cause of osteosarcoma is largely unknown. Because large-breed dogs are most commonly affected, osteosarcoma may be related to rapid early growth. Other risk factors include previous fracture sites and areas exposed to radiation therapy.

Diagnostic Testing

- Radiographs (x-rays) to view the affected bone and examine the lungs
- Blood tests to evaluate general health and rule out fungal infections
- Ultrasound and Bone (technetium) Scans to check for more advanced stages of cancer
- Biopsy to examine the affected tissue and confirm the diagnosis

Treatment

Medical and surgical treatments can be beneficial but not curative. The goals of treatment are to reduce the pain and discomfort of the cancer, and to slow the disease progression. For most dogs, treatment involves amputation of the affected limb. For patients in which an amputation is not practical or possible, a limb-sparing procedure or radiation therapy may be recommended. Due to the rapid spread of this cancer, chemotherapy is recommended to delay the onset of metastatic (secondary) tumors in other areas of the body.

Outcome

Most dogs treated for osteosarcoma have an excellent quality of life during and after treatment. The majority of dogs do very well following amputation, and few have complications associated with chemotherapy. Without treatment, life expectancy for dogs with osteosarcoma of the leg is usually less than 4 months. With aggressive therapy, dogs have a 50% chance of living 1 year or longer.

Prevention

There is currently no known prevention for osteosarcoma.

Other resources

- **Modiano Lab** (University of Minnesota) is geared to finding the causes for cancer, understanding the mechanisms that drive tumor behavior and tumor progression, and ultimately identifying the targets that will allow us to prevent, control, and treat different types of cancer. www.modiolanlab.org/cancer/cancer_osteosarcoma.shtml
- **Bone Cancer Dogs, Inc.** is dedicated to funding research, awareness and education of canine bone cancer, while offering hope and support to those who are coping with the disease in their dogs. www.bonecancerdogs.org
- **Tripawds** is your three legged dog resource and help center. "It's better to hop on three legs than limp on four." www.tripawds.com

Please note that this information does not replace a direct consultation, with the patient and all clinical data, with a board-certified veterinary oncologist. To schedule an appointment with Dr. Sue Downing at Animal Specialty & Emergency Center, please call (310) 473-5906. For more information, please visit <http://www.asecvets.com>.

