



Comparison of IGF1 Promoter Polymorphisms between Patients with Osteosarcoma versus Patients without Osteosarcoma Matched for Height and Breed

We are enrolling any patient (treated or untreated) with a histopathologic diagnosis of appendicular (long bone) osteosarcoma.

Study Objective

This study will determine if large breed dogs with osteosarcoma have greater DNA changes compared to dogs without osteosarcoma, matched for height and breed.

What is this research intended to provide? Osteosarcoma (OSA) is the most common form of bone cancer in dogs, accounting for 85% of bone tumors. This disease has been shown to primarily affect the long bones, specifically in large breed patients. In a study by Ru, et al. it was shown that increasing weight and height are the greatest predictive factors for development of the disease in canine patients. Once diagnosed, this disease has a relatively guarded prognosis with the majority of patients developing pulmonary metastatic disease and dying within twelve months of diagnosis (even with aggressive adjuvant chemotherapy).

A recent publication by Sutter, et al. showed that a single insulin-like growth factor 1 (IGF1) single-nucleotide polymorphism (SNP) haplotype is common to all small breeds and almost absent from giant breeds, suggesting that the IGF1 allele contributes to size variation in the domestic dog. Previous studies have also demonstrated that the IGF1 gene is a strong genetic determinant of body size. Mice deficient in IGF1 are only 60% of mean birth weight.

Principal Investigator

Nicole Leibman, DVM, DACVIM (Oncology)

To be eligible for this study, the patient must:

1. Have a histopathologic (biopsy) diagnosis of appendicular (long bone) osteosarcoma

Medical Protocol

Once enrolled a blood sample will be collected from each patient. At the same time the patient's height will be measured. From the blood sample we will extract the DNA and then perform molecular analysis on the sample to investigate for the presence or absence of the SNP mentioned above.

Medical Costs

The patient's owner will incur no additional costs by enrolling in this study. If you believe your pet or patient may be a candidate for this study, please call the appointment desk at 212 838-8100 and ask for a new patient oncology visit with Dr. Glasser or Leibman. You could also have your veterinarian contact **Dr. Nicole Leibman** at 212-329-8696; Fax: 212-421-4925; E-mail: nicole.leibman@amcnyc.org.

*We would ask your veterinarian to mail or fax a copy of your pet's record to Dr. Leibman, to discuss eligibility and/or to set up an appointment. **Participating Institutions:** The Animal Medical Center