



Evaluation of zoledronate for the treatment of canine metastatic osteosarcoma

Currently, there are no proven effective therapies for canine metastatic osteosarcoma. This study investigates the use of zoledronate, a bisphosphonate drug, for the treatment of pulmonary nodules associated with osteosarcoma metastasis. Bisphosphonates have documented efficacy for control of cancer-associated bone pain. In addition to its palliative properties, zoledronate has more recently been investigated for its ability to induce cancer cell death as well interfere with the development of metastasis. The therapeutic dose has been previously characterized and side effects are limited to rare reports of renal injury and osteonecrosis of the jaw. We intend to administer zoledronate once monthly to dogs with pulmonary metastatic osteosarcoma in order to assess its efficacy in this species.

STUDY REQUIREMENTS

- **Once monthly visits to the Auburn Oncology service**, which include:
 - Three view thoracic radiographs
 - BUN, creatinine, urine specific gravity
 - Zoledronate administration IV over 15 minutes
- **This study is fully funded for up to 6 months of treatment**
- Patients will be removed from the trial at the time of cancer progression

INCLUSION CRITERIA

- Histopathologic diagnosis of appendicular osteosarcoma
- **Thoracic radiographs with at least one metastatic lung lesion ≥ 2.0 cm**
- Primary bone tumor treated with limb amputation, surgical limb-spare, or palliative radiation therapy
- Prior treatment with chemotherapy is allowed, but patients must have cancer progression at the time of enrollment

EXCLUSION CRITERIA

- Osteosarcoma arising from a non-appendicular site (e.g., skull, ribs, soft tissue)
- Pathologic fracture
- Renal azotemia with serum creatinine > 2.0 mg/dL
- Other comorbidities may be excluded on a case-to-case basis
- Concurrent treatment with chemotherapy, immunotherapy, or purported anti-tumor supplements (NSAIDs and analgesics allowed)

WHAT THE STUDY COVERS

- The client is financially responsible for the initial consultation and screening tests to determine eligibility (thoracic radiographs, chemistry panel, urinalysis)
- The remainder of this trial is funded for up to 6 months of treatment
- Available \$500 towards treatment of any drug-related complications at Auburn
- If the client fails to return for the first recheck examination (≥ 35 days post-treatment), then they will be billed for the expenses associated with the previous treatment

Please direct any questions regarding the enrollment of a patient in your clinic to the Auburn Oncology service (334) 844-4690.