Dr Jennifer Mahoney, a member of the Oncology Department at Angell Memorial Hospital in Boston, MA, is now using intravenous pamidronate to treat dogs with bone tumors. Pamidronate is a bisphosphonate and in the same family as Boniva and Fosamax, which are drugs used to treat osteoporosis in human medicine.

Osteosarcoma cells produce an extracellular matrix of osteoid and can also activate osteoclasts to cause bone destruction. Excessive osteolysis can lead to severe pain, the most common clinical sign seen with osteosarcoma.

The protocol of once monthly intravenous infusion of Pamidronate has demonstrated clinical improvement in the alleviation of pain as well as decreases in urine N-telopeptide excretion (a sensitive and specific marker of bone resorption) and increased relative primary tumor bone mineral density. In one study, 28% of dogs experienced improved clinical signs for greater than four months with a median duration of pain alleviation of 231 days. Studies have shown that bisphosphonate can reduce tumor cell invasiveness, adhesion. In humans, findings have been similar and Pamidronate use is advocated to decrease the risk of pathologic fracture.

Bisphosphonates are used to treat paraneoplastic hypercalcemia. Hypercalcemia of malignancy is associated with multiple neoplastic diseases including lymphoma, multiple myeloma, and anal sac apocrine gland adenocarcinoma.

Angell Memorial reserves the use of bisphosphonates for severe cases of paraneoplastic hypercalcemia that are not responsive to other treatments.

References:
Illustrated Standard

The Weimaraner Illustrated Standard is available from the WCA National Office. It is not only a great tool for judges, but also a great publication for every Weim enthusiast to have on hand; to educate puppy buyers, for mentoring and for general reference.

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