Canine Paraneoplastic Hypertrophic Osteopathy

WSAVA Global Veterinary Community

Paraneoplastic hypertrophic osteopathy (pHO), usually associated with primary or metastatic pulmonary neoplasia in dogs, is a syndrome of painful swelling and periosteal bone proliferation of the distal limbs. It has been documented in humans and dogs, but the pathogenesis is unknown.

This study retrospectively evaluated presenting concerns, physical findings, and clinical pathologic and radiographic findings in the medical records of 30 dogs diagnosed with pHO. A wide range of breeds and ages were represented. The authors found that the most common presenting concerns included symmetrical swelling of the entire or distal limbs (26/30). All limbs were affected in most cases (15/26). Additional clinical signs were lameness (23/30), ocular discharge or episcleral injection (23/30), lethargy (22/30), decreased appetite (15/30), fever (11/30), pain on palpation of extremities (11/30), coughing (9/30), heat on palpation of limbs (6/30), and inability to rise or walk (3/30). Clinical pathologic findings included anemia (13/20), neutrophilia (11/20), and elevated serum alkaline phosphatase (11/18).

Neoplastic pulmonary nodules were present in all dogs. The most common primary malignancy was osteosarcoma, which may reflect both the high prevalence of this cancer in dogs and its tendency to metastasize to the lungs. Other tumor types included transitional cell carcinoma, leiomyosarcoma, fibrosarcoma, prostatic carcinoma, and renal carcinoma. Primary pulmonary adenocarcinoma was found in 3 dogs. The relationship between pHO and ocular signs seen in the majority of dogs was unclear. Prospective studies are warranted to better understand the cause of these clinical findings in dogs with pHO.

Global Commentary

Presence of pHO is typically indicative of advanced disease status and is a negative prognostic indicator in most cases. Treatment is challenging and involves either addressing the primary neoplasia or secondarily addressing associated signs. The outcome is often best in patients that have solitary disease (eg, primary lung tumor) in which complete resection is possible and could potentially lead to pHO resolution. However, the vast majority of pHO is caused by metastatic pulmonary disease and effective, durable therapies are few and far between. Besides surgical resection of solitary gross disease, treatment options include systemic chemotherapy, NSAIDs or corticosteroids, multimodal pain control (eg, tramadol, gabapentin, acupuncture), bisphosphonates, and vagotomy.—*Kelvin Kow, DVM, MS, DACVIM*

Source

Withers SS, Johnson EG, WTN Culp, Rodriguez CO, Skorupski KA, Rebhun RB. Paraneoplastic hypertrophic osteopathy in 30 dogs. *Vet Comp Oncol*. 2015;13(3):157-165.