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HYPERTROPHIC OSTEOPATHY DUE TO INTRATHORACIC METASTASES SECONDARY TO PRIMARY BONE CANCER: A CASE REPORT

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Abstract: *Hypertrophic osteopathy is a rather rare condition seen in dogs and cats. The exact pathophysiological mechanism of this condition is not fully understood, although changes in pulmonary function have been suggested to cause an increase in peripheral blood flow via a neural pathway; this leads to new bone being formed by the periosteum on the cortices of distaly located long bones. This condition is considered to be a paraneoplastic syndrome caused by intrathoracic space-occupying masses, although other non-neoplastic conditions or abominal mass-effects were also reported as causes. Hypertrophic osteopathy typically affects all four limbs, patients being presented for swollen limbs and lameness. Radiographically, periosteal thickening due to new bone formation located bilaterally or on all four limbs is the characteristic sign. The periosteal reaction is palisading, nodular or spiculated, with no signs of osteolysis being seen. Bony changes commence distally and progress proximally. The current paper presents the clinical signs and evolution, radiographical changes and computed tomography findings in a 7-year-old female Boxer, as well as a short bibliograhical review.*

Keywords: *hypertrophic osteopathy, intrathoracic metastases, primary bone cancer, radiology, computed tomography.*

• Introduction

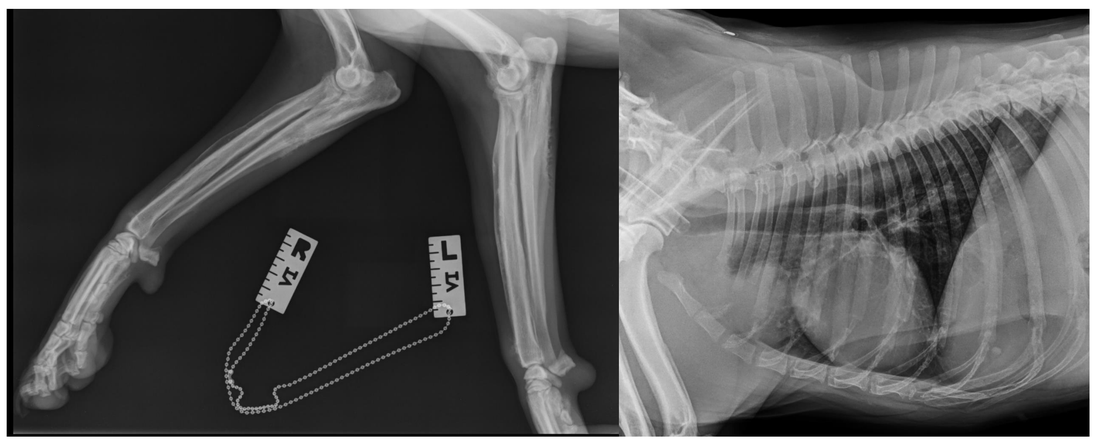
Hypertrophic osteopathy is a rare condition, considered to be secondary to intrathoracic space-occupying masses in most cases. Radiographic signs are suggestive for this condition, and clinicians should be aiming at finding the exact location and nature of the primary disease causing hypertrophic osteopathy.

• Materials and method

The patient was a 7-year-old female Boxer presenting initially for swollen and painful limbs, decreased appetite and activity, and also couching at a follow-up. Several radiographic studies were performed. Patient was referred for a CT study of the thorax and forelimbs.

• Results and discussions

Radiographic studies revealed thick, layered and palisading periosteal reaction on the long bones of the all limbs. Thoracic radiographs revealed a large soft tissue mass in the cranio-ventral aspect of the chest, increasing the likelihood of intrathoracic neoplasia.



A large mixed-type bony mass was also identified in the proximal part of the diaphysis and proximal metaphysis of the right humerus.
A contrast enhanced CT study was performed confirming within the thoracic cavity a large, heterogeneous mass; several other small pulmonary masses were also identified. The extent of the large humeral mass, as well as changes specific for hypertrophic osteopathy, were easily observed.

• Conclusions

Clinicians, whenever, facing with patients with radiographic signs of hypertrophic osteopathy should focus on identifying the primary cause.
CT is superior to other conventional imaging modalities in identifying the primary cause of hypertrophic osteopathy.

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