

## **Case report : Pulmonary neoplasia associated with hypertrophic osteoarthropathy in a cow**

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A 12-year old cow was presented to our clinic with chronic respiratory disease and recent lameness. The cow showed a mixed dyspnoea, without cough and nasal discharge and excessive whistling was audible on lung auscultation. The cow did not present fever. Its appetite was normal but the body condition was poor. Its walk was stiff, the four limbs being swollen and painful on palpation. Prescapular lymph nodes were hypertrophied. Blood examination revealed hyperproteinemia due to hyper- $\gamma$ -globulinemia. CBC and ionic profile were within normal range. Clinical diagnosis was chronic pneumonia and a suspicion of hypertrophic osteoarthropathy. Two months later, the cow was re-admitted to our clinic. Its general condition was aggravated. Spontaneous and fitful cough with a bilateral purulent discharge were present. Percussion revealed an increased lung field. On lung auscultation, whistling sounds were increased. They were audible over the left and right diaphragmatic lobes, being more important over the left side. Lameness and pain were also aggravated. Diagnosis of hypertrophic osteoarthropathy was based on clinical symptoms. Lungs and legs radiographs revealed increased opacity of the lung and light pleural effusion. Symmetrical periosteal proliferation, which could be characterized by a homogeneous thickness, smooth borders and a non-invasive aspect, was present. Because of the poor prognosis, the cow was euthanised.

Necropsy findings confirmed lesions of hypertrophic osteoarthropathy on the four limbs. A chronic parietal and visceral pleuritis in the left thoracic cavity and a generalized chronic interstitial pneumonia were found. On the left lung, a dozen of purulent and necrotic granulomatous nodular masses were seen. Moreover, a dilated cardiomyopathy of the right ventricle was found.

Microscopically, scattered throughout the lung tissue, masses of different shape and size containing proliferative epithelial cells were observed. Epithelial cells had clear and oval nuclei, with prominent nucleoli, some having numerous nucleoli. The presence of those epithelial proliferations pleads for a bronchial carcinoma but further investigations are needed to confirm the diagnosis.

These pulmonary lesions could be linked to hypertrophic osteoarthropathy developed by this cow.