

# **APOCRINE PULMONARY ADENOCARCINOMA IN A DOG: CASE REPORT**

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## INTRODUCTION

The term adenocarcinoma is applied to carcinomas that arise from the glandular epithelium and typically form glandular patterns during growth. Often, a cancer is composed of such primitive anaplastic cells, which must be designated as undifferentiated carcinoma, undifferentiated sarcoma, or even highly undifferentiated neoplasm (CHEVILLE, 2009). Adenocarcinomas are common tumors in dogs, frequent and represent 70 to 80% of these neoplasms (PEDROSO, 2010). However, in contrast, primary lung neoplasms are uncommon and represent only 1% of all tumors in this species (COPAT, 2014). According to Pedroso (2010), dogs with primary lung tumors have an average age of 9 to 12 years. The predisposition does not increase with sex or race. However, animals over 10 kg may be at increased risk. The right lung lobes, especially the caudal one, are the most commonly affected sites.

## CASE REPORT

A Weimaraner canine, spayed at six months, 11 years old, attended at a veterinary clinic in Curitiba - Pr, on May 21, 2018. The tutor reported three episodes of "choking and regurgitation" of the patient after feeding. He stated that four months ago he had undergone a splenectomy due to a hypoechoic nodule that had been under control for 4 years, and a nodulectomy in the perianal region. The results of the histopathological exams of the spleen were nodular lymphoid hyperplasia, and of the perineal nodule, benign mesenchymal neoplasia. Abdominal ultrasound showed mild gallbladder cholestasis. Computed tomography of the chest was performed with intravenous non-ionic iodinated contrast. In the caudal mediastinum, extrapulmonary cavity lesion was observed,

with net attenuation in several cavitations. The dimensions were 9,820cm x 7,517cm x 14cm, with its largest cavitation adjacent to the esophagus and containing approximate fluid attenuation of 25 Hounsfield Units. The accessory lung lobe showed signs of air trapping due to lobar bronchus compression by the mass. The extrapulmonary cavity lesion in the caudal mediastinum was evident, with differential diagnoses of bronchogenic cyst, paraesophageal abscess, enteric duplication cyst, lymphangioma or other neoplasm. Chest radiography showed a radiopaque structure, with density close to soft tissue, of large proportion, located in the middle and right caudal lobe, displacing the thoracic trachea ventrally and the esophagus in the region of the cardia. A sample of the intrathoracic mass, obtained from the right pulmonary caudal lobe, was surgically removed. In the macroscopic examination of this sample with dimensions of 135 x 125 x 84mm, it contained grayish lung parenchyma and a partially cleaved mass. Part of the dough exhibited a slightly firm consistency with friable areas. On microscopic examination, much of the tissue architecture was obliterated by multiple, coalescing nodular areas of neoplastic proliferation. The tumor cells were large polyhedral, part of them showing signs of apocrine secretion and forming irregular glandular and tubular structures with papilliform intraluminal projections. They exhibited anisokaryosis, anisocytosis, nuclear atypia and evident nucleoli, with a mitotic index of <1 fm/40x. There was desmoplasia and extensive areas of tumor necrosis with intense inflammatory infiltrate rich in neutrophils. The histopathological diagnosis was pulmonary apocrine adenocarcinoma.

## RESULTS AND DISCUSSIONS

As reported in the present case, the patient presented nodules in the perianal

region, spleen and lung. Histopathological examinations confirmed that there is no relationship between the tumors. Referring to the diagnosis of benign and malignant lung neoplasms, analyzing the percentages described in the literature, and when compared to the incidence in humans or metastatic neoplasms, it is noted that adenocarcinomas are the most frequent and represent 70 to 80% of these neoplasms. (PEDROSO, 2010). It was not possible to state that the pulmonary apocrine adenocarcinoma diagnosed in the present case is metastasis, since the perianal nodule showed a benign mesenchymal neoplasm. Thus, it cannot be confirmed that the present case report is a primary pulmonary adenocarcinoma, since its diagnosis is rare, and according to the literature it represents 1% of cases (COPAT, 2014). However, through chest radiography and tomography, it was not possible to state that the mass had infiltrated the lung, which was later confirmed by the surgical procedure of pulmonary lobectomy. As described by Copat (2014), and similar to the case in question, the trachea was dislocated, due to the adjacent development of the mass. The use of computed tomography, magnetic resonance imaging, abdominal ultrasound together with chest radiography are fundamental for the correct diagnosis

and staging of apocrine cell adenocarcinoma (FREIRE, 2018). Radiographs can point to the diagnosis of neoplasia, but definitive confirmation is only obtained through cytology and histopathology. The cytological examination is extremely important for the diagnosis and also for the prognosis, as the cell type reflects the behavior of the tumor (PEDROSO, 2010). The treatment of choice for lung neoplasms is surgical, and thoracotomy with rib resection for complete lobectomy of the affected lung lobe is an effective alternative in cases of extensive primary lung neoplasm (COPAT 2014). That said, imaging exams were of paramount importance for the diagnosis of increased thoracic volume.

## CONCLUSION

In view of the present report, it is concluded that the different diagnostic imaging tests are essential to correctly evaluate and stage cases of adenocarcinomas. The importance of the imaging exam goes beyond the suggestive diagnosis, considering that they serve as a facilitator in the collection of material and for confirmatory exams such as cytopathological and histopathological exams. As well as in the direction for surgical resolution of cases, which is often the main treatment for this pathology.

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