Coexistence of pulmonary SRLV and OPA lesions in sheep

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Introduction

Ovine pulmonary adenocarcinoma (OPA) and **Small ruminant lentivirus (SRLV) infection** are debilitating, progressive and longstanding diseases, associated to high economic losses in livestock farms. These two diseases can coexist in an animal inflicting among other injuries serious lung disease. The possibility of synergism between the two agents has been speculated for several authors. Due to the lack of serological tests for OPA early diagnosis, the use of imaging techniques (e.g. ultrasound examination) is recommended. Confirmation of the diagnosis includes histopathological and molecular techniques.

The main aim of this work was characterizing pulmonary lesions of OPA and SRLV coexisting infections using imaging and pathological diagnostic techniques.

Methods

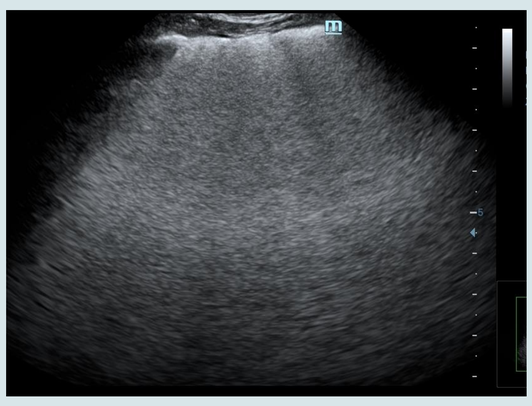
This study was carried out at the **Pedagogical Animal Husbandry Unit** of the **Escola Superior Agrária de Bragança** (University of Applied Sciences). Computed tomography (CT) scan was performed at **HVUTAD**.

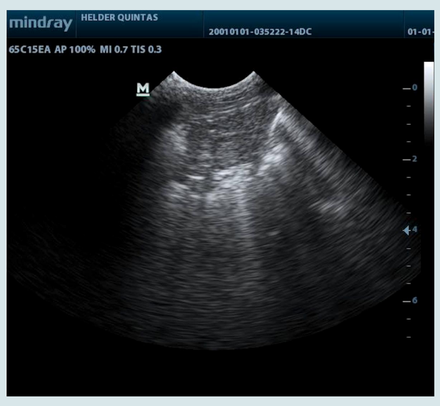
The sheep flock was submitted to indirect ELISA test (**ID Screen® MVV/CAEV Indirect**) to determine positivity status to SRLV. Despite the lack of gold standard imaging characteristics some indirect results pointed to SRLV diagnosis as well to some pathological lesions.

For the suspicion of OPA finding **imaging techniques** were used and posteriorly **pathological examination** confirmed the diagnosis.

Results

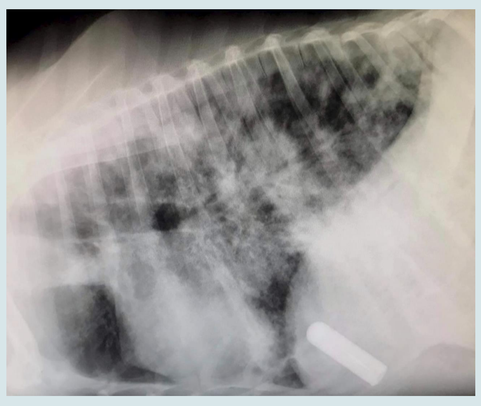
Ultrasound Examination

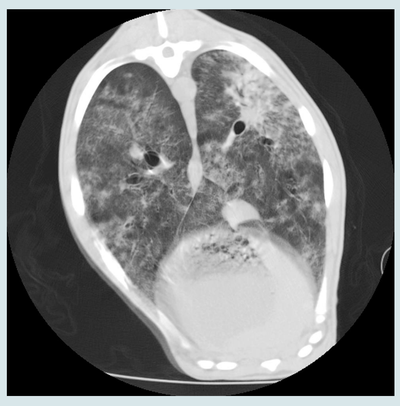




- ***Left -*** increase in echogenicity due to the consolidated parenchyma of interstitial pneumonia associated to SRLV;
- ***Right -*** presence of delimited echogenic areas of different sizes corresponds to neoplastic nodules associated to OPA;

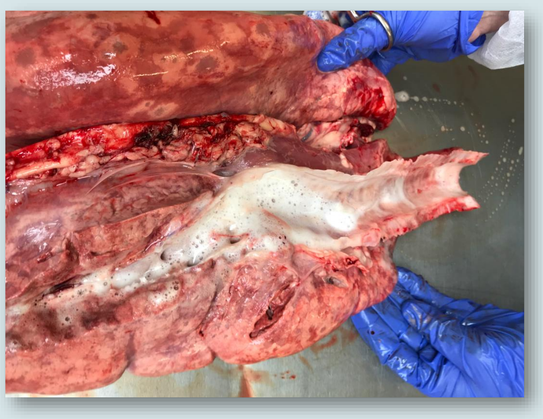
Radiography and Computed tomography





- Interstitial pattern high opacity associated with SRLV infection;
- Nodules of different sizes and locations or a nodular pattern with diffuse nodules in OPA infections;

Macroscopic Examination



- Lungs do not collapse and are asymmetrically enlarged;
- SRLV affected areas are characterized by firm consistency and general grayish discoloration of lung parenchyma;
- OPA is characterized by presenting pulmonary tumors that vary in size and distribution;
- In later stages, secondary infections may occur.

- **In this work, we review the pulmonary SRLV and OPA lesions in sheep in order to support the clinician in the identification of the disease's features, avoid underdiagnosis and allow the implementation of suitable measures to control its spread.**

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