

# Sputum from a golden retriever

## Contributors:

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## SPECIMEN

Sputum, compression preparation, Wright-Giemsa stain

## SIGNALMENT

3-year-old spayed female golden retriever

## CLINICAL HISTORY

A golden retriever was referred to the Veterinary Teaching Hospital (VTH) at Azabu University for the evaluation of a 3-year history of chronic cough, tachypnea, and exercise intolerance. Recently, the cough increased in severity, with occasional bloody sputum. Prior to visiting the VTH, the referral veterinary hospital detected an intrapleural mass, lung abnormalities suggestive of emphysema, pneumothorax, and hemorrhagic pleural fluid, as well as suspected systolic heart failure.

## CLINICAL FINDINGS

At presentation, no significant clinical abnormalities such as cough, tachypnea, or exercise intolerance were observed.

## DIAGNOSTIC PROCEDURES

Complete blood count and urinalysis results were within normal ranges.

Echocardiography was performed to investigate the possibility of systolic heart failure. During the test, a premature ventricular contraction was detected, with a small amount of pleural effusion around the apical area of the heart. No cardiac mass or atrial or ventricular enlargement was detected. Dilated cardiomyopathy and systolic heart failure were diagnosed.

Image analyses were performed to evaluate the previously detected intrapleural mass as well as lung and cardiac abnormalities. X-ray examination revealed no remarkable findings. Computed tomography (CT) showed the presence of a hematoma-like mass lesion in the left parasternal thoracic wall. Mild

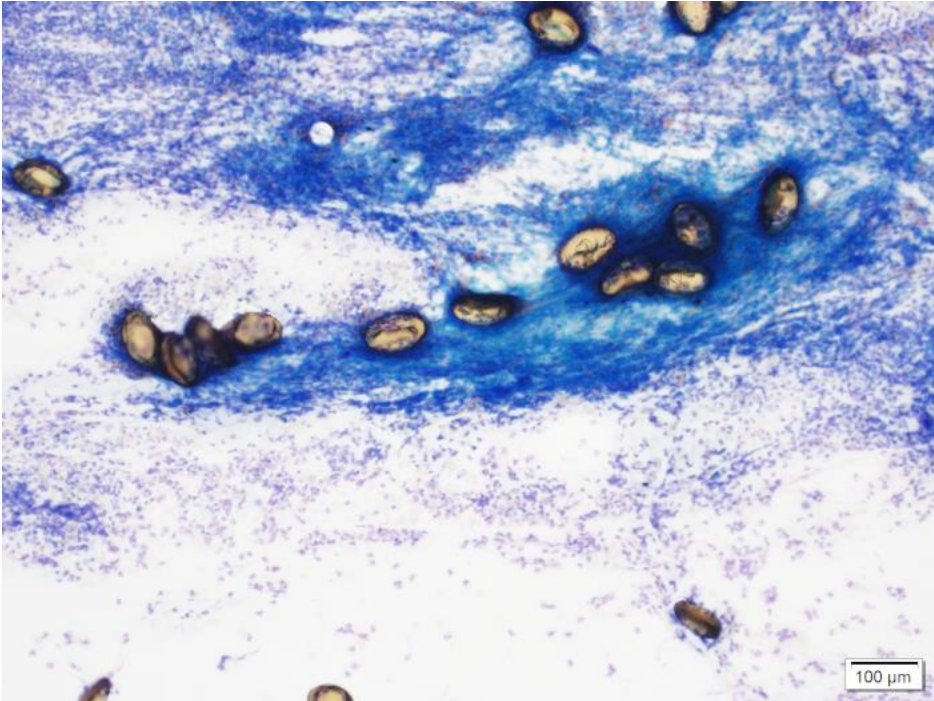
dilatation of the peripheral bronchi and small pockets of emphysema in the peripheral lungs were observed in various areas of all lung lobes. A linear hyperabsorptive lesion, extending continuous from the visceral pleura, was observed in the lung parenchyma. In the left lung lobe, there were two lesions in the cranial lobe and one lesion in the caudal lobe. In the right lung lobe, there was one lesion in the middle lobe and one lesion in the caudal lobe, which were highly absorptive, irregular lesions with relatively clear border extending continuously from the visceral pleura with cavities or air bronchograms present. Several small blebs were also observed at the lung margins. Mild to moderate enlargement of the sternal, mediastinal, and tracheobronchial lymph nodes was noted.



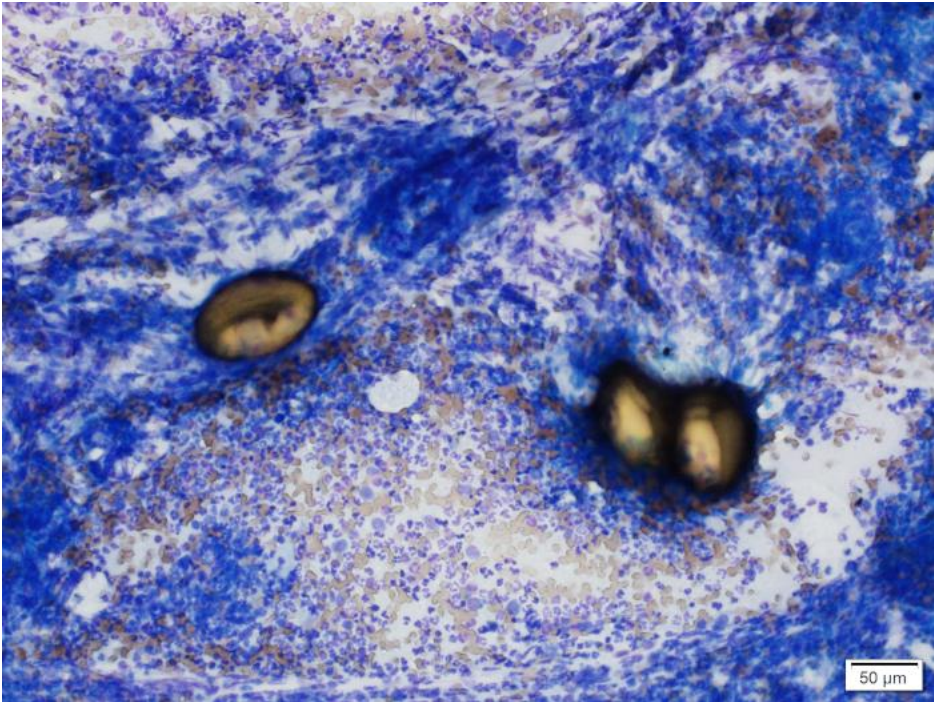
Figure1: CT scan showed the presence of a hematoma-like mass lesion (arrow) in the left parasternal thoracic wall. A linear hyper absorptive lesion (arrow head) with cavities or air bronchograms are noted in the lung parenchyma.

Bloody sputum was found attached to the tracheal tube on removal of the tube. Compression cytologic smears were prepared from the bloody sputum for further analysis.

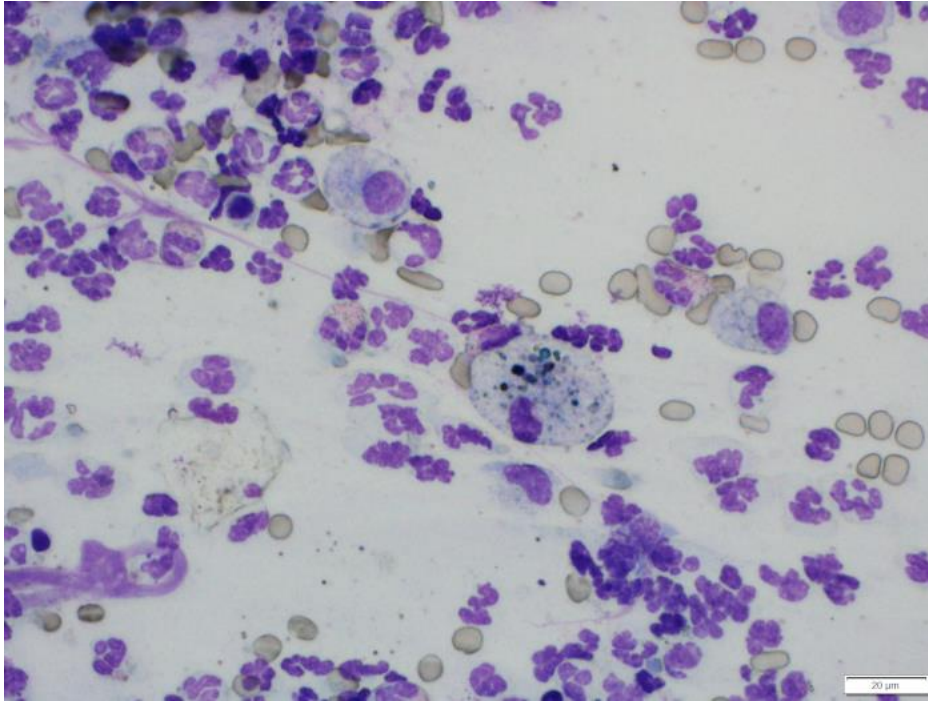
CYTOLOGICAL IMAGES



A



B



C

Figure 2: Compression cytologic smear of sputum from a 3-year-old spayed female golden retriever using Wright-Giemsa stain. Moderate numbers of yellow to golden-colored oval to rugby ball-like structures were observed. A: 10x objective, B: 20x objective, C: 60x objective.

#### QUESTIONS

1. What are the possible differential diagnoses for the yellow to golden-colored oval to rugby ball-like structures?
2. What additional tests would you recommend to confirm the diagnosis?