

# What's Your Diagnosis?

## Signalment

- Species: Feline
- Breed: DSH
- Sex: Male castrate
- Date of Birth: 11/20/96 (13 years old at presentation)

## Presenting Complaint

- Brief episode of open-mouth breathing one week prior to presentation
- History of seasonal allergies
- One respiratory distress episode approximately five years ago
- Loud grunting sound when grooming
- Painful when he vomits (occasional vomiting of food)

## Physical Exam

- Temp: 101.7F
- Heart Rate: 140 BPM
- Synchronous pulses
- Respiratory Rate: 40 BPM
- Wt (lbs): 20.2
- BCS: 9/9
- Slightly increased lung sounds bilaterally
- Remaining physical exam was normal

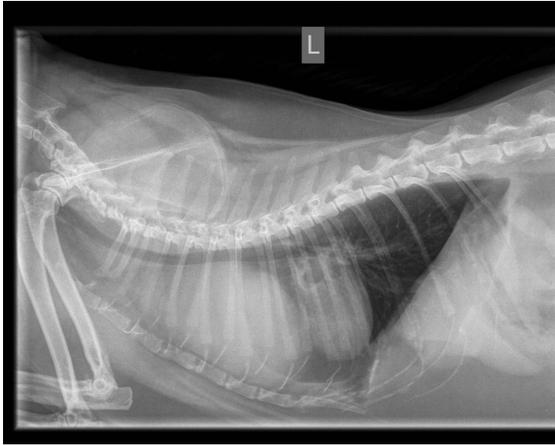
## Diagnostic Plan

- FeLV/FIV/HWT: negative
- CBC/Chem/UA
- Thoracic Radiographs

## CBC/Chem/UA Results

- Elevated lactate dehydrogenase (LD): 328 IU/L (ref range: <235 IU/L)
- Slight hyperkalemia: 5.7 mmol/L (ref range: 4.0-5.4 mmol/L)
- Lymphopenia: 18.7 % (ref range: 20.0-61.2%); absolute count 1.4 K/uL (ref range: 2.0-7.2 K/uL)
- No significant findings in urine sample

## **Thoracic Radiographs**



Left Lateral



Ventro-Dorsal

**Radiographic findings:** There is a large soft tissue opaque mass in the cranial mediastinum. This mass is causing dorsal displacement of the trachea and caudal displacement of the heart. There is widening of the bronchus of the left cranial lung and the right cranial lung.

**Radiographic Impressions:** Differentials for the mediastinal mass include: lymphoma, thymoma, other neoplasias and a mediastinal cyst. Brochiectasis of the right and left cranial lung lobes.

### ***Recommend Thoracic Ultrasound***

**Ultrasonographic findings:** Left cranial thorax: cystic structure measuring 6.1 x 7.1 cm. There is a small soft tissue structure at the ventral aspect of the structure. Right cranial thorax: cystic structure visible with a small amount of pleural effusion.

**Ultrasonographic Impressions:** Mediastinal cystic structure.

### ***Recommend Fine Needle Aspirate***

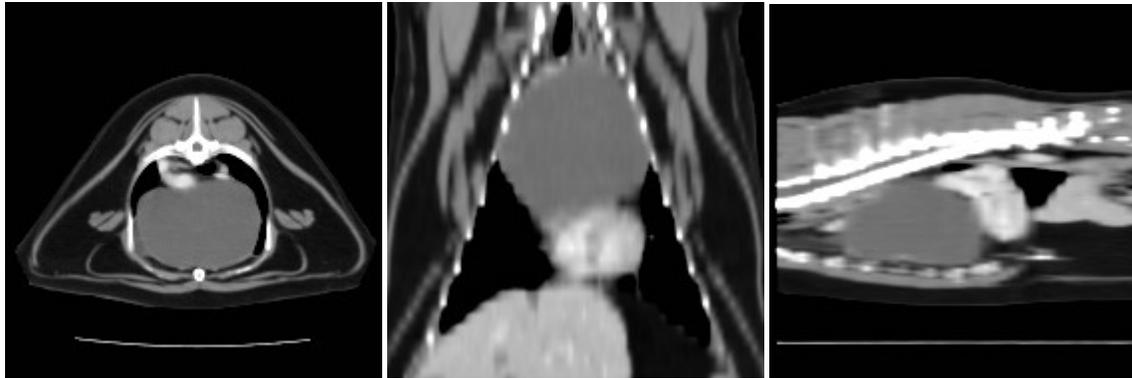
**Culture of Cystic Fluid Results:** Streptococcus Sp. (Beta hemolytic) – slight from enrichment only; with aerobic susceptibility

**Cytologic Interpretation of Cystic Fluid:** The 5 preparations have low nucleated cellularity, many erythrocytes, and pale backgrounds. Nucleated cells consist primarily of a mixture of small, mature lymphocytes and macrophages that contain dark pigment granules consistent with hemosiderin and/or erythrocytes. There are also rare plasma cells and neutrophils. No cells with features of malignancy are found. *Comments:* This is a low cellular fluid consistent with the

contents of a cyst with previous hemorrhage. The lymphocytes may be secondary to lymphocytic inflammation or part of a cystic lymphoid structure (thymus or lymph node). *Opinion:* Low cellular fluid consisting of small lymphocytes and macrophages; evidence of previous hemorrhage.

***Recommend Thoracic CT (Computed Topography) scan***

### **CT Scan**



Transverse

Dorsal Reconstruct

Saggital Reconstruct

**Therapeutic Conclusion:** A thoracic CT scan with a median sternotomy was performed. This revealed a very large cystic structure associated with mediastinal tissues. 60-70% of the cystic wall was resected and submitted for histopathology. The entire cystic wall could not be resected due to the direct attachments to vital structures.

**Histopathology Diagnosis:** Cystic Mediastinal Mass, Lymphocytic thymoma.

**Discussion of Mediastinal Cysts:** Cysts located in the mediastinum have been reported in various mammalian species, including dogs, cats and humans. Cysts in the cranial mediastinum can originate from multiple locations, such as branchial, parathyroid, pleural or the thyroglossal duct. The cyst origin is determined via histologic examination. Previous reports of mediastinal cysts in cats have been associated with varying clinical signs/presenting complaints. Several authors consider cysts to be incidental findings because their patients have had no signs explained by the presence of the cysts. According to recent literature, it is far less common for cats with cranial mediastinal cysts to present as the patient in this case did, with a history of respiratory difficulty. That being said, increased opacity in the cranial mediastinum on thoracic radiographs needs to be investigated. An anechoic mass containing clear fluid on an ultrasonographic exam is strongly supportive of a mediastinal cyst. Although the majority of feline cranial mediastinal cysts do not require treatment, those that are space-occupying lesions may require surgery. Should that be the case, a CT (computed topography) scan can prove to be a useful tool beforehand.