Case 63: Thoracic masses in a cat

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Signalment/History

- 9-year-old castrated male Domestic Longhair cat
- Trouble breathing

- Physical exam findings
  - ↓ compressibility of cranial thorax
  - ↓ bronchovesicular sounds
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Additional diagnostics

- Thoracic ultrasound
  - Moderate pleural effusion
  - Secondary pulmonary atelectasis
  - Multifocal pulmonary consolidation/nodule formation
  - Enlarged mediastinal lymph nodes

- Pleural fluid analysis = septic exudate
  - WBC: 46,000/μL
  - Total protein: 6.2 g/dL
  - 85% degenerate neutrophils with intracellular bacteria
Pleura

Diaphragm

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Morphologic diagnoses

• Lung: Regionally extensive pyogranulomatous pneumonia with intrahistiocytic coccobacilli
• Diffuse pyogranulomatous pleuritis and pericarditis

Additional diagnostics
• Pleural fluid aerobic culture: Rhodococcus equi
**Rhodococcus equi**

- **Actinomycete**
  - Aerobic
  - Non-motile
  - Non-spore forming
  - Gram positive coccobacilli
  - Facultative intracellular organism - macrophages

- **Pathogenicity**
  - Soil-dwelling organism
  - Virulence plasmid prevents phagolysosome fusion
  - Species specific tropism determined by host-adapted virulence plasmid
Rhodococcus equi

- Foals
  - Pyogranulomatous pneumonia
  - Ulcerative enterocolitis

- Cats
  - Cutaneous infection
  - Respiratory disease reported, but uncommon

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References

Questions?