

VET 433C Pleural Space Disease

Learning Objectives

➤ Interpret effusion characteristics and classify a pleural effusion sample

- Air: Pneumothorax
 - Traumatic
 - HBC
 - Iatrogenic
 - Spontaneous
 - Pleural bleb, bulla
 - Foreign body
 - Ruptured neoplasia
 - Esophageal perforation
 - Feline Asthma
- Soft Tissue
 - Diaphragmatic hernia
 - Traumatic vs congenital
- Fluid: Pleural Effusion
 - Transudate
 - Modified Transudate
 - Exudate
 - Hemothorax
 - Pyothorax
 - Chylothorax
 - FIP

➤ Generate a prioritized list of differential diagnoses for a given type pleural effusion/disease

- Hemothorax
 - Trauma – iatrogenic thoracocentesis, FNA, jugular venipuncture, HBC
 - Coagulopathy
 - Neoplasia
 - Lung lobe torsion
 - Pugs: Left cranial lung lobe
 - Afghan hounds and most other breeds: right middle
 - Infectious
 - Vasorum, spirocercosis
- Pyothorax: high neutrophilic exudate, intracellular bacteria, filamentous rods common if foxtail is associated
 - Foreign body migration > inhaled and migrate from lung to pleura
 - Often unknown
 - Pleuropneumonia is thought to be uncommon

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- Bite wounds in cats
- Chylothorax: Fluid analysis shows lymphocytes, if chronic effusion, neutrophil count may increase. Fluid triglyceride and cholesterol > serum
 - Idiopathic – most common
 - Heart failure – cats
 - Thoracic neoplasia
 - PPDH
 - Lung Lobe Torsion
 - Thoracic duct abnormalities
 - Trauma

➤ Construct an appropriate diagnostic work-up for an animal with pleural space disease

- Hemothorax
 - Coagulation panel
 - CBC
 - Radiographs
 - Infectious disease testing if this is suspected
- Pyothorax
 - Physical exam (decreased lung sounds ventrally)
 - CBC: degenerative left shift in cats, anemia/leukocytosis
 - Chem: Elevated liver enzymes, hypoproteinemia, dysglycemia
 - CT
- Chylothorax
 - Echocardiography
 - HW test
 - Thoracic rads/US
 - Fluid analysis

➤ Recall treatment options for common pleural space diseases

- Hemothorax
 - Correct secondary coagulopathy with fresh frozen plasma
 - RBC transfusion if necessary
 - Limit pleural drainage to resolution of respiratory distress
 - Surgery for bleeding neoplasia/lung lobe torsion
- Pyothorax
 - Broad spectrum antimicrobials (2 weeks if surgical, may be longer if doing medical management)
 - Parenteral
 - Bactericidal
 - Amipicilin/clavulonate alone?

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- Gram negative coverage combo?
 - Thoracocentesis
 - Thoracostomy tubes to allow for continual drainage, unilateral or bilateral
 - Thoracic lavage does not have strong evidence pro/con
 - Can be managed medically with oral antimicrobials if migrating grass awns are uncommon in the area
 - Should always do a bronchoscopy to ensure that all foxtails/fb are retrieved
- Chylothorax
 - Pleural drainage
 - Treat underlying dz
 - Reduced fat diet?
 - Rutin?
 - Surgical intervention: thoracic duct ligation +/- cisterna chyli ablation, pericardiectomy