Case 1

Signalment:
• 9 month old DSH cat

History:
• Poor doer with stunted growth
• One month of lethargy – one day the cat was barely able to walk, stumbling
• Fluid noted in chest on radiographs – modified transudate based on cytology
• Fluid in abdomen and enlarged kidneys noted on US
• Hyperproteinemia characterized by hyperglobulinemia
Case 1

Description

- On the right side, the visceral and parietal pleura are diffusely covered by a thick adherent layer of somewhat friable tan to yellow material
- There is possible extension into the pulmonary parenchyma
Case 1

Morph Diag

- Pleuritis, pyogranulomatous (fibrino-suppurative), diffuse, right thoracic cavity (+/- pneumonia)

What are some possible etiologies for this lesion?

- Mutated feline coronavirus*
- Pasteurella multocida (implantation from a bite wound)
Case 1

• Mutated feline coronavirus

Look at the kidneys, what is the most likely etiology?

• Feline Infectious Peritonitis (FIP)

What is the name of this disease?

• Histology +/- IHC, PCR

How would you confirm the diagnosis?

• Antemortem:
  • Clin Path + Serology?
  • Many cats will have positive serology but not FIP
Signalment:
• 50 day old Shorthorn MC calf
Clinical History:
• Calf was weak, down, unable to move with its eyes rolled back
• Calf was doing well the previous evening
• The calf had scours 4 weeks prior
Case 2

Description

• There is cranioventral consolidation and dark discolouration of the left and right lungs involving ~ 50% of the total lung field
• On section, there are scattered deposits of pasty white-yellow exudate
Case 2

Morph Diagnosis

- Bronchopneumonia, suppurative, locally extensive (bilateral), subacute to chronic, severe (with abscesses or bronchiectasis)

What is the likely portal of entry for the lesion?

- Aerogenous
Case 2

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**Possible Etiologies**

- *Pasteurella multocida*
- *Histophilus somni*
- *Mycoplasma bovis*
- *Trueperella pyogenes*
- +/- *Mannheimia hemolytica*

**Predisposing factors**

- Viral infection
  - BRSV, BPIV-3, BoHV-1
- Environmental / Management stressors
  - Temperature, Humidity, Transport, Crowding, etc.
Case 3

Signalment:
• 4 – 5 week old pig

Clinical History:
• Multiple animals have poor performance post-weaning, chronic coughing, dyspnea and weight loss
Case 3

The lungs are uncollapsed with a diffuse elastic texture and light brown colouration.

There is mild expansion of the interlobular septa.

The tracheobronchial LNs are enlarged homogenous and tan.
Case 3

- Interstitial pneumonia, diffuse, subacute, severe
- Pulmonary edema, diffuse, severe

How would you achieve a diagnosis?

Histology!
Case 3

Possible etiologies for interstitial pneumonia

- Viral
  - PPRS virus
  - PCV-2
  - Swine influenza virus
- Sepsis
  - *Salmonella*
- Nematode migration
  - Ascaris suum larval migration

How would you determine the cause?

- Submit fresh lung for viral testing (PCR, FAT, etc)
- Submit fresh lung +/- other organs for bacterial culture
- Fixed lung for histology (+/- IHC)
Case 3

Possible etiologies for interstitial pneumonia:
- Viral
  - PPRS virus
  - PCV-2
  - Swine influenza virus
- Sepsis
  - *Salmonella*
- Nematode migration
  - Ascaris suum larval migration

Possible port of entry?
- Hematogenous
- Aerogenous
Signalment:
• ~ 3 week old female lamb
Clinical History:
• History of scours and dehydration
• Found dead
Scattered randomly throughout the left and right lungs, but often clustered at the periphery of the lobes, are multifocal to coalescing, variably discrete small (2 – 5 mm) yellow foci.
Case 4

Embolic pneumonia, suppurative, multifocal to coalescing, acute (subacute), moderate

Morphologic Diagnosis
Case 4

Possible port of entry?
• Hematogenous

Possible underlying cause (source of agent)?
• Typically showering from a bacterial infection
  • Valvular endocarditis (R heart)
  • Omphalophlebitis
  • Hepatic abscess
  • Sepsis
Case 4

Possible port of entry?
- Hematogenous

Can you relate the clinical signs to the lesions?
- Possible that diarrhea and dehydration impaired pulmonary defence mechanisms
- Damage to the intestinal wall (enteritis) could have allowed entry for bacteria to the enter the blood
Case 5

Signalment:
- 12 year old MC, DLH cat

Clinical History:
- Dramatic weight loss over a month or two
- More recently dyspnea, tachypnea
Case 5

Description

• Several, tan-grey, firm nodular masses are scattered randomly throughout the lung.
• They range in size from 0.3 – 3 cm diameter and often have an umbilicated surface.
• They extend deeply into the parenchyma on section and are often cavitated (cystic or necrotic).

What type of disease process does this represent?

Neoplasia
**Case 5**

What are some differentials for a neoplastic lesion in the lung?

**Epithelial**
- Pulmonary carcinoma (primary)
- Metastatic carcinoma

**Mesenchymal or round cell?**
- Less likely due to umbilication of the masses!!
  - Fibrosarcoma
  - Chondrosarcoma
  - Metastatic sarcoma
  - Histiocytic sarcoma
  - Lymphoma

**Morph Diag**
- Malignant neoplasia, multifocal, lung

How would you achieve a diagnosis?

Histology!
Case 5

Morph Diag

• Carcinoma, lung

Possible sequelae?
• Metastasis within the lung (as seen here)
• Metastasis to the regional LN
• +/- Metastasis to the other viscera

Primary or secondary?
• This can be hard when there are multiple masses
• Is one much larger than the others?
• Check other organs for a primary source
Signalment:
- 10 year old MC German Shepherd

Clinical History:
- 5 days: lame on the right hind end
- Acutely weak and brought in on emergency
- PE:
  - Pale mucous membranes
  - On US, large amount of fluid in the abdomen – abdominocentesis showed abundant erythrocytes and high protein
  - Developed signs of shock - resuscitation was attempted unsuccessfully
Case 6

Description

- Scattered randomly throughout the lungs are numerous, small (0.3 – 1 cm), soft to firm, brown-red, nodular masses
- The right auricle is thickened, dark brown and irregular due to an ill-defined mass
Case 6

What type of disease process does this represent?

Neoplasia

Differentials

- Hemangiosarcoma
- Melanoma

Metastatic melanoma
Case 6

What type of disease process does this represent?

Neoplasia

How would you achieve a diagnosis?

Histology!

Metastatic melanoma

Hemangiosarcoma
Case 6

Probable Diagnosis
- Hemangiosarcoma
- Mass type lesion in the right auricle
- Metastases to the lung

Other organs typically involved
- Spleen
- Liver
- Any other organ: kidney, muscle, brain, etc
Case 6

Cause of shock

- Blood loss (hemoabdomen)

Cause of hemoabdomen?

- Rupture of an abdominal mass
Case 6

• Blood loss (hemoabdomen)

Cause of hemoabdomen?

• Rupture of an abdominal mass