



ECVP/ESVP Summer School in Veterinary Pathology



Marie Curie Training Courses

Summer School 2004 – Case 8

Slide No. 8: Tissue from a HARBOUR SEAL (*Phoca vitulina*)

1. DESCRIPTION OF HISTOLOGICAL FINDINGS

Lung. Diffusely, affecting up to 100% of the section, the alveoli are filled by moderate numbers of viable and degenerated neutrophils, macrophages, and few eosinophilic granulocytes, lymphocytes, plasma cells, sloughed epithelium, amorphous, cellular debris and small amounts of eosinophilic, fibrillar material (fibrin). Multifocally, the alveoli show mild to moderate type two pneumocyte hyperplasia, loss of alveolar epithelium and few multinucleated syncytial cells. The alveolar septa are thickened by lymphocytes, macrophages, neutrophils and congested capillaries and eosinophilic homogeneous material (edema). Multifocally, there is moderate to severe pale eosinophilic staining with loss of cellular outline, pyknosis and karyolysis of alveolar septa and interstitial structures (lytic necrosis) with moderate numbers of randomly distributed coccoid basophilic bacteria. Multifocally, within the bronchiolar and bronchial walls and lumen there are variable numbers of previously described inflammatory cells, amorphous cellular debris, and low amounts of fibrin. The bronchiolar and bronchial epithelium varies from squamous to cuboidal to closely packed and multilayered (hyperplastic) with occasional sloughing of epithelial cells from the basement membrane and single cell necrosis. Multifocally, respiratory epithelial cells and alveolar macrophages contain rare 2 to 5 µm, round to oval, faintly to brightly eosinophilic intracytoplasmic and intranuclear inclusion bodies. Within the airways there are multiple cross and tangential sections of a nematode parasite characterized by a smooth cuticle, pseudocoelom, coelomyarian-polymyarian musculature, multinucleated intestine and a reproductive tract containing embryonated eggs and developing larvae. The nematodes are surrounded by a mild infiltration with as previously described inflammatory cells. Multifocally, subpleurally, in interlobular septa and perivascularly, the connective tissue is distended and separated by clear spaces (edema) with occasional inflammatory cells, as previously described. Focally extensive, alveoli are expanded and dilated (emphysema).

2. MORPHOLOGICAL DIAGNOSES

1. Lung: Pneumonia, bronchointerstitial, necrotizing, severe, subacute, multifocal, moderate, with few intracytoplasmic and intranuclear inclusion bodies and syncytial cell formation, consistent with phocine morbillivirus.
2. Lung: Bronchopneumonia, necrosuppurative, acute, multifocal, with coccoid bacteria.
3. Lung: Pneumonia, eosinophilic and granulomatous, multifocal, mild, with nematodal lungworms.

MARKS:

- *descriptive features:*

Lung	1
Alveolar changes	2
Alveolar epithelial hyperplasia, syncytial cells	2
Septal changes (congestion, LC, macrophages, NL)	1
Edema	1
Lytic necrosis	1
Bronchial changes (edema, LC, macrophages, NL, debris)	1
Bronchial changes (epithelium: hyperplasia, necrosis)	2
Inclusion bodies	1
Parasites (eggs, larvae)	1
Interstitial changes (oedema, inflammatory cells)	1

- *diagnoses* (n=4):

Necrotising pneumonia with inclusion bodies and syncytia

1

Phocine morbillivirus

1

Bronchopneumonia (bacterial)

1

Pneumonia (parasitic)

1

Style:

2