

WSC 2011-2012. Conference 1, Case 1
Tissue from a cat.

MICROSCOPIC DESCRIPTION: Lung: Diffusely, alveolar septa are markedly expanded **(1pt)** up to 5 times normal by varying combinations and concentrations of neutrophils **(1pt)**, macrophages, lymphocytes, dense mats of fibrin **(1pt)**, edema, congestion and necrotic debris, and occasionally, Type II pneumocyte hyperplasia **(1pt)**. Multifocally, there is full-thickness septal necrosis **(1pt)**. Alveolar spaces contain variable combinations and concentrations numbers of viable and degenerate neutrophils, macrophages, fibrin **(1pt)**, edema, hemorrhage, and necrotic debris. Along the pleura, alveoli are often markedly distended and occasionally coalesce (emphysema). Multifocally, airway epithelium is multifocally to circumferentially necrotic **(1pt)**, and replaced by a coagulum of dense fibrin, degenerate neutrophils, sloughed epithelial cells and cell debris **(1pt)**. Multifocally, this necrosis extends through the bronchiolar wall and inflammatory and cellular debris spills out into the surrounding parenchyma, surrounding and separating submucosal glands and extending into adjacent alveoli. Interstitial connective tissue surrounding airways and vessels and pleural connective tissue is moderately to markedly dilated by clear space (edema) **(1pt)** and infiltrated by low to moderate numbers of neutrophils, macrophages, lymphocytes, and plasma cells **(1pt)**. Rarely, nuclei of type II pneumocytes, glandular epithelium **(1pt)**, and airway epithelial cells are expanded by a 4-5 um pink intranuclear **(1pt)** viral inclusion **(1pt)**.

MORPHOLOGIC DIAGNOSIS:

Lung: Pneumonia, bronchointerstitial, necrotizing, acute, diffuse, severe, with epithelial intranuclear eosinophilic inclusion bodies. **(3 pts)**

CAUSE: Feline herpesvirus – 1 **(3pt)**

O/C - **(1pt)**

WSC 2011-2012. Conference 1, Case 2.
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Lung: Within a focally extensive area approximating 50% of the section, alveolar septa are diffusely and markedly thickened up to 5x normal **(1pt)** by abundant mature collagen **(1pt)**, plump fibroblasts **(1pt)**, low numbers of neutrophils, histiocytes, congested capillaries, and often a solid lining of hyperplastic type II pneumocytes **(1pt)**. Alveolar spaces are filled by moderate numbers of viable and degenerate neutrophils **(1pt)**, foamy alveolar macrophages **(1pt)**, fewer eosinophils, sloughed degenerate type II pneumocytes, cellular debris, fibrin, and edema fluid **(1pt)**. Rarely, alveolar macrophages contain a single, 4-6 um, smudgy basophilic **(1pt)** intranuclear viral inclusion **(1pt)** which is often surrounded by a clear halo. In less affected areas of the lung, alveolar septa are expanded by small amounts of fibrous connective tissue and marked vascular congestion **(1pt)**. Bronchioles are often filled with large numbers of inflammatory cells as seen in alveolar spaces, and are admixed herein with basophilic mucus and small amounts of hemorrhage **(1pt)**. In affected areas, the pleura is markedly thickened **(1pt)** up to 2mm and there are numerous thick-walled arterioles with a loosely arranged, myxomatous tunica media scattered throughout this fibrous connective tissue.

MORPHOLOGIC DIAGNOSIS:

Lung: Pneumonia, necrotizing and fibrosing, interstitial, focally extensive, severe, with marked type II pneumocyte hyperplasia and rare intranuclear viral inclusions **(3 pts)**

NAME THE DISEASE: Multinodular pulmonary fibrosis **(2pt)**

CAUSE: Equine herpesvirus-5 **(2pt)**

O/C - (1pt)

WSC 2011-2012. Conference 1, Case 3.
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lung: Within approximately 50% of the section, alveoli are filled by macrophages containing abundant intracytoplasmic homogeneous, amphophilic, mildly anisotropic hyaline material **(2pt)** admixed with moderate numbers of alveolar macrophages **(1pt)** with foamy eosinophilic cytoplasm and lesser numbers of neutrophils, lymphocytes **(1pt)**, plasma cells **(1pt)** and multinucleated foreign-body macrophages **(2pt)**, fibrin, and edema. Within affected areas, alveolar septa are expanded markedly by fibroblasts **(2pt)** and collagen **(2pt)**, macrophages, lymphocytes, and rare plasma cells, as well as type II pneumocyte hyperplasia **(1pt)**. Within affected areas, small airways are often filled by alveolar contents as listed above **(2pt)**, and bronchiolar epithelium is often attenuated. Within the adjacent unaffected parenchyma, alveolar septa are markedly congested **(1pt)** and atelectatic, and only rare alveoli in these areas contain hyaline amphophilic material with attending inflammatory cells.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial, granulomatous, chronic, focally extensive, severe, with abundant intracytoplasmic hyaline material. **(2pt)**

NAME THE CONDITION: Pulmonary hyalinosiis **(2pt)**

O/C: (1pt)

WSC 2011-2012. Conference 1, Case 4.
Tissue from a macaque.

MICROSCOPIC DESCRIPTION: Mandible (per contributor): Effacing pre-existing alveolar bone, there is an unencapsulated, poorly demarcated, infiltrative, moderately cellular neoplasm **(1pt)** composed of islands, nests and trabeculae of odontogenic epithelial cells **(1pt)**. Separating and surrounding islands of odontogenic epithelium is a collagen poor, cell-rich stroma populated by spindle cells with prominent oval nuclei and small amounts of wispy eosinophilic fibrillary cytoplasm **(1pt)** (resembling dental papilla). The islands are composed of densely-packed tall columnar cells with distinct cell borders and moderate amounts of pale eosinophilic fibrillar cytoplasm and occasionally prominent intercellular bridges **(1pt)**. Nuclei palisade **(1pt)** in an antibasilar fashion along a prominent basement membrane, are oval to elongate with finely stippled chromatin, and have 1-2 distinct nucleoli **(1pt)**. Mitoses are rare. **(1pt)** While most islands are composed solidly of neoplastic odontogenic epithelium **(1 pt)**, few larger islands surround a central focus of loosely arranged small spindle to stellate cells **(1pt)** (stellate reticulum) **(2pt)** on a pale myxomatous matrix. Within the stellate reticulum, neoplastic stellate cells have distinct cell borders, moderate eosinophilic fibrillar cytoplasm and hyperchromatic nuclei, with finely stippled chromatin and a variably distinct nucleolus. **(1pt)** Rarely, adjacent to the ameloblasts are columnar cells (odontoblasts) **(1pt)** which form a 2-layer palisade **(1pt)** and abut a dense amphophilic homogenous material (dental hard substance?) **(1pt)** These cells are separated by abundant amphophilic extracellular matrix. At the borders of the section there are multiple foci of pre-existent fibrous connective tissue with elements of mineral, necrotic bone and woven bone **(1pt)**.

MORPHOLOGIC DIAGNOSIS: Odontogenic neoplasm (ameloblastoma, ameloblastic fibroma, ameloblastic fibroodontoma, ontoamelaoblastoma, ameloblastic odontoma, complex odontoma all OK) **(3pt)**

O/C: **(1pt)**