WSC 2022-2023
Conference 22, Case 1
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Oral mucosa: Multifocally, within the submucosa **(1pt.)**, small and medium caliber arteries **(1pt.)** and to a lesser extent veins **(1pt.)** are surrounded by variably thick cuffs of mononuclear inflammatory cells that multifocally infiltrate the vessel walls **(1pt.)**. The inflammatory infiltrate is composed primarily of large lymphocytes **(1pt.)** with a high nuclear to cytoplasmic ratio and large, open nuclei with prominent nucleoli as well as small lymphocytes, **(1pt.)** fewer macrophages **(1pt.)**, and rare neutrophils **(1pt.)** and plasma cells **(1pt.)**. Within and admixed with the inflammatory infiltrate are degenerate (brightly eosinophilic) and pyknotic smooth muscle cells **(1pt.)** in disarray, cellular debris and multifocally, brightly eosinophilic, hyalinized extruded protein and hemorrhage (fibrininoid vasculitis) **(1pt.)**. The endothelium of these vessels is variable lost, pyknotic, or hypertrophic, with lymphocytes directly subjacent to endothelium. The surrounding lamina propria is infiltrated by similar inflammatory cells. **(1pt.)** Multifocally, there is partial- to full-thickness necrosis of the overlying mucosal epithelium. **(1pt.)** Affected epithelium is sloughed and remnant epithelium within these areas demonstrates a loss of stain affinitity (coagulative necrosis) **(1pt.)**, and is infiltrated by low to moderate numbers of viable and necrotic neutrophils admixed with cellular debris. The underlying lamina propria in areas of ulceration is mildly edematous and infiltrated by neutrophils as well.

MORPHOLOGIC DIAGNOSIS: Oral mucosa: Vasculitis **(1pt.)**, lymphocytic **(1pt.)** and necrotizing **(1pt.)**, multifocal to coalescing, moderate, with ulceration.

CAUSE: Ovine herpesvirus-2 **(2pt.)**

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

WSC 22-23
Conference 22, Case 2
Tissue from a cat.

MICROSCOPIC DESCRIPTION: Lung: There is mild autolysis, most evident in the loss of the airway epithelium. Multifocally, the cross sectional diameter of midlle-calier muscular pulmonary arteries (particular peribronchiolar branches) is expanded up to 10 times normal diameter **(1pt)**, and affected arterioles are tortuous. Within affected arteries, the tunica intima **(1pt)** is thrown into broad villar **(1pt)** folds, which often compromise the luminal diameter **(1pt)**. Each projection is composed of a loosely arranged core of mature collagen **(1pt)** (intimal hyperplasia) **(1pt)**, which contains scattered smooth muscle cells and few fibroblasts in disarray within the expanded tunica intima. **(1pt)** The tunica intima and to a lesser extent, the mural smooth muscle of the tunica media and the adventitia **(1pt)** are infiltrated by moderate numbers of viable eosinophils **(1pt)**, and fewer neutrophils **(1pt)**, histiocytes **(1pt)**, and lymphocytes **(1pt)** and plasma cells, as well as proliferating capillary lumina within the tunica intima. . There is multifocal mild diffuse and occasionally assymetrical hyperplasia of the smooth muscle of affected arteries and arterioles. **(1pt)** There is mild adventitial edema of arterioles and in some areas moderate edema surrounding dilated pulmonary veins. **(1pt)** Mural hyperplasia is also present small-caliber arterioles as well. There is diffuse acute congestion of alveolar septa and occasional intra-alveolar hemorrhage and edema.

MORPHOLOGIC DIAGNOSIS: Lung, arteries and arterioles: Villar endarteritis **(1pt)**, diffuse, severe, with mild smooth muscle hyperplasia **(1pt)** and marked eosinophilic inflammation **(1pt)**.

CAUSE: Dirofilaria immitis **(3pt)**

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

WSC 2022-2023
Conference 22, Case 3
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Cerebrum and thalamus sectioned at the diencephalon **(1pt)** : Primarily within the thalamus, and to a lesser extent within the overlying and cerebral cortex **(1pt)**, blood vessels exhibit one or more of the following: perivascular hemorrhage **(1pt)**, perivascular cuffing **(1pt)** by one to three layers of neutrophils **(1pt)** and lymphocytes **(1pt)**, expansion of the wall by extruded eosinophilic protein and necrotic cellular debris (vasculitis) **(1pt)**. Endothelial cells often contain a prominent basophilic intranuclear **(1pt)** viral inclusion **(1pt)** with a clear halo. Neutrophils extend into the adjacent parenchyma **(1pt)** where they are admixed with hemorrhage and cellular debris. There is a diffuse gliosis **(1pt) j**within these areas with increased numbers of astrocytes **(1pt)**, microglia **(1pt)** and multifocal mild hemorrhage. There are scattered glial nodules **(1pt)** which are often perivascular and characterized by aggregation of astrocytes, prominent microglia, and cellular debris. There is infiltration and expansion of the adjacent meninges by moderate numbers of macrophages, neutrophils, lymphocytes, and rare plasma cells. **(1pt)**

MORPHOLGIC DIAGNOSIS: Thalamus and cerebrum: Meningoencephalitis, neutrophilic **(1pt)** and lymphocytic, multifocal to coalescing**,** moderate, with vasculitis **(1pt)**, glial nodules **(1pt)** and intraendothelial intranuclear viral inclusions. **(1pt)**

CAUSE: Canine adenovirus-1 **(2pt)**

WSC 2022-2023
Conference 22, Case 4.
Tissue from a mink.

MICROSCOPIC DESCRIPTION: Lung: Alveolar septa **(1pt.)** are expanded by variable combinations and concentrations of macrophages **(1pt.)**, fewer lymphocytes and plasma cells, congestion, edema, and small amounts of necrotic cellular debris. Alveoli are occasionally lined by cuboidal epithelium (type II pneumocyte hyperplasia) **(1pt.)**. Alveolar lumina are variably filled with an exudate composed of increased numbers of alveolar macrophages **(1pt.)** which have abundant amphophilic to basophilic cytoplasm **(1pt.)** and are occasionally multinucleated **(1pt.)**, fewer neutrophils **(1pt.)**, edema, rare hemorrhage and small amounts of fibrin, and small amounts of necrotic debris. Diffusely, perivascular, peribronchiolar, and subpleural connective tissue **(1pt.)** is expanded by moderate numbers of plasma cells **(1pt.)** and lymphocytes with edema and dilated lymphatics. Bronchioles **(1pt.)** and bronchi contain refluxed alveolar exudate. The pleura **(1pt.)** is multifocally mildly thickened up to twice normal by fibrous connective tissue.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial **(1pt.)**, lymphohistiocytic **(1pt.)**, diffuse, moderate, with type II pneumocyte hyperplasia**(1pt.)** and peribronchial and perivascular lymphoplasmacytic infiltrates**(1pt.)**

ETIOLOGIC DIAGNOSIS: Parvoviral pneumonia **(1pt.)**

CAUSE: Aleutian mink disease virus (ADV, AMDV) **(3pt.)**

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