

WSC 2015-2016, Conference 25

Case 1. Tissue from a turkey.

MICROSCOPIC DESCRIPTION: Spleen: The spleen is enlarged. Within the white pulp **(1pt)**, Schweiger-Siedel sheaths are enlarged and hypocellular **(1pt)**, with marked loss of lymphocytes **(1pt)**, and with prominent penicillary veins. There is small amount of cellular debris scattered throughout the white pulp **(1pt)**. The white pulp contains numerous 15-20um macrophages **(1pt)** whose nuclei are expanded up to 10um **(1pt)** by an oblong, amphophilic **(1pt)** viral inclusion **(2pt)**. The red pulp is also mildly hypocellular with marked loss of lymphocytes **(1pt)**, increased numbers of macrophages (with occasional intranuclear inclusions) and is expanded by small amounts of fibrin and hemorrhage. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Spleen: Splenitis, histiocytic, diffuse, marked, with marked lymphoid depletion and intrahistiocytic intranuclear viral inclusions. **(3 pt.)**

CAUSE *Avian adenovirus 2* **(3pt)**

Name another affected organ: Intestine **(1pt)**

Name the disease: Hemorrhagic enteritis of turkeys. **(1pt)**

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

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Case 2. Tissue from a cat.

MICROSCOPIC DESCRIPTION: Lung: Diffusely, large and medium-sized arteries **(1pt)** are markedly expanded **(1pt)** due to an infiltration of numerous inflammatory cells which efface the mural lamina. The endothelial lining in many vessels is effaced **(1pt)**, and in others, hypertrophic. Some vessels lack an apparent lumen (likely a function of cut). The elastic lamina of the vessel is effaced **(1pt)** and the tunica intima and media is expanded 3-4 times normal **(1pt)** by large numbers of epithelioid macrophages **(1pt)** admixed with fewer lymphocytes, plasma cells, brightly eosinophilic extruded protein **(1pt)**, and rare hemorrhage. Some vessels walls contain small foci of lytic necrosis **(1pt)**. The tunica adventitia is also expanded, but contains primarily higher numbers of lymphocytes **(1pt)** and fewer plasma cells. Diffusely, pulmonary alveoli are expanded with abundant bright pink protein-rich edema fluid **(1pt)**, admixed with hemorrhage, moderate numbers of alveolar macrophages **(1pt)** (occasionally in aggregates) and small amounts of cellular debris. Alveolar walls are expanded by congestion, interstitial edema and increased numbers of circulating cells, often neutrophils. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Lung: Arteritis, necrotizing and lymphohistiocytic, diffuse, severe, with fibrinoid necrosis and marked alveolar and interstitial edema. **(4pt)**

CAUSE: Mutated feline coronavirus **(3pt)**

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

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Case 3. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Cerebrum, with cerebellum, brainstem and 4th ventricle: Scattered randomly throughout the cerebrum, there are numerous poorly formed granulomas **(1 pt)** ranging up to 75um. The granulomas are composed of a central core of low to moderate numbers of neutrophils **(1 pt)** surrounded by large numbers of elongate epithelioid macrophages **(1 pt)** ranging up to 10um in diameter, admixed with few lymphocytes and small amounts of cellular debris. A similar infiltrate expands overlying meninges (not present in all sections). There is mild astrocytosis and microgliosis of the surrounding neuropil **(1 pt)** and adjacent vessel are cuffed by 3-4 layers of histocytes and fewer lymphocytes and lined by hypertrophic epithelium **(1 pt)**. Within the periventricular region, astrocytic **(1 pt)** nuclei are expanded by a single eosinophilic intranuclear inclusion which peripheralizes the chromatin **(2 pt)**. Within the meninges, there is a vessel whose wall is markedly expanded by large numbers of neutrophils, fewer macrophages and lower numbers of lymphocytes admixed with moderate amounts of a brightly eosinophilic protein, hemorrhage, and cellular debris (fibrinoid necrosis) **(2 pt)**. The choroid plexus is infiltrated by low numbers of neutrophils, macrophages, and rare lymphocytes. **(1 pt)**

MORPHOLOGIC DIAGNOSIS: 1. Cerebrum: Meningoencephalitis, pyogranulomatous, multifocal, moderate. **(2 pt)**

2. Cerebrum, periventricular astrocytes: Intranuclear inclusion bodies, multifocal. **(2 pt)**

3. Meningeal vessel: Vasculitis, necrotizing, focally extensive, severe. **(2 pt)**

CAUSE: Canine morbillivirus **(2 pt)**

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

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CASE 4. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Small intestine: There is diffuse and circumferential **(1pt.)** mucosal necrosis **(1pt.)**. Villar architecture is diffusely lost **(1pt.)**, and the remaining mucosa is covered with a coagulum **(1pt.)** of necrotic debris admixed with numerous proliferating yeasts **(1pt.)** and bacilli **(1pt.)**. There is marked crypt loss **(1pt.)** and the few remaining crypts are lined by basophilic epithelium which often piles up **(1pt.)** (regenerative) **(1pt.)**. There is moderate pleomorphism **(1pt.)** within some crypts, and affected epithelial cells contain abundant granular eosinophilic cytoplasm with large vacuoles and vesicular nuclei with prominent nucleoli. Occasional remaining crypts are widely dilated and contain sloughed necrotic epithelial cells admixed with cellular debris in heir lumen (crypt abscesses) **(1pt.)** . There is stromal collapse **(1pt.)** of the remaining lamina propria which contains numerous empty crypts devoid of lining epithelium and is composed largely of proliferating fibroblasts, throughout which low to moderate numbers of macrophages and lymphocytes are admixed with few neutrophils and cellular debris. Lymphatics within the lamina propria and underlying submucosa are markedly dilated **(1pt.)**. Fat stores are markedly diminished **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: 1. Small intestine: Enteritis, necrotizing, diffuse, severe, with stromal collapse, crypt abscessation, and crypt regeneration. **(3pt.)**

2. Small intestine: Surface-associated yeasts, numerous, etiology consistent with *Candida albicans*.

CAUSE: Canine parvovirus-2 **(3pt.)**

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