

WSC 2020-2021

Conference 13, Case 1.

Tissue from an ox.

**MICROSCOPIC DESCRIPTION:** Gingiva and submucosa: The gingival mucosa is elevated **(1pt.)** by a large submucosal mass composed of coalescing poorly formed pyogranulomas **(1pt.)** averaging 250um in diameter. These pyogranulomas are centered on irregularly shaped, often hollow aggregates of spicular, radiating **(1pt.)** brightly eosinophilic Splendore-Hoeppli **(1pt.)** material, which in turn contains large aggregates of basophilic 2-3um coccobacilli **(1pt.)**. The material is surrounded by (and partially surrounds) large numbers of neutrophils **(1pt.)** and often palisading epithelioid macrophages **(1pt.)** admixed with moderate amounts of cellular debris, numerous fibroblasts and immature capillaries, and small amounts of collagen. The underlying submucosa contains a similar 3mm focus of pyogranulomatous inflammation. There are numerous tertiary lymphoid structures **(1pt.)** within the submucosa, perivascular aggregates of lymphocytes and fewer plasma cells which contain rudimentary follicles and occasional tingible body macrophages. There is extensive fibrosis **(1pt.)** of the submucosa, numerous small proliferating vessels, and dense bands of mature fibrous connective tissue surrounds and separates atrophic skeletal muscle fibers throughout the section. Skeletal muscle fibers exhibit a range of changes including hypereosinophilia, vacuolation (degeneration) **(1pt.)** and shrinkage (atrophy) **(1pt.)**. Small aggregates of lymphocytes are often present in proximity to degenerating myofibers. **(1pt.)** Within the section, there is asymmetric mural edema of a large arteriole. **(1pt.)** There are low numbers of lymphocytes within the interstitium of the salivary glandular tissue.

**MORPHOLOGIC DIAGNOSES:** Oral mucosa: Gingivitis, pyogranulomatous **(1pt.)**, chronic **(1pt.)**, multifocal to coalescing, severe, with Splendore-Hoeppli material **(1pt.)** and colonies of coccobacilli. **(1pt.)**

**CAUSE:** *Actinobacillus lignieresii* **(2pt.)**

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

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Conference 13, Case 2.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Liver: Diffusely, there is loss of hepatic plate architecture **(2pt)**; hepatocytes are individualized and rounded up **(2pt)**. Multifocally, low numbers of individualized, with brightly eosinophilic hyalinized cytoplasm **(2pt)** and occasional cytosegresomes (degeneration) **(2pt.)** and occasionally have pyknotic or karyorrhectic nuclei (necrosis) **(2pt)**. Increased mitotic figures are present within the hepatocytes (or may be just easier to pick out in this see of degenerating hepatocytes.) There are multifocal areas of hemorrhage and intrasinusoidal fibrin thrombi scattered throughout the section **(2pt)**.

MORPHOLOGIC DIAGNOSIS: Liver: Hepatocellular disassociation **(2pt)**, diffuse, severe, with random hepatocellular degeneration and necrosis. **(2pt)**

CAUSE: *Leptospira interrogans* **(3pt)**

O/C - **(2pt)**

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Conference 13, Case 3.

Tissue from a striped dolphin.

**MICROSCOPIC DESCRIPTION:** Cerebrum: There are multifocal to coalescing aggregates of numerous lymphocytes **(1pt.)** and plasma cells **(1pt.)** within and expanding the cerebral meninges **(1pt.)**, extending down via Virchow-Robin's spaces as perivascular cuffs **(1pt.)** up to 6 cells deep, and are also present within the choroid plexus (not present in all slides). Within the superficial and deep gray matter, neurons exhibit one or more of the following changes: swelling, loss of Nissl substance (chromatolysis) **(1pt.)**, contraction with hypereosinophilia with pyknotic nuclei (necrosis) **(1pt.)**, satellitosis **(1pt.)**, and numerous neurons and fewer glial cells contain a single 2-4um eosinophilic viral intranuclear **(1pt.)** inclusion which is surrounded by a halo or occasionally peripheralizes the chromatin. Additionally, neurons and glia may also contain one or more 2-6um eosinophilic intracytoplasmic inclusions. **(1pt.)** There is patchy gliosis **(1pt.)** scattered throughout the gray matter and widely scattered gemistocytic astrocytes. **(1pt.)** There is variable mild to moderate spongiosis **(1pt.)** throughout the white matter. There are numerous dilated myelin sheaths with occasionally contain dilated eosinophilic axons (spheroids) **(1pt.)** and rare Gitter cells and cellular debris.

**MORPHOLOGIC DIAGNOSIS:** Cerebrum: Meningoencephalitis, lymphoplasmacytic **(1pt.)**, diffuse, moderate with neuronal necrosis **(1pt.)**, satellitosis, spongiosis **(1pt.)**, mild axonal degeneration and loss, and numerous intracytoplasmic and intranuclear viral inclusions. **(1pt.)**

**CAUSE:** Cetacean morbillivirus. **(2 pt.)**

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

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Conference 13, Case 4.

Tissue from a sheep.mm

**MICROSCOPIC DESCRIPTION:** Joint capsule (two sections): Approximately 20% of the two sections are lined by synovial membrane. The synovial membrane is thickened **(1pt)** up to 5 times normal and forms wide papillary villar projections **(1pt)** which are occasionally fused. The synovial lining is a single cell layer thick, often eroded or lined by attenuated epithelium. **(1pt)** Multifocally, in areas of synovial ulceration, polymerized fibrin **(1pt)** is present within the villi and the adjacent joint space, and the synovium is focally expanded by granulation tissue **(1pt)**. The remaining villi are expanded by edema **(1pt)** and large numbers of lymphocytes **(1pt)** with fewer neutrophils **(1pt)**, macrophages **(1pt)** and plasma cells, fibroblasts and small amounts of cellular debris. At the base of the synovial villi and throughout the remaining section, blood vessels are surrounded and outlined by low to moderate numbers of plasma cells **(1pt)** and fewer lymphocytes and occasional aggregates of siderophages **(1pt)**. These vessels are lined by plump endothelium and are often surrounded by 3-4 lamellae of mature collagen separated by edema or blue-grey ground substance. **(1pt)** Occasionally, walls of arterioles are expanded by pink protein and contain rare necrotic neutrophils admixed with small amounts of cellular debris (vasculitis). **(1pt)** The fibrous connective tissue of the joint capsule is markedly expanded by mature collagen **(1pt)** and in some areas bluish ground substance, and loose aggregates of lymphocytes, plasma cells and macrophages.

**MORPHOLOGIC DIAGNOSIS:** Joint capsule: Synovitis **(1pt)**, proliferative **(1pt)** and lymphoplasmacytic **(1pt)**, chronic diffuse, marked, with fibrin, synovial ulceration and granulation tissue **(1pt)**.

**CAUSE:** Ovine lentivirus **(1pt)**

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