

WSC 2019-2020 Conference 3.

Case 1. Tissue from pigeon.

**MICROSCOPIC DESCRIPTION:** Pancreas: Approximately 50% **(1pt.)** of the pancreatic acinar, and less commonly islet tissue **(1pt.)** is replaced by multifocal to coalescing areas of necrosis **(2pt.)** with containing numerous disassociated, vacuolated and fragmented cells with pyknotic nuclei **(1pt.)** as well as stromal collapse. Multifocally, scattered acinar cells are shrunken and individualized with vacuolated cytoplasm and pyknotic nuclei (single cell necrosis) **(1pt.)**. Low numbers of lymphocytes, fewer heterophils, and macrophages are scattered throughout the parenchyma and interlobular connective tissue **(1pt.)** extending into the adjacent mesentery. Areas of necrosis and inflammation also extend minimally into the peripancreatic adipose tissue.

Small intestine: Moderate autolysis hampers histologic interpretation in this tissue. There are multifocal areas of ulceration with intraluminal projection of aggregates of layered basophilic and eosinophilic cellular debris which project into the lumen. **(1pt.)** Within the lumen, there are a few cross sections of a 75um **(1pt.)** diameter adult **(1pt.)** nematode parasite which has a 5um cuticle, a pseudocoelom, platymyarian-meromyarian musculature, a deeply basophilic hypodermal band, an esophagus with stichosome **(1pt.)**, a small intestinal tract with numerous uninucleate cells, and a reproductive tract that often contains eggs. Free in the lumen, there are 30x50um oval eggs with plugs at both ends. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** 1. Pancreas: Pancreatitis, necrotizing **(1pt.)**, random **(1pt.)**, multifocal to coalescing, moderate.

2. Small intestine: Enteritis, ulcerative, multifocal, mild. **(1pt.)**

2. Small intestine, lumen: Few adult adenopharsid (aphasmid) nematodes. **(1pt.)**

Cause: Pigeon paramyxovirus-1 (HPAI OK) **(2pt.)** *Capillaria* sp. **(1pt.)**

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

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Case 2. Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Lymph node: Approximately 50% **(1pt.)** of nodal architecture is effaced and replaced by a pyogranuloma **(2pt.)** measuring 6mm in diameter. There is a large central area of lytic necrosis **(2pt.)** with irregular borders composed of abundant eosinophilic cellular and karyorrhectic debris, and degenerate neutrophils **(1pt.)** eosinophils, and macrophages admixed with aggregates of granular mineral **(1pt.)**. This area is bounded by a layer of vacuolated epithelioid macrophages **(1pt.)** and rare multinucleated macrophages, which is in turn bounded by a 1 mm thick capsule of granulation tissue **(1pt.)** populated by moderate numbers of lymphocytes **(1pt.)**, macrophages, plasma cells **(1pt.)** and neutrophils which matures centrifugally into a fibrous connective tissue capsule. There are lymphocytic aggregates measuring up to 300um scattered throughout the capsule. **(1pt.)** Within the adjacent node, there is moderate plasmacytosis **(1pt.)** of the medullary cords, paracortical hyperplasia **(1pt.)**, and follicles are enlarged, but lack mantle zones.

MORPHOLOGIC DIAGNOSIS: Lymph node: Pyogranuloma, focal. **(2pt.)**

CAUSE: Corynebacterium pseudotuberculosis **(2pt.)**

NAME THE CONDITION: Caseous lymphadenitis **(1pt.)**

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

Case 3. Tissue from a pig.

MICROSCOPIC DESCRIPTION: Spleen: Multifocally within the splenic red pulp **(1pt)** there are several 1-2mm areas of lytic necrosis **(1pt)** in which the normal architecture is effaced by hemorrhage **(1pt)**, fibrin deposition **(1pt)**, and numerous pyknotic **(1pt)** and karyorrhectic inflammatory and stromal cells (incipient infarcts.) **(1pt)**. Rarely, splenic veins, most often at the splenic margin contain an intraluminal thrombus and are surrounded by extensive hemorrhage and necrosis. **(1pt)** Scattered arterioles contain pyknotic smooth muscle nuclei and small amounts of protein within their walls. **(1pt.)** Several areas of lytic necrosis are contained within a large area of congestion at the corner of one section (peripheral infarct). **(1pt)** Diffusely, there is marked lymphoid depletion within splenic PALS **(1pt)**, and the PALS are surrounded by numerous macrophages **(1pt)**, in which occasional mitoses are present.. There are rare multinucleated macrophages **(1pt)** scattered throughout the section. There is multifocal moderate mesothelial hyperplasia. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1. Spleen, margins: Necrosis **(1pt)**, multifocal, moderate, with thrombosis, hemorrhage and fibrin **(1pt)** deposition (infarcts) **(1pt)**.

2. Spleen, white pulp: Lymphoid depletion, diffuse, severe. **(1pt.)**

CAUSE: Porcine pestivirus or asfarvirus **(3pt.)**

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

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Case 4. Tissue from an ox.

**MICROSCOPIC DESCRIPTION:** Tongue: Affecting approximately 33% **(1pt.)** of the stratum spinosum of the lingual mucosa, there are multifocal to coalescing vesicles **(1pt.)** ranging up to 4.5mm, which elevate the overlying mucosa and separate it **(1pt.)** from the underlying basal epithelium. Vesicles contain moderate numbers of intact neutrophils **(1pt.)**, fibrin **(1pt.)**, proteinaceous edema fluid **(1pt.)**, small amounts of hemorrhage, and cellular debris. Both the edges of the vesicles as well as the basal layers of the mucosa are outlined by innumerable neutrophils **(1pt.)** There is transmigration **(1pt.)** of large numbers of neutrophils in all layers of the epithelium, intercellular edema and prominence of intercellular bridging (spongiosis), as well as the formation of incipient vesicles. There is multifocal hemorrhage as well as cellular infiltration within the basal layers of the mucosa. Surrounding the vesicle, mucosal epithelial cells are individualized, rounded up, and swollen with glassy eosinophilic cytoplasm (degenerate) **(1pt.)**, and occasionally with pyknotic or karyorrhectic nuclei (necrosis) **(1pt.)**. Expanding the subepithelial **(1pt.)** connective tissue are large numbers of neutrophils, fewer macrophages, edema and hemorrhage often concentrated around vessels **(1pt.)**, which also infiltrates the underlying skeletal muscle.

**MORPHOLOGIC DIAGNOSIS:** Tongue, mucosa and submucosa: Glossitis, vesicular **(1 pt.)** and neutrophilic **(1 pt.)**, multifocal to coalescing, severe.

**CAUSE:** Bovine Aphthovirus **(2 pt.)**

**CONDITION:** Foot-and-mouth disease (FMD), (vesicular stomatitis OK) **(1 pt.)**

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