

WSC 2012-2013, Conference 4

Case 1. Tissue from a ferret.

MICROSCOPIC DESCRIPTION: Mesenteric lymph node **(1 pt)**: The lymph node architecture is largely effaced **(1 pt)** by multifocal to coalescing areas of necrosis **(1 pt)** and pygranulomatous inflammation **(1pt)**. Inflammation is centered on various combinations and concentrations of viable and degenerate neutrophils as well as abundant eosinophilic cellular and karyolytic debris **(1 pt)**. These areas of necrosis are surrounded by large numbers of viable and degenerate neutrophils **(1 pt)**, epithelioid macrophages **(1 pt)**, lesser numbers of lymphocyte and plasma cells **(1 pt)** which are enmeshed in vaguely lamellated **(1 pt)** and occasionally intersecting bands of plump fibroblasts **(1 pt)**, dense collagen **(1 pt)** and proliferating and congested small vessels. Rarely, small arterioles contain fibrin thrombi and there is expansion of the arteriolar wall by small to moderate amounts of a finely granular eosinophilic protein. **(1 pt)** The inflammatory infiltrate effaces the capsule **(1 pt)** of the lymph node and extends into and replaces mesenteric tissues, to include fat **(1 pt)**. There is mild hypertrophy of serosal mesothelium lining the mesentery.

MORPHOLOGIC DIAGNOSIS: Mesenteric lymph node: Lymphadenitis, necrotizing and pyogranulomatous, multifocal to coalescing, severe, with necrotizing and granulomatous lymphadenitis. **(3 pt)**

CAUSE: Mutated ferret enteric coronavirus (FeCV) **(2 pt)**

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

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Case 2. Tissue from a water buffalo.

MICROSCOPIC DESCRIPTION: Rumen: Diffusely there is full-thickness necrosis (**2 pt**) of the mucosal epithelium overlying the ruminal papillae (**1 pt**). The lamina propria is covered by a coagulum of necrotic epithelial cells, degenerate neutrophils, hemorrhage, fibrin, keratin, occasional incidental bacterial colonies, and cellular debris (**2 pt**). Within the remaining mucosa (primarily at the base of the papillae and interpapillary mucosa) (**1 pt**) epithelial cells at all levels are swollen with abundant clear cytoplasm (**1 pt**) (ballooning degeneration) (**1 pt**); pockets of necrotic epithelial cells are replaced by neutrophils forming intraepithelial pustules (**1 pt**). The lamina propria is infiltrated by low to moderate numbers of degenerate neutrophils and histiocytes (**1 pt**); capillaries are markedly dilated and congested (**1 pt**). The submucosa is mildly edematous and infiltrated by low to moderate numbers of histiocytes and fewer neutrophils, which, at more superficial levels, are often degenerate (**1 pt**). Vessels within the submucosa and also within the muscular tunics occasionally contain thrombi composed of polymerized fibrin and moderate numbers of neutrophils (**1 pt**). There is multifocal to coalescing hemorrhage around serosal vessels (**1 pt**).

MORPHOLOGIC DIAGNOSIS: Rumen, mucosa: Necrosis, multifocal to coalescing, severe. (**3 pt**)

CAUSE: *Baccharis cordifolia*, *Baccharis megapotamica* (**2 pt**)

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

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Case 3. Tissue from an aotus monkey.

MICROSCOPIC DESCRIPTION: Duodenum, pancreas, and mesentery: Multifocally within the duodenal lamina propria, muscularis, and serosa **(1pt)**, the walls of small caliber arterioles **(1pt)** are markedly thickened and the architecture is effaced by abundant brightly eosinophilic material (fibrin and protein) **(1pt)**, which is admixed with low to moderate numbers of neutrophils **(1pt)**, extravasated erythrocytes and cellular debris (fibrinoid necrosis) **(1pt)**. Occasionally, arteriolar lumina are occluded by fibrin thrombi **(1pt)**. These vessels are often surrounded by plump fibroblasts and small to moderate amounts of fibrous connective tissue **(1pt)**, proliferating small vessels, and low to moderate numbers of neutrophils, macrophages, lymphocytes, and rare plasma cells. Overlying and adjacent mucosal epithelium (particularly Brunner's glands) is necrotic **(1pt)** and infiltrated with innumerable viable and degenerate neutrophils admixed with hemorrhage, fibrin, and abundant cellular debris – capillaries in this area are often occluded by fibrin thrombi. There is multifocal to coalescing hemorrhage within the lamina propria. Similar vascular changes are present within the adjacent mesenteric **(1pt)** and pancreatic vessels. There is necrosis and atrophy of exocrine pancreas **(1pt)** in areas in which vasculitis is present, and in these areas, various combinations and concentrations of edema, amphophilic ground substance, and loosely arranged fibrous connective tissue surrounding atrophic glands and ductules **(1pt)**. The bile duct is markedly autolytic, as well as pancreatic tissue in the immediate vicinity. There is draining hemorrhage within the medullary sinuses of the pancreatic lymph node **(1pt)**.

MORPHOLOGIC DIAGNOSIS: Duodenum: Arteritis, proliferative and necrotizing, chronic multifocal, severe with mucosal ulceration and necrosis. **(2pt)**

Pancreas: Arteritis, proliferative and necrotizing, chronic, multifocal, severe, with lobular necrosis and atrophy. **(1pt)**

NAME THE CONDITION: Polyarteritis nodosa

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

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Case 4. Tissue from a cat.

MICROSCOPIC DESCRIPTION: Uterus **(1pt)**. Expanding the endometrium **(1pt)** and encroaching upon the lumen **(1pt)** is an well-demarcated unencapsulated, poorly circumscribed, infiltrative, moderately cellular neoplasm **(2pt)**. Neoplastic cells form florid papillary **(1pt)** and micropapillary projections **(1pt)** into the lumen ; neoplastic cells are supported by a moderate fibrous stroma **(1pt)**. Neoplastic cells are cuboidal to columnar with indistinct cell borders and a moderate amount of finely granular eosinophilic cytoplasm **(2pt)**. Nuclei are round to oval with finely stippled chromatin and 1-2 basophilic nucleoli and there is mild anisocytosis **(2pt)**. Mitotic figures are rare **(1pt)**. Throughout the neoplasm, there are multinucleated neoplastic cells **(1pt)** with dense, hyperchromatic nuclei. These giant cells range up to 250 um in diameter **(1pt)**. The uterine lumen and spaces between papillary projections are filled with brightly eosinophilic cellular and basophilic nuclear debris, admixed with small amounts of hemorrhage and mineral **(1pt)**. Within the underlying endometrium, there are numerous mildly ectatic glands containing bright red secretory material **(1pt)**.

MORPHOLOGIC DIAGNOSIS: Uterus: Endometrial adenocarcinoma **(3pt)**, giant cell variety.

O/C: (1pt)