

WSC 2017-2018 Conference 2.

Case 1 – Tissue from a horse

MICROSCOPIC DESCRIPTION: Liver: Approximately 60% of the section **(1pt)** is replaced by coalescing, up to 1 mm in diameter foci of both lytic **(1pt)** and coagulative necrosis **(1pt)**. Within these areas, hepatocytes exhibit retention of cellular architecture and loss of differential staining **(1pt)** (coagulative necrosis) or individualized, shrunken, and hypereosinophilic, with fading, pyknotic, or karyorrhectic nuclei **(1pt)**. Foci of necrosis are infiltrated by numerous degenerate and viable neutrophils **(2pt)**, admixed with abundant cellular debris **(1pt)**, hemorrhage, and fibrin. At the periphery of these areas, hepatocytes are swollen with pale, vacuolated cytoplasm (degeneration) **(1pt)**, and often contain numerous haphazardly arranged pale, basophilic, filamentous (1x 5um) **(1pt)** intracytoplasmic **(1pt)** bacilli **(2pt)**. Bile canaliculi are often distended (cholestasis). **(1pt)** Portal areas and the subcapsular space are expanded up to three times normal by ectatic lymphatic vessels (edema), and low numbers of lymphocytes, plasma cells, macrophages, and rare neutrophils .

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, necrotizing, multifocal to coalescing, with numerous intracytoplasmic bacilli. **(3pt)**

CAUSE: Clostridium piliforme **(3pt)**

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

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Case 2 – Tissue from a macaque.

MICROSCOPIC DESCRIPTION: Colon: There are multifocal areas of full thickness **(1pt)** mucosal necrosis **(1pt)** which occasionally extend into the underlying submucosa **(1pt)** and spread laterally. Within areas of necrosis, there is loss of glandular architecture **(1pt)** with infiltration of numerous viable and degenerate neutrophils admixed with fewer macrophages and abundant viable and degenerate neutrophils **(1pt)**, admixed with abundant cellular debris **(1pt)** and occasional small colonies of 2-3um bacilli. Scattered throughout necrotic areas and extending into peripheral (often uninfamed) tissue are low to moderate numbers of 15-20um **(1pt)** amoebic trophozoites **(2pt)** both individually and in small aggregates which are round with 2-3um hyaline membrane **(1pt)** and abundant granular amphophilic cytoplasm and a nucleus with a prominent endosome. **(1pt)** Diffusely the mucosa is infiltrated by large numbers of lymphocytes and plasma cells which separate and surrounding colonic glands. **(1pt)** Colonic glands contain numerous mitotic figures (hyperplasia). **(1pt)**

MORPHOLOGIC DIAGNOSIS: Colon: Colitis, necrotizing, multifocal, moderate with moderate numbers of extracellular amoebic trophozoites. **(3pt)**

CAUSE: Entamoeba histolytica **(3pt)**

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

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Case 3 – Tissue from a horse.

MICROSCOPIC DESCRIPTION:

Liver: Diffusely, portal areas are markedly expanded by abundant loosely arranged fibrous connective tissue **(1pt)** and plump fibroblasts which surround and replace portal hepatocytes **(1pt)**, and occasionally bridge **(1pt)** adjacent portal areas. There is mild to moderate biliary reduplication **(1pt)**, and epithelium lining hyperplastic ductules is pale and swollen with prominent vesicular nuclei **(1pt)**. Portal areas are occasionally infiltrated by small numbers of lymphocytes and macrophage, and portal lymphatics and venules are moderately ectatic. There is distortion of the remaining hepatocellular architecture and remaining hepatocytes are enlarged up to 2-3 times normal **(2pt)**, with abundant eosinophilic vacuolated cytoplasm **(1pt)**, and large nuclei with marginated chromatin and a prominent nucleolus (megalocytosis) **(2pt)**. There are occasional multinucleated hepatocytes. Hepatocytes often contain brown granular pigment **(1pt)**. Bile canaliculi are occasionally distended with bile (cholestasis) **(1pt)**. Rare hepatocytes are rounded up and hypereosinophilic (necrosis) **(1pt)**, and are occasionally surrounded by low numbers of neutrophils.

MICROSCOPIC DIAGNOSIS: Liver: Fibrosis, portal and bridging, diffuse, moderate, with hepatocellular anisocytosis and megalocytosis, necrosis, and cholestasis. **(4pt)**

CAUSE(S): Pyrollizzidine alkaloid toxicosis **(3pt)**

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

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Case 4 – Tissue from a dog.

MICROSCOPIC DESCRIPTION:

Fibrovascular tissue (presumptively from jaw): Expanding the submucosal connective tissue is a poorly demarcated, unencapsulated infiltrative, moderately cellular, multilobular neoplasm **(2pt.)** composed of islands **(1pt.)** of odontogenic epithelium **(1pt.)** attempting to recapitulate teeth **(1pt.)** on a moderate fibrovascular stroma**(1pt.)**. Peripheral neoplastic cells are characterized by a prominent layer of tightly packed columnar**(1pt.)** cells with apically-located oval nuclei and prominent basilar cytoplasmic clearing **(1pt.)** (ameloblasts) **(1pt.)** which palisade along the basement membrane and surround loosely arranged stellate to fusiform cells with prominent intracellular bridging (stellate reticulum) **(1pt.)**. Ameloblasts have distinct cell borders, moderate amounts of pale eosinophilic cytoplasm, a pale oval to elongate nucleus with finely stippled chromatin and 1-2 distinct nucleoli. The mitotic rate averages 1-5 per high power field, and there is multifocal single cell necrosis. **(1pt.)** Along the basilar aspects of the palisading ameloblasts are streams of densely packed fusiform to polygonal cells (odontoblasts) **(1pt.)** that are often embedded in variably thick, wedge-shaped foci of homogeneous, brightly eosinophilic, extracellular matrix **(1pt.)** (dentin) **(1pt.)**. Multifocally, the stroma adjacent to neoplastic epithelial cells contains aggregates of loosely arranged, primitive mesenchyme resembling the dental pulp **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: Compound odontoma. (4pt.)

O/C: (1pt.)