

WSC 2017-2018 Conference 4

Case 1 – Tissue from a horse.

MICROSCOPIC DESCRIPTION: Diencephalon, pons: Within the white matter tracts of the pons **(2pt)**, there is extensive edema **(2pt)** which separates and isolates white matter tracts and neurons and creates numerous well defined clear vacuoles (spongiosis) **(1pt)** . There is extensive perivascular hemorrhage **(1pt)** of small to medium-caliber venules and occasional small venules have hyalinized walls **(1pt)**, cell debris within the wall **(2pt)**, and fibrin thrombi **(1pt)** (vasculitis) **(1pt)**. There is mild gliosis within this area. **(1pt)** The meninges, particularly within Virchow-Robins spaces, are expanded by extensive edema, and infiltrated by low to moderate numbers of neutrophils **(2pt)** which occasionally extend into the adjacent neuropil.

MORPHOLOGIC DIAGNOSIS: Pons, white matter: Vasculitis **(1pt)**, necrotizing **(1pt)**, multifocal , marked with edema **(1pt)**, thrombosis, and perivascular hemorrhage. **(1pt)**.

CAUSE: *Trema microcantha* **(2pt)** (Fumonisin B1, purpura hemorrhagica, gram-negative sepsis OK)

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

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Case 2 – Tissue from a dog.

MICROSCOPIC DESCRIPTION: Intestine. The intestinal wall is moderately thinned **(1pt)**. The inner circular layer of the muscularis **(2pt)** is hypercellular **(1pt)** and markedly reduced in diameter **(1pt)**. Smooth muscle cells exhibit one or more of the following changes: pallor **(1pt)**, diminished size **(1pt)**, vacuolation **(1pt)**, or pyknotic and or karyorrhectic nuclei **(2pt)**. This layer is infiltrated by low to moderate numbers of lymphocytes **(1pt)**, histiocytes **(1pt)**, and rare plasma cells. There is moderate replacement of myofibers by mature collagen **(2pt)**. There is mild autolysis of the overlying mucosa.

MORPHOLOGIC DIAGNOSIS: Intestine, inner longitudinal layer of muscularis: Leiomyositis, chronic and lymphohistiocytic, with smooth muscle loss and fibrosis **(3pt)**

NAME THE CONDITION: Chronic intestinal pseudo-obstruction **(2pt)**

O/C: (1pt)

Case 3 – Tissue from an ox.

MICROSCOPIC DESCRIPTION: Spinal cord and meninges: Replacing extradural fat **(1pt)**, and extending into and expanding the dura **(1pt)**, there are numerous, often coalescing well-defined pyogranulomas **(2pt)** embedded in a dense bed of fibrous connective tissue. The pyogranulomas often centered on a round clear vacuole **(2pt)**, which is surrounded centrifugally by abundant cellular debris **(1pt)**, large numbers of viable and degenerate neutrophils **(1pt)**, and in turn by large numbers of epithelioid macrophages **(1pt)** and fewer lymphocytes **(1pt)** which are enmeshed in lamellations of wispy collagen which progressively become more compact at the periphery. Additional, smaller clear vacuoles are scattered in low numbers randomly throughout the pyogranuloma, and rarely, pyogranulomas contain small aggregates of crystalline mineral. The pyogranulomas are separated by dense bands of mature fibrous connective tissue **(1pt)** which often contain aggregates of low to moderate numbers of lymphocytes, and fewer histiocytes and plasma cells in perivascular locations **(1pt)**. A similar but less cellular infiltrate is dispersed evenly throughout this fibrous connective tissue. The inflammatory infiltrate and accompanying fibrosis surrounds and entraps spinal nerves., and occasionally there is fusion of the dura and underlying leptomeninges. Throughout all funiculi, **(1pt)** assymmetrically and randomly scattered axon sheaths are dilated and occasionally contain Gitter cells (axonal necrosis). **(1pt)**

MICROSCOPIC DIAGNOSIS: Spinal cord, epidural space: Pyogranulomas, **(1pt)**, multiple **(1pt)**, diffuse, severe, with numerous clear vacuoles **(1pt)** (consistent with adjuvant droplets) and marked fibrosis.

CAUSE: Water-in-oil vaccine. **(2pt)**

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

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Case 4 – Tissue from a dog.

MICROSCOPIC DESCRIPTION: Fibroadipose tissue. Diffusely effacing the tissue, there is a multilobular, moderately cellular, encapsulated expansile, moderately cellular neoplasm **(2pt.)**. The neoplasm is composed of polygonal cells **(1pt.)** arranged in nests and packets **(1pt.)** and supported by a fine to moderate fibrovascular stroma **(1pt.)** of variable thickness. Dense bands of fibrous connective tissue traverse the neoplasm, separating it into variably sized lobules **(1pt.)**. Neoplastic cells are polygonal with indistinct cell borders and a moderate amount of a coarsely granular **(1pt.)** eosinophilic cytoplasm. **(1pt.)** Nuclei are found with finely stippled chromatin and indistinct nucleoli. **(1pt.)** There is mild anisokaryosis. **(1pt.)** Mitotic figures are rare **(1pt.)**. Neoplastic cells invade the capsule and there is vascular invasion as well. **(1pt.)** There is a focally extensive area of coagulative necrosis within the neoplasm. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Fibrovascular tissue: Neuroendocrine tumor (aortic body tumor OK). **(5pt.)**

NAME 2 APPROPRIATE IMMUNOHISTOCHEMICAL MARKERS: Synaptophysin, chromagranin, S-100, NSE **(3pt.)**

O/C: (1pt.)