

WSC 2017-2018 Conference 14

Case 1 – Tissue from a dog.

MICROSCOPIC DESCRIPTION: Small intestine: The lamina propria is expanded **(1pt.)** by an extensive network of nerve bundles **(1pt.)** (with accompanying Schwann cells) **(1pt.)** arranged in long streams and bundles **(1pt.)** often oriented perpendicular to the overlying mucosa **(1pt.)** which multifocally extend into the core of several villi. **(1 pt.)** Throughout these nerve bundles, there are nests of well-differentiated neurons **(2 pt.)** which range up to 50um **(1pt.)** and have abundant purple granular cytoplasm and centrally-placed large vesicular nuclei. **(1pt.)** Nerve bundles and ganglion cells are multifocally scattered randomly throughout the submucosa as well. **(2pt.)** Meissner's and Auerbach's plexi are increased in size. **(2pt.)** The villar lamina propria often contains numerous mucinophages **(1pt.)** arranged in nests.

MORPHOLOGIC DIAGNOSIS: Colon: Ganglioneuromatosis. **(5 pt.)**

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

Case 2 – Tissue from a dog.

MICROSCOPIC DESCRIPTION: Uterus: The endometrium is markedly thickened by collagenous plaques **(1 pt)** that surround, separates, and replaces endometrial glands. **(1pt)** The plaques are composed of variably dense areas of collagen, throughout which are scattered sheets of polygonal cells ranging from 30-100um **(1 pt)** with abundant vacuolated cytoplasm **(1 pt)**, and 1-15 nuclei **(1 pt)** (trophoblasts) **(1 pt)** and syncytiotrophoblasts **(1 pt)**, respectively). Within this plaque, there are scattered areas of necrosis, hemorrhage **(1 pt)**, fibrin deposition, congestion, and low to moderate numbers of hemosiderin-laden macrophages **(1 pt)**, lymphocytes, plasma cells, and cellular debris. Within the collagenous plaque, there are ectatic endometrial glands **(1pt)** which are lined by hypertrophic columnar glandular epithelium ranging up to 100um in diameter with abundant vacuolated cytoplasm (progesterone influence) **(1 pt)**. At the base and periphery of the plaques, ectatic endometrial glands **(1 pt)** range up to 200 um, are lined by attenuated epithelium, and contain a mixture of granular basophilic secretory material, and small amounts of fibrin, hemorrhage, necrotic epithelium, and cellular debris **(1 pt)**. Endometrial glands multifocally are present in the underlying myometrium (adenomyosis) **(1pt)**. Deep in the endometrium, glands are surrounded by few lymphocytes and plasma cells **(1pt)** as well as hemosiderin-laden macrophages, which extend into the myometrium. There is multifocal mild congestion and edema within the myometrium. The uterine lumen is filled with hemorrhage, degenerate epithelial cells, and cellular debris **(1 pt)**.

MORPHOLOGIC DIAGNOSIS(ES): Uterus: Subinvolution of placental sites **(4 pt)** (actually, this is a dog 23 days after parturition, so it is normal involution, but SIPS would look identical).

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

WSC 2017-2018 Conference 14.

Case 3 – Tissue from a goat.

MICROSCOPIC DESCRIPTION: Spinal cord: Primarily affecting the medial aspect of the ventral funiculus, **(1pt)** and to a lesser extent, the dorsal aspect of the lateral funiculus, **(1pt)** there is bilaterally symmetrical, focally extensive vacuolation of the white matter. **(1pt)** Myelin sheaths are dilated **(2pt)** up to 70 um in diameter and occasionally contain swollen axons (spheroids) **(1pt)**, eosinophilic debris, or rarely foamy gitter cells **(2pt)** (Wallerian degeneration) **(1pt)**. Scattered motor neurons in the ventral horn of the gray matter **(1pt)** are swollen up to 70 um in diameter, and contain pale eosinophilic, homogenous central cytoplasm with peripheral dispersion of Nissl substance and eccentrically placed nuclei **(1pt)** (central chromatolysis) **(2pt)**. Occasionally ventral spinal nerves small amounts of amphiphilic ground substance within the perimyium.

MORPHOLOGIC DIAGNOSIS: Spinal cord, white matter, ventral and lateral funiculi: Neuroaxonal degeneration **(1pt)**, bilaterally symmetrical **(1pt)**, multifocal, moderate, with ventral horn neuronal chromatolysis **(1pt)**

CAUSE: Copper deficiency **(3pt)**

CONDITION: Enzootic ataxia **(1pt)**

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

Case 4 – Tissue from a guinea pig.

MICROSCOPIC DESCRIPTION: Gonad (presumptive): The gonad is effaced by an infiltrative, poorly demarcated, variably cellular multilobular and cystic, poorly demarcated neoplasm **(2pt)** composed of well-differentiated tissues from each of the three germ cell layers. **(2pt)** Ectodermal tissues include well-differentiated neuropil **(1pt)** (the predominant tissue in the neoplasm) **(1pt)** , which surround numerous variably size ependymal-lined cysts **(1pt)** . These cysts often contain moderate amounts of bright pink protein. Cells within these areas either have round dark nuclei with minimal cytoplasm (primitive neuroepithelium) **(1pt)** , or large vesicular nuclei with abundant vacuolated cytoplasm (oligodendroglia) and small well-differentiated neurons **(1pt)** are scattered in small numbers throughout the mass. Rare glands are lined by low cuboidal epithelium with bright pink cytoplasm, which resemble apocrine glands **(1pt)** . Mesenchymal elements include dense bands of smooth muscle **(1pt)** which course through the mass and rare spicules of well-differentiated bone **(1pt)**. Endodermal elements include cystic glands lined by columnar ciliated respiratory epithelium **(1pt)** interspersed with and aggregates of mucinous epithelium (resembling salivary gland) **(1pt)** . There are extensive areas of lytic necrosis throughout the mass, and scattered hemorrhage and fibrin in all areas. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Gonad: Teratoma **(4pt)**

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