

WSC 2015-2016, Conference 6
Case 1. Tissue from a raccoon.

(This is not a very intricate descriptive exercise, and I am reaching to assign twenty points. But sometimes you just need a “feel-good slide”.)

MICROSCOPIC DESCRIPTION: Uterus: The mucosa is diffusely and markedly thickened (**2 pt.**) by a proliferation of cystic (**2 pt.**) endometrial glands ranging up to 2mm in diameter (**1 pt.**), which give it an irregular and corrugated contour. The glands are lined by a single layer of columnar (**2 pt.**) epithelium with a moderate amounts of eosinophilic granular cytoplasm (**1 pt.**) which is attenuated (**1 pt.**) and columnar in markedly cystic glands. Glandular lumina are filled with a lightly eosinophilic protein (**1 pt.**), and rarely sloughed epithelial cells and degenerating neutrophils (**1 pt.**). Rarely glands contain small aggregates of basophilic granular mineral. (Note: In some sections, dilated glands are present within the subjacent muscular layers (adenomyosis). The intervening stroma is moderately edematous with dilated lymphatics (**2 pt.**) and contains low to moderate numbers of lymphocytes and neutrophils and rare plasma cells and siderophages. (**2 pt.**) There is mild autolysis.

MORPHOLOGIC DIAGNOSIS: Uterus: Multiple endometrial cysts. (**4 pt.**)

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

NOTE: The moderator does not believe that this is hyperplasia (as the contributor submitted it), rather than this is just an incidental or senescent finding.

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Case 2. Tissue from a parrot.

MICROSCOPIC DESCRIPTION: Diffusely, hepatocellular plate architecture is lost **(1pt.)**. Over 80 percent of the hepatocytes are swollen **(2pt.)** fragmented with variably sized granules within their cytoplasm (lysosomes) **(1pt.)** Remaining hepatocytes are often compressed and hypereosinophilic **(1pt.)**. Throughout the section, there are randomly scattered areas of lytic necrosis **(2pt.)** in which hepatocytes are replaced by brightly eosinophilic cellular debris admixed with hemorrhage and fibrin **(1pt.)**, and infiltrated by low numbers of degenerate heterophils and macrophages **(1pt.)**. Low numbers of lymphocytes and plasma cells often surround necrotic areas. **(1pt.)**. There are low numbers of lymphocytes and plasma cells within portal areas **(1pt.)**, There are small aggregates of hematopoietic precursors scattered throughout the sections **(1pt.)** and bile ducts are mildly dilated and contain a small amount of pink protein with rare sloughed epithelium. In some sections (not in all), biliary ducts are expanded by numerous histiocytes and neutrophils admixed with refluxed sloughed epithelium. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, necrotizing and random, multifocal, moderate, with diffuse hepatocellular degeneration. **(3 pt)**

CAUSE: *Chlamydophila psittaci* **(3pt)**

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

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Case 3. Tissue from a toad. (digital slide)

MICROSCOPIC DESCRIPTION: Kidney: Multifocally, approximately 30% of the section of kidney is replaced by an unencapsulated, infiltrative, poorly demarcated, variably cellular neoplasm composed of multiple populations of cells **(1pt)**. One cellular population is that of blastemal cells **(1pt)**, with indistinct cell borders, a small amount of pink cytoplasm and a large hyperchromatic nuclei, with few mitotic figures. These cells are arranged in ribbons and cords **(1pt)**, which are often cystic **(1pt)** and contain sloughed neoplastic cells admixed with small amounts of fibrin and cellular debris. Occasionally, these cystic areas contain an infolding polyp of neoplastic cells which resemble a glomerulus **(1pt)**. Ribbons of blastemal and primitive glomeruli are separated by a loosely arranged mesenchyme populated by elongate spindle cells (primitive mesenchyme) **(1pt)**. Scattered throughout the mesenchyme are primitive tubules **(1pt)** lined by a single layer of cuboidal to columnar epithelium with centrally placed nuclei. (Similar cells are also present on one pole of the testis.) The interstitium of the adjacent kidney is expanded by multifocal to coalescing poorly formed granulomas **(1pt)** which efface normal architecture. Granulomas are composed of large numbers of macrophages **(1pt)** and lymphocytes **(1pt)** with fewer plasma cells and heterophils which are admixed with large amounts of cellular debris **(1pt)**. In areas of granulomatous inflammation, tubular epithelium is variably swollen and eosinophilic (degenerate), fragmented with pyknotic or rrehectic nuclei (necrotic) **(1pt)**, and other tubules are often lined by attenuated epithelium; their lumens often contain sloughed epithelium, rare heterophils, pink protein, and cellular debris, or large mineral concretions. . Glomeruli are often expanded by a reflux of inflammatory cells within Bowman's space. The glomerular mesangium is often expanded, and multifocally hypercellular with hyperplasia of parietal epithelium.

MORPHOLOGIC DIAGNOSIS: 1. Kidney, testis: Nephroblastoma **(3 pt)**.

2. Kidney: Nephritis, granulomatous (histiocytic), multifocal to coalescing, severe. **(2pt)**

CAUSE: *Mycobacterium sp (marinum is the most common)*. **(2pt)**

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

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CASE 4. Tissue from a duck.

MICROSCOPIC DESCRIPTION: Cerebrum, cerebellum, and brainstem: Scattered randomly **(1pt.)** throughout the section, within both gray and white matter of the cerebrum and cerebellum **(1pt.)** and markedly expanding endothelial cells and often occluding the vascular lumina **(1pt.)**, there are low numbers of protozoal megaloschizonts **(1pt.)**. Meglaoschizonts are round, measure up to 200 um in diameter **(1pt.)**, and contain multiple membrane-bound basophilic cytomeres, each containing numerous 1x2um merozoites, which are separated by a homogenous purple proteinaceous material **(2pt.)**. In some megaloschizonts, a markedly hypertrophied endothelial cell nucleus is present. Degenerating megaloschozonts are surrounded by a layer of epithelioid macrophages, as well as low numbers of lymphocytes, and fewer heterophils, **(2 pt.)** necrotic debris **(1pt.)** and mild hemorrhage (perivascullitis) within a mildly spongiotic neuropil **(1pt.)**. There is gliosis **(1pt.)** of the surrounding neuropil as well and vessels in this area are cuffed by low numbers of lymphocytes are rare histiocytes. **(1pt.)** Multifocally within blood vessels, erythrocytes contain one or more 1-3 um oval clear gametocytes that displace the nuclei peripherally **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: Cerebrum, vessels: Intraendothelial megaloschizonts and intrahistiocytic gametocytes, multifocal, with mild lymphohistiocytic encephalitis. **(3 pt.)**

CAUSE: *Leucocytozoon sp.* (*Haemoproteus* or *Plasmodium* OK, too.)**(2 pt.)**

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