WSC 2016-2017, Conference 10

Case 1. Tissue from a cat.

CYTOLOGIC DESCRIPTION: Cytologic preparation, urinary bladder **(1pt.)**: The sample is highly cellular **(1pt**) with a light purple background containing large, dense aggregates of purple matrix, transitional epithelial cells and variably sized, adult, female, nematode worm fragments (**1pt.).** Nematodes are dark blue, 60um in diameter (1pt.) and contain many 25x50 brown eggs (**1pt.**) with a thin, clear shell (**1),** granular contents and opercula at both ends of the shell (**1**); ova are also noted in the background. Throughout the slide, there are many clusters of transitional epithelial cells **(1pt.)** that have moderate amounts of a foamy vacuolated blue cytoplasm **(1pt.)**. Nuclei are prominent with 1-2 nucleoli, ropy chromatin, and mild anisokaryosis **(1pt.)**. There are moderate numbers of eosinophils **(1pt.)**, as well as fewer neutrophils **(1pt.)** and small lymphocytes **(1pt.)** scattered throughout the aspirate.

MORPHOLOGIC DIAGNOSIS: Urinary bladder: Cystitis, eosinophilic and lymphocytic, **(**with transitional cell hyperplasia and mild dysplasia **(1pt.)** and adult female nematodes and eggs. **(1pt**

CAUSE: *Capillaria (Pearsonema) feliscati* **(2pt.)(C. plica OK). .**

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

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Case 2. Tissue from a horse.

MICROSCOPIC DESCRIPTION: Liver: There is diffuse bridging fibrosis **(2pt.)** which spans portal **(2pt.)** areas and extends into the surrounding parenchyma, often breaching the limiting plate, surrounding and separating and often replacing **(1pt.)** entrapped atrophic hepatocytes and resulting in the occasional formation of hepatocellular nodules **(1pt.)**. There is moderate diffuse biliary hyperplasia **(1pt.)** and portal areas contain moderate numbers of hemosiderin-laden macrophages, lymphocytes and fewer plasma cells and neutrophils as well as plump fibroblasts. **(1pt.)** Portal lymphatics and veins are diffusely dilated. Diffusely, hepatocytes with all areas of the lobule **(1pt.)** contain varying amounts of brown iron granules (hemosiderin) **(2pt.)** , which increase in concentration from the center to the periphery of the lobule **(2pt.)** . Kupffer cells also contain hemosiderin **(1pt.)** . Hepatocytes are also swollen by an accumulation of numerous coalescing clear vacuoles (glycogenosis) **(1pt.)** , compressing sinusoids and often obscuring traditional plate architecture **(1pt.)** . Hepatocytes often contain one or more 2-3um round cytoplasmic inclusions (autophagosomes.) The heaptic capsule is subjectively thickened due to the loss of hepatocytes.

In one section, the subcapsular hepatocytes are largely replaced by fibrous connective tissue with only small islands of hepatocytes remaining. There are large areas of hepatocelluolar loss and stromal collapse with hemorrhage **(1pt.)** .

MORPHOLOGIC DIAGNOSIS: Liver: Hemosiderosis **(1pt.)** , diffuse, marked, with bridging portal fibrosis **(1pt.)** and moderate hepatocellular loss **(1pt.)**

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

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Case 3. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Kidney: Multifocally ,tubular epithelium is swollen **(1pt.)** with vacuolated cytoplasm which contains variably sized (ranging up to 3 um in diameter) brown to pink granules **(1pt.)** within the cytoplasm. Tubular epithelium is multifocally necrotic **(1pt.)**, with pyknotic karyorrhectic nuclei and necrotic cells are often sloughed into the lumen**.**Some tubules are lined by attenuated epithelium **(1pt.)** which results in an ectatic **(1pt.)** lumen, and others are lined by epithelium with large open-faced nuclei (regenerative **(1pt.)** epithelium) and occasionally mitotic figures are present **(1pt.)**. Multifocally, the interstitium is diffusely expanded by variably dense collagen **(2pt.)** and fibroblasts which surround and separates ectatic tubules which are often lined by attenuated epithelium and occasionally have markedly thickened basement membranes **(1pt.)**. Rare tubules are markedly atrophic and lack lumina, and rare nuclei are karyomegalic **(1pt.)**. The interstitium within these areas is infiltrated by low numbers of lymphocytes **(1pt.)** and neutrophils **(1pt.)** with fewer plasma cells. Glomerular are moderately enlarged, hypercellular **(1pt.)**, and have expanded basement membranes **(1pt.)**. The glomerular basement membranes are expanded and parietal epithelium is hypertrophic.

PAS: The PAS demonstrates the expanded basement membranes surrounding many tubules, as well as increased amounts of basement membrane material within glomerular tufts.

Masson's trichrome: This stain demonstrates he diffuse nature and variable density of collagen throughout the interstitium and the presence of collagen within glomerular tufts.

Rhodanine stain: This stain highlights the presence of variably sized coppe rgranules within the tubular epithelium

MORPHOLOGIC DIAGNOSIS: Kidney: Tubular degeneration , necrosis, regeneration, and atrophy **(1pt.)** with multifocal interstitial fibrosis **(1pt.)**, tubular epithelial karyomegaly **(1pt.)**, and glomerular hypercellularity.
(1 pt.)

CAUSE: Copper toxicosis (No points awarded as the rhodanine stain was not identified as such.)

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

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CASE 4. Tissue from a dog.

CYTOLOGIC DESCRIPTION: Cutaneous mass: This is a good quality, densely cellular **(1pt.)** aspirate on a faint, light blue proteinaceous background **(1pt.)**. There is a monomorphic **(1pt.)** population of round cells **(1pt.)** that have moderate amounts **(1pt.)** of light blue cytoplasm **(1pt.)** with distinct clear intracytoplasmic vacuoles **(1pt.)**. Nuclei are round, often eccentric **(1pt.)**, and contain ropy chromatin**(1pt.)**, with a single prominent nucleolus. **(1pt.)** There is mild anisokaryosis. **(1pt.)** Mitotic figures are common **(1pt.)**. There are low numbers of lymphocytes **(1pt.)** and neutrophils **(1pt.)** scattered among the neoplastic cells.

MORPHOLOGIC DIAGNOSIS: Transmissible venereal tumor **(5pt.)**

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