WSC 2016-2017, Conference 23

Case 1. Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Skeletal muscle: Both longitudinal and cross-sections of skeletal muscle are present. In both sections, myofibers are degenerate **(1pt.)** and/or necrotic **(1pt.)** and exhibit one or more of the following changes: hyalinization and an increase in eosinophilia **(1pt.)**, loss of cross-striations **(1pt.)**, variation in fiber size **(1pt.)**, cytoplasmic flocculent densities (myofibrillolysis) **(2pt.)**, contraction band formation **(2pt.)**, and fragmentation **(1pt.)**. Satellite cell nuclei of affected fibers are often hypertrophic, with moderate amounts of basophilic cytoplasm and nuclei with prominent nucleoli **(1pt.)**. Occasionally, the cytoplasm of fragmented, necrotic myofibers are infiltrated by macrophages **(1pt.)**. There is moderate perimysial edema.

MORPHOLOGIC DIAGNOSIS: Skeletal muscle: Necrosis **(2pt.)**, monophasic **(2pt.)**, diffuse, severe.

CAUSE: Ionophores (appropriate toxic plants like coffee senna OK). **(3pt.)**

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

WSC 2016-2017, Conference 23

Case 2. Tissue from a rhesus macaque.

(NOTE: Not a descriptive slide. Please note the changes below and spend your time elsewhere. Go home and play Frisbee with the dog for the twelve minutes you would have spent on this description.)

MICROSCOPIC DESCRIPTION: Kidney: Multifocally, within nuclei of proximal convoluted tubules, and often affected multiple cells in some tubules and none in others, nuclei contain a single 2-3um round brightly eosinophilic inclusion. Multifocally, tubular epithelial cytoplasm is often brightly eosinophilic and granular, and occasionally contains small to moderate amounts of lipofuscin pigment.

MORPHOLOGIC DIAGNOSIS: Kidney, proximal convoluted tubules: Intranuclear inclusions, multiple.

CAUSE: Bismuth

WSC 2016-2017, Conference 23

Case 3. Tissue from a rat.

MICROSCOPIC DESCRIPTION: Lung: Randomly**(1pt.)** scattered throughout the pulmonary parenchyma, effacing the alveolar and occasionally bronchiolar architecture **(1pt.)**, invading and elevating the pleura **(1pt.)**, and rarely filling airways, there are multiple nodules of an infiltrative, moderately cellular, unencapsulated, well-demarcated neoplasm **(2pt.)**. Neoplastic cells are arranged in irregular streams and bundles **(1pt.)** on a pre-existent stroma **(1pt.)**, often filling alveoli and more rarely bronchioles. Neoplastic cells are round to spindled with indistinct cell borders and a moderate amount of a finely granular eosinophilic cytoplasm. **(1pt.)** Nuclei are irregularly round, often indented with finely clumped chromatin and 1-3 eosinophilic nucleoli. **(1pt.)** Mitoses average 2-3 per high-powered field. **(1pt.)** There is mild anisocytosis and anisokaryosis, single cell apoptosis, and infiltration by low numbers of neutrophils. **(1pt.)** Alveolar septa are diffusely expanded **(1pt.)** by congestion, moderate numbers of neutrophils and macrophages, and small amounts of fibrin as well as patchy type II pneumocyte hyperplasia, and alveolar spaces contain varying combinations and concentrations of neutrophils and alveolar macrophages admixed with small amounts of hemorrhage, fibrin, and edema. **(1pt.)** There is also hyperplasia of Type II pneumocytes along alveolar septa at the edges of the neoplastic nodules.

MORPHOLOGIC DIAGNOSIS: 1. Lung: Histiocytic sarcoma. **(3pt.)**
2. Lung: Pneumonia, interstitial, histiocytic and neutrophilic, diffuse, moderate. **(1pt.)**

NAME ANOTHER AFFECTED TISSUE: Spleen, kidney, lymph nodes, skin, not uterus (that's in mice) **(1pt.)**

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

WSC 2016-2017, Conference 23

CASE 4. Tissue from a mouse.

MICROSCOPIC DESCRIPTION: Liver: Effacing 90% of the section **(1pt.)**, there is an infiltrative, unencapsulated, multilobulated, moderately cellular, well-demarcated neoplasm **(2pt.)**. Neoplastic cells are arranged in multiple patterns within the neoplasm **(1pt.)** – in the majority of the neoplasm they are arranged in variably sized, often cystic tubules **(1pt.)** (which contain papillary projections **(1pt.)** of neoplastic cells within), and in other areas, nests and packets **(1pt.)** on a fine fibrovascular stroma **(1pt.)**. Neoplastic cells range from polygonal (in nests) and cuboidal (lining tubules), have indistinct cell borders, and a moderate amount of finely granular basophilic cytoplasm. **(1pt.)** Nuclei are irregularly round with finely clumped chromatin and 1-3 basophilic nucleoli. **(1pt.)** There is moderate anisokaryosis and occasional multinucleated cells **(1pt.)** are present. Mitotic figures average 1 per 400X field. **(1pt.)** There are large areas of hypocellularity with replacement by fibrous connective tissue **(1pt.)** within the neoplasm. There are moderate numbers of apoptotic cells scattered thoughout the neoplasm, and it is infiltrated by low to moderate numbers of neutrophils **(1pt.)** (which are occasionally admixed with cellular debris within cystic tubules, as well as aggregates of lymphocytes **(1pt.)** around the edge of the neoplasm. With the remnant normal liver, there is vacuolar degeneration in entrilobular areas, and diffuse hypertrophy of Kupffer cells, and hepatocytes at the neoplastic interface, as well as ribbons of hepatocytes within its edges are compressed and atrophic. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Liver: Hepatocholangiocarcinoma. **(3pt.)**

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