WSC 2014-2015, Conference 18

Case 1. Tissue from a rabbit.

MICROSCOPIC DESCRIPTION: Liver: Diffusely, bile ducts are massively ectatic **(1 pt)** (up to 4 mm), tortuous, rimmed by a thick band of fibrous connective tissue which contains moderate numbers of lymphocytes, fewer macrophages and plasma cells, and low numbers of degenerate neutrophils **(1 pt)**, along with increased clear space and ectatic lymphatics (edema), and compress the adjacent mildly atrophic hepatocytes .Ducts are largely filled by hyperplastic **(1 pt)** biliary epithelium **(1 pt)** which forms branching papillary projections **(1 pt)** consisting of a single layer of columnar to cuboidal epithelial cells supported on a moderate fibrovascular stroma, which is infiltrated by low numbers of lymphocytes and plasma cells **(1 pt)**. Many epithelial cells contain developing protozoal macrogametes and microgametes in various stages of gametogony. **(1 pt)** The macrogametes are round, 20-50 um in diameter, with a central nucleus, prominent nucleolus, and brightly eosinophilic 3-4 um diameter peripheral granules. **(1 pt)**The microgametes are round, 15-25 um in diameter, with peripheral lightly basophilic granules **(1 pt)**. Within the lumen there are numerous oocysts, gametocytes and cellular debris. The unsporulated oocysts **(1 pt)** are 20-40 um in diameter with thick refractile walls that are often collapsed and contain lightly basophilic, granular cytoplasm with a nucleus. **(1 pt)** Adjacent portal areas are expanded by moderate amounts of fibrous connective tissue **(1 pt)**, and bile ducts are surrounded and rarely infiltrated by low to moderate numbers of lymphocytes, plasma cells, and rare neutrophils, **(1 pt)** and their lumina occasionally contain coccidial oocyts. There is mild biliary hyperplasia within some portal areas. Portal lymphatics and veins are often mildly dilated. Adjacent to the dilated ducts, hepatocytes are compressed, often contain lipid vacuoles (degeneration and atrohy) and sinusoids are occasionally dilated.

MORPHOLOGIC DIAGNOSIS: Liver: Cholangitis, proliferative and lymphoplasmacytic, chronic, diffuse, severe, with ductular ectasia, and numerous intraepithelial and intraluminal coccidial gametocytes and oocysts. **(3 pt)**

CAUSE: *Eimeria stiedae* **(3 pt)**

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

WSC 2015-2015, Conference 18

Case 2. Tissue from a rabbit.

MICROSCOPIC DESCRIPTION: Lung: Scattered throughout the section, primarily centered on airways, **(1 pt)** and comprising about 33% of the overall area are large, occasionally coalescing areas of septal necrosis **(1 pt)** with hemorrhage. Within these areas, septal architecture is effaced by hemorrhage **(1 pt)** admixed with large amounts of cellular debris. Remaining pneumocytes often have pyknotic nuclei, and the area is infiltrated by low to moderate numbers of heterophils **(1 pt)** and macrophages (often containing phagocytized erythrocytes). Rarely, nuclei of type 1 pneumocytes contain a single eosinophilic viral inclusion **(1 pt)** which peripheralizes the chromatin, and rarely, multinucleated viral syncytial **(1 pt)** are visible with up to 5 or 6 nuclei, some or all of which are expanded by similar viral inclusions. Inclusions are also seen within endothelial cells **(1 pt)**. There is multifocal fibrin thrombi **(1 pt)** within vessels within areas of necrosis. Adjacent, less affected areas of the lung are mildly to markedly congested and both alveolar septae and alveolae contain variable amounts of hemorrhage, edema fluid **(1 pt)**, polymerized fibrin **(1 pt)** as well as increased numbers of alveolar macrophages, rare heterophils and cellular debris. Airways are filled with refluxed edema, hemorrhage and fibrin, and airway epithelium is often sloughed into the lumen. **(1 pt)** Rarely, airway epithelial cells contain similar viral intranuclear inclusions as well as occasional syncytia formation. **(1 pt)** Arterioles often contain increased numbers of pavemented neutrophils and neutrophils are occasionally seen transmigrating their walls. Within the arteriolar a There are moderate numbers of megakaryocytes circulating within alveolar septa **(1 pt)**.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, bronchointerstitial, necrotizing and fibrinohemorrhagic, multifcoal to coalescing, moderate to severe, with epithelial and endothelial intranuclear viral inclusions and multinucleated viral syncytia. **(4 pt)**

CAUSE: *Leoporid herpesvirus-4* **(2 pt)**

O/C: (1 pt)

WSC 2015-2015, Conference 18

Case 3. Tissue from a rabbit.

(Not really much of a descriptive slide as the only entity. Pair it up with a metritis or better yet a uterine AC, and you have a good descriptive slide…)

MICROSCOPIC DESCRIPTION: Uterine horn **(2 pt)** : Within the uterine wall, there is a markedly dilated **(1 pt)**, endothelial-lined vein **(2pt)** which is partially occluded by a large fibrinocellular thrombus **(2 pt)** with pronounced lines of Zahn **(1 pt)** and numerous incorporated neutrophils. One edge of the thrombus is in contact with the wall of the vein. Within this area, the wall of the vein is markedly expanded by a proliferation of numerous plump endothelial cells **(1 pt)** which often form small vessels perpendicular to the wall of the vein **(1 pt)**, as well as plump fibroblasts **(1 pt)** and mature collagen **(1 pt)**. At the attachment site, there are low numbers of hemosiderin-laden macrophages **(1 pt)**. The overlying endometrium is markedly atrophic **(1 pt)**, with a loss of both stroma and glands and attenuated small cuboidal uterine epithelium.

MORPHOLOGIC DIAGNOSIS: Uterus: Endometrial venous aneurysm **(5 pt)**

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

WSC 2015-2015, Conference 18

Case 4. Tissue from a chinchilla.

MICROSCOPIC DESCRIPTION: Lung (multiple sections): There is a diffuse severe necrotizing pneumonia which is centered on airways **(1 pt)**. Airways are filled with large numbers of viable and degenerate neutrophils and abundant cellular debris. **(1 pt)** Airway epithelium is often necrotic **(1 pt)**, occasionally infiltrated by neutrophils and lymphocytes, and in areas, is flattened and attenuated. Adjacent alveoli are expanded, and often effaced by large numbers of viable and degenerate neutrophils **(1 pt)** which often assume an elongate streaming appearance (oat cells) **(1 pt)** admixed with fewer macrophages, abundant cellular debris, and variable amounts of hemorrhage and polymerized fibrin **(1 pt)**. In these confluent areas of necrosis, alveolar septa are often discontinuous (septal necrosis) **(1 pt)** or expanded with fibrin thrombi. **(1 pt)** Within the intervening, less affected parenchyma, alveolar septa are expanded by congestion and edema, and alveoli contain moderate amounts of polymerized fibrin **(1 pt)**, edema fluid, and increased numbers of alveolar macrophages in addition to rare neutrophils. Numerous small 2-3um bacilli may be seen within alveoli in these areas. **(1 pt)** Vessels are often surrounded by edema **(1 pt)**, and occasionally lymphatics contain fibrin thrombi **(1 pt)**. The pleura is expanded by variably thick mats of fibrin which range from 10-50um **(1 pt)** and contains low to moderate numbers of viable and degenerate neutrophils.

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia, necrotizing and fibinosuppurative, multifocal to coalescing with fibrinous pleuritis and numerous bacilli. **(3 pt)**

CAUSE: *Bordetella bronchiseptica* **(2 pt)**

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