

WSC 2021-2022

Conference 15, Case 1.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lung: Normal pulmonary architecture is lost in approximately 80% of the section. Alveoli are filled by various combinations and concentrations of the following: large numbers of macrophages which take on both a foamy **(1pt)** and a spindled **(1pt)** appearance, fewer neutrophils **(1pt)**, lymphocytes and plasma cells, multinucleated macrophages **(1pt)**, and siderophages **(1pt)s**, admixed with variable amounts of hemorrhage, fibrin and edema. **(1pt)** Diffusely, alveolar septa are expanded (1 pt.) up to 5x normal by variable combinations and concentrations of macrophages (both emigrating and hypertrophied intraseptal) **(1pt)**, neutrophils, fewer lymphocytes, edema fluid, mature collagen **(1pt)**, and patchy rare type II pneumocyte hyperplasia. Airways are often segmentally to diffusely devoid of lining epithelium and contain refluxed inflammatory cells and edema fluid as previously described. **(1pt)** There are perivascular aggregates of lymphocytes and plasma cells throughout the section. **(1pt)** There are rare randomly scattered foci of mineralization as well as megakaryocytes within alveolar septa. **(1pt)** Scattered throughout the section, alveoli contain one or more 6-8um yeasts **(1pt)**with a retractile 1-2cm hyaline cell wall and inner cytoplasm (often surrounded by a clear halo due to fixation artifact) **(1pt)**, which rarely exhibit narrow-based budding. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial **(1pt)**, granulomatous **(1pt)**, chronic, diffuse, severe with extracellular yeasts **(1pt)**

CAUSE: *Blastomyces dermatitidis* **(3pt)**

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

WSC 2021-2022

Conference 14, Case 2.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Kidney: Extending in a linear fashion **(1pt.)** from the capsule into the medulla, **(1pt.)** the renal parenchyma is infiltrated and often effaced by an infiltrate of large numbers of lymphocytes **(1pt.)**, with fewer macrophages **(1pt.)**, plasma cells **(1pt.)** and rare neutrophils and multinucleated macrophages, admixed with small amounts of cellular debris. In areas of inflammation, tubules are lost, **(1pt.)** and remaining tubules are atrophic **(1pt.)** or demonstrate variable degrees of degeneration or necrosis. Tubular epithelial cells are either swollen with microvacuolated cytoplasm (degeneration) **(1pt.)**, hypereosinophilic, angular, and shrunken with nuclear pyknosis, karyorrhexis, or nuclear loss (necrosis) **(1pt.)**. Tubules at the periphery are often ectatic and lumina contain varying amounts of viable and degenerate neutrophils, sloughed epithelial cells **(1pt.)**, cellular debris, eosinophilic proteinaceous material **(1pt.)**, hemorrhage, and fibrin. Glomeruli within areas of inflammation are surrounded by multiple layers of lamellated collagen **(1pt.)** and often have parietal epithelial hyperplasia. Low numbers of lymphocytes and fewer plasma cells diffusely infiltrate the pelvic submucosa. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Kidney: Nephritis, tubulointerstitial **(1pt.)**, lymphoplasmacytic **(1pt.)**, chronic, multifocal to coalescing, marked, with tubular degeneration, necrosis, and loss. **(1pt.)**

CAUSE: *Leptospira sp.* **(3pt.)**

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

WSC 2021-2022

Conference 15

Case 3. Tissue from a horse.

MICROSCOPIC DESCRIPTION: Lymph node: Two separate metastatic neoplasms are present in this node. The first neoplasm extends from a focal area of the effaced subcapsular sinus into the medulla; it is an infiltrative, well-demarcated, unencapsulated, moderately cellular multilobular neoplasm. **(1pt)** The neoplasm is composed of lobules, islands, and nests **(1pt)** of squamous epithelium on a moderate fibrous stroma. Neoplastic cells are polygonal **(1pt)** with abundant basophilic cytoplasm and distinct cell borders, intracellular bridges **(1pt)**, and exhibit abrupt keratinization and necrosis **(1pt)** centrally within lobules. Nuclei are irregularly round with finely stippled chromatin and 1-3 basophilic nucleoli. **(1pt)** There is marked anisokaryosis and anisocytosis, and nuclei undergo pyknosis within keratinizing cells. There is scattered apoptosis of cells within trabeculae as well. Mitotic figures average 16 per 2.37mm² field. **(1pt)** There are low numbers of neutrophils **(1pt)** within the neoplasm (often in areas of keratinization), and infiltrating the stroma.

Diffusely infiltrating the node, extending into the adjacent perinodal adipose tissue and into the stroma of the previously described neoplasm is an unencapsulated, infiltrative, poorly demarcated, moderately cellular neoplasm. **(1pt)** Neoplastic cells are arranged in sheets and large nests of cells on a pre-existent stroma. **(1pt)** Neoplastic cells range from polygonal to spindle, **(1pt)** with indistinct cell borders and abundant cytoplasm which is often obscured by melanin pigment. **(1pt)** Nuclei are irregularly round to oval with coarsely clumped chromatin. There is mild anisocytosis and anisokaryosis, and due to the abundance of melanin pigment, mitoses cannot be assessed on an HE section. There are numerous large melanophages **(1pt)** scattered throughout the neoplasm.

Approximately 30% of nodal architecture remains. There is marked cortical and paracortical expansion with formation of numerous follicles lacking mantles. **(1pt)** Tingible body macrophages are present in small numbers within both follicles and paracortical areas, and low numbers of melanophages infiltrate the paracortical sinuses.

MORPHOLOGIC DIAGNOSIS: 1. Lymph node: squamous cell carcinoma. **(2pt)**
2. Lymph node and perinodal fat: Melanoma. **(2pt)**
3. Lymph node: Reactive hyperplasia, diffuse, moderate. **(1pt)**

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

WSC 2021-2022 Conference 14

Case 4. Tissue from a pig.

MICROSCOPIC DESCRIPTION: Colon **(1pt.)**: There is mild autolysis, resulting in diffuse loss of colonic epithelium and to a lesser extent, glandular epithelium. Multifocally and segmentally, there is full-thickness necrosis of the mucosa **(1pt)**, and submucosa **(1pt.)** Areas of ulceration are characterized by loss of glandular architecture with replacement by a serocellular crust **(1pt.)** composed of abundant cellular debris, necrotic neutrophils, epithelial cells and fewer macrophages, hemorrhage, fibrin, and bacterial colonies **(1pt.)** adhering to the luminal surface. A dense basophilic band of cellular debris outlines the margins of the ulcer. **(1pt.)** Within the base of the ulcer and the underlying submucosa, vessels are occluded by fibrin thrombi **(1pt.)** with necrosis of endothelium and cellular debris within the vessel wall (vasculitis) **(2pt.)**. Within the adjacent remaining mucosa at the periphery of the areas of necrosis, remnant mucosa has loss tinctorial variation, and glandular epithelium is multifocally necrotic and/or sloughed into remnant glands. **(1pt.)** More peripherally, the lamina propria is expanded and glands are widely separated by large numbers of infiltrating macrophages and fewer neutrophils, **(1pt.)** admixed with edema and moderate amounts of cellular debris. A similar infiltrate is present within the submucosa at the deep margins of the ulcerated areas **(1pt.)** against a background of immature granulation tissue and rare thrombosed vessels. **(1pt.)**

MICROSCOPIC DIAGNOSIS: Colon: Colitis, necrotizing **(1pt.)**, multifocal, severe, with vasculitis **(1pt.)** and thrombosis. **(1pt.)**

CAUSE: Salmonella sp. (classical swine fever OK) **(3pt.)**

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