

WSC 2021-2022

Conference 20, Case 1.

Tissue from a ferret.

MICROSCOPIC DESCRIPTION: Larynx, sectioned at level of arytenoid cartilages **(1pt)**: Bilaterally expanding and effacing the more lateral aspects of the dorsal and lateral cricoarytenoideus muscle, thyroarytenoideus muscle and the deeper layers of the esophageal skeletal muscle **(1pt)**, as well as focally infiltrating the submucosa of the esophageal wall, and tracheal submucosa **(1 pt)** and perilaryngeal fibrovascular tissue, there are large numbers of viable **(1 pt.)** neutrophils **(1 pt.)** admixed with lesser number of macrophages **(1 pt.)**, rare lymphocytes and plasma cells **(1 pt.)** admixed with cellular debris and multifocal hemorrhage. The neutrophils infiltrate the endomysium of muscle bundles surrounding and often replacing rhabdomyocytes. **(1pt)** Adjacent myocytes demonstrate one or more of the following changes: fragmentation, shrinkage **(1pt)**, hypereosinophilia, loss of cross striations **(1pt)**, hyalinization, atrophy **(1pt)**, pyknosis **(1pt)** and loss of satellite nuclei. Within the trachea, in addition to the previously mentioned neutrophils within the submucosa, low numbers of neutrophils infiltrate the overlying mucosa, and the submucosal glands are separated by low numbers of lymphocytes and plasma cells. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1. Larynx and esophagus: Rhabdomyositis, neutrophilic, chronic-active diffuse, severe with myofiber atrophy. **(3 pt.)**

2. Perilaryngeal soft tissues: Cellulitis, neutrophilic, multifocal, moderate. **(1pt)**

Name the condition: Myofasciitis (disseminated idiopathic myositis) **(2 pt.)**

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

WSC 2021-2022

Conference 20, Case 2.

Tissue from a marine toad.

MICROSCOPIC DESCRIPTION: Ovary **(1pt)**. Expanding the ovary and effacing architecture centrally **(1pt)**, there is a 1.1cm diameter **(1pt)** inflammatory nodule **(1pt)** which is composed of sheets of macrophages **(1pt)** with fewer lymphocyte **(1pt)** and acidophilic granulocytes **(1pt)** admixed with small amounts of cellular debris, hemorrhage **(1pt)**, edema **(1pt)**, and centrifugally, moderate amounts of fibrous stroma **(1pt)** populated with plump reactive fibroblasts **(1pt)**. The macrophages range up to 15 microns in **(1pt)** with abundant granular basophilic cytoplasm **(1pt)**. There is a large central area of necrosis within the center of the granuloma. hh There are multifocal small random areas of necrosis **(1pt)** scattered throughout the inflammatory infiltrate with macrophages containing cellular debris. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Ovary: Oophoritis **(1pt)**, granulomatous **(1pt)**, diffuse, severe, with necrosis.

CAUSE: *Brucella* sp. **(2pt)**

O/C: (1pt)

WSC 2021-2022

Conference 20, Case 3

Tissue from a snowy owl.

MICROSCOPIC DESCRIPTION: Liver. Diffusely, centrilobular hepatocytes **(1pt.)** are degenerate **(1pt.)** (swollen, hypereosinophilic, and contain one to multiple discrete lipid droplets) or necrotic **(1pt.)** (individualized, rounded up, with pyknotic to rrehtic nuclei.) There is loss of normal hepatocellular architecture within centrilobular areas, hemorrhage, small amounts of polymerized fibrin, and infiltration of low numbers of heterophils. **(1pt.)** Hepatocellular degeneration extends into midzonal **(1pt.)** areas with hepatocytes demonstrating cytoplasmic granularity and vacuolation and accumulation of brown cytoplasmic granules (lipofuscin). Diffusely, there is abundant brown-black birefringent **(1pt.)** granular pigment within Kupffer cells **(1pt.)** (hemozoin) **(1pt.)**, and small amounts within circulating erythrocytes. **(1pt.)** Macrophages often contain recognizable erythrocyte fragments (erythrophagocytosis) **(1pt.)** There is multifocal sinusoidal extramedullary hematopoiesis.

Spleen: There is extensive deposition of a brown black granular birefringent pigment (hemozoin) within macrophages of the red pulp **(1pt.)**, and to a lesser extent in circulating erythrocytes. Macrophages often contain recognizable erythrocyte fragments (erythrophagocytosis).

MORPHOLOGIC DIAGNOSIS: 1. Liver, spleen, macrophages and erythrocytes: Hemozoin pigment. **(2pt.)**

2. Liver: Necrosis, centrilobular, diffuse, with hemorrhage. **(2pt.)**

NAME THREE POSSIBLE CAUSES: *Plasmodium* sp., *Haemoproteus* sp., *Leucocytozoon* sp **(3pt.)**

NAME THE CONDITION: Avian malaria **(1pt.)**

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

WSC 2021-2022 Conference 20

Case 4. Tissue from a tentacled snake.

MICROSCOPIC DESCRIPTION: Scaled skin: Multifocally, over the dorsal midline **(1pt)**, there is erosion **(1pt)** to full thickness necrosis **(1pt)** of the epidermis **(1pt)**, which is replaced by a brightly eosinophilic coagulum **(1pt)** of necrotic heterophils **(1pt)** and epithelial cells admixed with abundant cellular debris **(1pt)** and small amounts of hemorrhage. Scattered throughout the coagulum are numerous branching **(1pt)**, septate **(1pt)** fungal hyphae **(1pt)** and occasional arthroconidia **(1pt)**. There is moderate hyperplasia **(1pt)** of the lacunar germinative layer of the epidermis adjacent to areas of erosion (and diffusely to a lesser extent as the animal is preparing to shed its skin) and multifocal mild dermal hemorrhage with infiltration of low numbers of heterophils. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Scaled skin: Epidermitis**(1pt)**, necrotizing **(1pt)**, multifocal, marked with numerous fungal hyphae **(1pt)** and arthroconidia.

CAUSE: *Parananniziopsis australensis* (any Nannizziopsis sp., Parananniziopsis sp. or Ophidiomyces ophidiicola OK) **(3pt)**

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