

WSC 2023-2024  
Conference 6, Case 1  
Tissue from a falcon.

**MICROSCOPIC DESCRIPTION:** Aorta: The aortic diameter is expanded up to 4.5mm diameter with a narrowed lumen. **(1pt.)** There is loss of endothelium **(1pt.)** with degeneration of the intima with extrusion of plasma protein **(1pt.)**. There is intimal hyperplasia, characterized by loss of the internal elastic lamina proliferation of smooth muscle cells within the intimal layer **(1pt.)** where they are admixed with numerous fibroblasts and dense fibrous connective tissue. **(1pt.)** The tunica media is markedly expanded by large amounts of randomly arrayed and loosely arranged fibrous connective tissue **(1pt.)**, and within the outer half of the tunica media, numerous scattered lipid-laden **(1pt.)** macrophages **(1pt.)** with abundant foamy, microvacuolated cytoplasm (foam cells) **(1pt.)**, numerous acicular cholesterol clefts **(1pt.)**, irregularly shaped clear spaces **(1pt.)**, hyperplastic and disarrayed smooth muscle cells (1pt.) and moderate amounts of amphophilic cellular debris **(1pt.)**. There are multifocal areas of cartilaginous metaplasia **(1pt.)** within the deepest part of the affected media. Similar, but less severe inflammatory changes are seen within the adventitia. **(1pt.)** There is a single aggregated of polymerized fibrin adjacent to the epicardium, and aggregates of lymphocytes and plasma cells around vessels in the mediastinal fat.

**MOROPHOLOGIC DIAGNOSIS:** 1. Aorta: Atherosclerosis **(2pt.)**, circumferential, diffuse, severe, with numerous lipophages **(1pt.)**, marked mural fibrosis **(1pt.)** and multifocal cartilaginous metaplasia **(1pt.)**  
2. Heart, epicardium: Epicarditis,

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

WSC 2023-2024  
Conference 6, Case 2  
Tissue from dog.

**MICROSCOPIC DESCRIPTION:** Small intestine (presumably jejunum: Three sections of jejunum are submitted for examination and differ only in severity of the lesion. Expanding the intestinal wall, and infiltrating all layers **(1pt.)** are poorly defined foci of granulomatous and eosinophilic inflammation. **(1pt.)** These foci are present in all layers and composed of moderate numbers of epithelioid **(1pt.)** and foreign body type macrophages **(1pt.)** admixed with numerous eosinophils **(1pt.)** and fewer lymphocytes **(1pt.)** and plasma cells **(1pt.)** admixed with cellular debris, and enmeshed in varying amounts of fibrous connective tissue. **(1pt.)** Scattered among the cellular debris and contained within macrophages are poorly discernible hyphae **(1pt.)** which are 4-8um in diameter with pauciseptate non-parallel walls. **(1pt.)** Within the mucosa, the lamina propria is markedly expanded by inflammatory cells as previously described, and there is marked blunting of villi **(1pt.)** with loss of crypts **(1pt.)**. The submucosa is markedly expanded by fibrosis **(1pt.)** with inflammatory cells as previously described inflammatory cells scattered widely throughout the submucosa. In area of infiltration of the mural smooth muscle, there is multifocal effacement of smooth muscle by granulomatous inflammation, and smooth muscle cells exhibit a range of degenerative (hypereosinophilia, shrinkage, hyalinization) **(1pt.)** and necrotic (fragmentation, pyknosis) changes. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS :** Small intestine: Enteritis, transmural, eosinophilic **(1pt.)** and granulomatous **(1pt.)** with numerous intrahistiocytic and extracellular fungal hyphae **(1pt.)**.

**CAUSE:** Pythium insidiosum (Lagenidium or Zygomycetes sp. OK **(2pt.)**)

WSC 2023-2024

Conference 6, Case 3.

Tissue from a chicken.

**MICROSCOPIC DESCRIPTION:** Trachea. There is diffuse circumferential hyperplasia of the mucosal epithelium **(1pt.)**, and a large plug of necrotic debris in the lumen. Diffusely within the hyperplastic tracheal epithelium, epithelial cells are markedly swollen by intracytoplasmic edema **(1pt.)** (ballooning degeneration) and numerous cells contain one or more large round eosinophilic cytoplasmic poxviral inclusions **(1pt.)**. There is necrosis (apoptosis) **(1pt.)** or numerous individual and small aggregates of epithelial cells. In areas of cellular necrosis and dropout, there are necrotic epithelial cells admixed with blue mucus, necrotic heterophils and cellular debris. **(1pt.)** The hyperplastic mucosa is infiltrated by moderate numbers of viable and necrotic heterophils **(1pt.)**, and within the deeper areas and immediately subjacent submucosa, there are numerous heterophils, lymphocytes, plasma cells, and macrophages. **(1pt.)** The luminal plug is composed of large rafts of necrotic sloughed mucosa admixed with mucus, necrotic heterophils and cellular debris. Scattered throughout the necrotic debris within the lumen, there are low numbers of necrotic viral syncytia **(1pt.)** within the epithelial cells. These cells have up to 10 nuclei **(1pt.)** which are expanded by homogenous eosinophilic intranuclear viral inclusions **(1pt.)** that peripheralize the nucleus. The inflammation, edema, and necrosis extends into the submucosa and downward into the strap muscles where it expands the epimysium and infiltrates the perimysium. Within areas of infiltration, skeletal muscles are shrunken, hyalinized and hypereosinophilic (atrophy.) **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** 1. Trachea: Tracheitis, proliferative **(1pt.)** and necrotizing **(1pt.)**, circumferential, severe with ballooning degeneration **(1pt.)** and intracytoplasmic viral inclusions. **(1pt.)**  
2. Trachea, epithelium: Viral syncytia **(1pt.)**, few, with intranuclear viral inclusions. **(1pt.)**

**CAUSE** Avian poxvirus **(1pt.)** and gallid herpesvirus-1 **(1pt.)**

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

WSC 2023-2024  
Conference 6, Case 4.  
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Skeletal muscle: Infiltrating and effacing 75% of the section and incorporating both the skeletal muscle and subcutaneous fat **(1pt)**, there is a multilobular, unencapsulated, infiltrative, and moderately cellular neoplasm. **(1pt)** The neoplasm is composed of short streams and bundles **(1pt)** and nests and packets **(1pt)** of spindle to polygonal cells **(1pt)** on a fine fibrous matrix. **(1pt)** Neoplastic cells have distinct cell borders and a moderate amount of brightly eosinophilic cytoplasm. **(1pt)** Nuclei are irregularly oval to elongate with finely stippled chromatin and 1-2 small blue nucleoli. There is moderate anisocytosis and anisokaryosis; mitoses average 18 per 2.37mm<sup>2</sup>. **(1pt)** There are random areas of necrosis **(1pt)** scattered throughout the neoplasm as well as small amounts of hemorrhage and fibrin and innumerable individualized apoptotic **(1pt)** neoplastic cells. In areas where neoplastic cells extending into the adjacent skeletal muscle, rhabdomyocytes demonstrate a range of changes including coagulative necrosis of entire myofibers **(1pt)**, vacuolated and hyalinized (degenerate) **(1pt)**, shrunken (atrophic) **(1pt)** and have pyknotic or karyorrhectic nuclei (necrosis).

Heart. Centrally within the section, there is a 0.75cm diameter nodule within the subendocardium and trabeculae carneae of the ventricle. **(1pt)** While similar to the nodule in the skeletal muscle, this nodule contains a higher percentage of apoptotic cells.

Lung: There are several metastatic foci of the neoplasm described above. The neoplasm also segmentally infiltrates the pleura and the subpleural alveoli. **(1pt)** Neoplastic cells also surround the adventitia of a pulmonary arteriole. The nesting and packeting of neoplastic cells is most prominent in these sections. There is multifocal to coalescing areas of pulmonary edema and

MORPHOLOGIC DIAGNOSIS: Skeletal muscle, heart, lung: Rhabdomyosarcoma (3pt), alveolar type. **(4pt)**

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

