WSC 2024-2025
Conference 16, Case 1
Tissue from a collared finchbill.
(There is mild variation in slides from this case.)

MICROSCOPIC DESCRIPTION: Cross section of head at the level of the optic chiasm: Within the cerebrum, affecting both the gray and white matter, **(1pt.)** there are multifocal to coalescing areas of necrosis **(1pt.)** which are characterized by extensive spongiosis **(1pt.)** and infiltration of large numbers of viable and necrotic heterophils **(1pt.)** admixed with cellular debris. Neurons are frequently shrunken, angular, and demonstrate nuclear pyknosis or karyorrhexis **(1pt.)** (necrosis) **(1pt.)**. Rarely, glial cells contain a haphazard aggregate of 1x3um **(1pt.)** thin rods **(1pt.)** within their cytoplasm. There is infiltration of Gitter cells **(1pt.)**, astrocytes **(1pt.)** and activated microglia, and there is occasional necrosis of these cells as well. **(1pt.)** Glial cells are often surrounded by a clear halo in areas of edema. Within the necrotic areas, vessels are prominent and often filled with emigrating heterophils **(1pt.)**, and rarely hemorrhage into the surrounding parenchyma. The Virchow-Robin spaces of some vessels near the meninges are expanded by 1-3 layers of lymphocytes. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Cerebrum: Encephalitis, necrotizing **(1pt.)** and heterophilic **(1pt.)**, multifocal to coalescing, marked, with edema and rare intraneuronal bacterial rods. **(1pt.)**

CAUSE: *Clostridium piliforme* **(3pt.)**

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

WSC 2024-2025
Conference 16, Case 2
Tissue from a Texel lamb.

MICROSCOPIC DESCRIPTION: Esophagus: A cross section of esophagus is submitted for examination. Within the muscular layers **(1pt)**, muscle fibers demonstrate one or more of the following changes: variation in fiber size **(1pt)**, shrinkage, hypereosinophilia (atrophy) **(1pt)**, hyalinization **(1pt)** with loss of cross striations **(1pt)** (degeneration) **(1pt)**, cytoplasmic granularity, fragmentation **(1pt)**, contraction band formation, and pyknosis and loss of satellite nuclei (necrosis.) **(1pt)** There is expansion of the interstitium with edema **(1pt)**and infiltrating macrophages with fewer lymphocyte and rare neutrophils, **(1pt)** , and macrophages occasionally infiltrate within the sarcoplasmic membrane of necrotic myofibers **(1pt)**. In some areas, only hypertrophic satellite nuclei remain. **(1pt)** Occasional vessels exhibit contain non-occlusive fibrin thrombi. **(1pt)** The mucosa is within normal limits.

MORPHOLOGIC DIAGNOSIS : Esophagus, muscularis: Myocyte degeneration **(1pt)**, necrosis **(1pt)**, and atrophy **(1pt)**, diffuse, marked.

CAUSE: Ovine orbivirus **(3pt)**

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

WSC 2024-2025
Conference 16, Case 3.
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Stomach **(1pt.)**: The serosa is markedly expanded up to 1.6 cm **(1pt.)** by multiofocal to coalescing pyogranulomas **(1pt.)** scattered amongst dense fibrous connective tissue. **(1pt.)** Pyogranulomas are centered on aggregates of fungal hyphae **(1pt.)** which are pauciseptate, 4-6um in diameter with clear cytoplasm **(1pt.)** and have round terminal variably-sized conidia measuring up to 20um in diameter. **(1pt.)** Hyphae are surrounding by large numbers of viable and necrotic neutrophils **(1pt.)** which are admixed with abundant cellular debris, and peripherally, epithelial macrophages **(1pt.)** and occasionally multinucleated foreign body type macrophages. **(1pt.)** The intervening fibrous connective tissue is dense and mature in deeper areas of the serosa, and in more superficial regions (close to the smooth muscle layer) it is less mature with numerous blood vessels with prominent endothelium and scattered low to moderate numbers of neutrophils, macrophages, and lymphocytes. **(1pt.)** The connective tissue infiltrates the deepest aspects of the smooth muscle, separating muscle bundles **(1pt.)** Within the muscular tunics as well as the submucosa, there are large aggregates of lymphocytes and plasma cells. **(1pt.)** The submucosa is also expanded by fibrosis, and smaller aggregates of lymphocytes and plasma cells are present in the deep mucosa, **(1pt.)** as well as a linear band of similar cells. The overlying mucosa is intact.

MORPHOLOGIC DIAGNOSIS: Stomach, serosa: Gastritis, pyogranulomatous **(1pt.)**, multifocal to coalescing, severe, with numerous aggregates of fungal hyphae **(1pt.)** and mucosal, submucosal, and muscular lymphofollicular gastritis **(1pt.)**.

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

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

WSC 2024-2025
Conference 16, Case 4.
Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Cecum (per contributor) (this is a tough one, as it looks like it has villi) so any small intestine or large intestine segment is OK): Markedly expanding the lamina propria **(1pt.)**, replacing and widely separating glands, markedly expanding the submucosa and extending into the underlying , are numerous epithelioid macrophages **(1pt.)**arranged in dense sheets which are admixed with moderate lymphocytes **(1pt.)**, with fewer plasma cells. Macrophages have abundant greyish-pink granular cytoplasm **(1pt.)** and an eccentric round to oval nucleus. The mucosal epithelium is diffusely lost. There is marked loss of glands **(1pt.)**, and multifocal necrosis, loss and attenuation of glandular epithelium in glandular remnants. **(1pt.)** The submucosa **(1pt.)**) is markedly expanded by a similar cellular infiltrate, with increased proportion of lymphocytes **(1pt.)** and plasma cells **(1pt.)**, predominantly in deeper aspects near nerve plexi. Deep submucosal lymphatics are dilated **(1pt.)**. The inflammatory infiltrate extends into the superficial muscular layer **(1pt.)**. Diffusely, there is increased clear space and dilated lymphatics (edema) **(1pt.)** within the serosa. (1pt). A second section of large intestine, with similar changes, but more advanced autolysis is also present on the slide (but not worthy of description).

MORPHOLOGIC DIAGNOSIS: Cecum (I'll take any part of the enteron): Typhlitis (Enteritis if you thought this was small intestine) **(1pt.)**, histiocytic **(1pt.)** (granulomatous OK), diffuse, severe with marked glandular loss and edema **(1pt.)**.

CAUSE: *Mycobacterium avium* var. *paratuberculosis*. **(3pt.)**

NAME THE DISEASE: Johne's disease **(2pt.)**

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