WSC 2021-2022
Conference 23, Case 1.

Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Larynx: A 2.4 x 1.1 cm centrally cavitated and mildly disordered mass of laryngeal cartilage is submitted for examination. The plate of cartilage **(1pt)** (actually arytenoid cartilage) has irregular borders with nodular proliferations **(1pt)** of cartilage. Chondrocytes are diffusely distributed and separated by abundant light blue chondroid matrix. **(1pt)** Up to 40% of chondrocytes exhibit pyknotic nuclei (necrosis). There is a focal area of transverse and complete fracture **(1pt)** of the cartilaginous plate. Within this area, the cartilage is fragmented and the two plates are separated by abundant fibrin and small amounts of hemorrhage and cellular debris. **(1pt)** Adjacent to the fracture line, chondrocytes are necrotic **(1pt)**, and lacunae occasionally contain infiltrating neutrophils, fewer macrophages and cellular debris. **(1pt)** Adjacent pink devitalized cartilage is partially resorbed and replaced by granulation tissue. **(1pt)** Circumferentially lining the cartilage and extending to the central cavity is a dense bed a variably mature granulation tissue. **(1pt)** Granulation tissue is necrotic at the edge of the cystic area **(1pt)**, is characterized by loss of vital staining, hemorrhage, and intercell and infiltration of low numbers of neutrophils and cellular debris. The skeletal muscle surrounding the proliferating cartilage exhibits one or more of the following degenerative features: hypereosinophilia, loss of crossed striations, shrinkage, and infiltration and separation of myocytes with increased endomysial fibrous connective tissue. **(1pt)** There are randomly scattered aggregates of lymphocytes and plasma cells and fewer neutrophils within the fibrotic skeletal muscle. **(1pt)** At one edge of the section there is salivary gland tissue which exhibits mild atrophy and infiltration of the interstitial connective tissue by low numbers of lymphocytes and plasma cells. **(1pt)**
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MORPHOLOGIC DIAGNOSIS: Larynx: Chondritis **(1pt)**, necrotizing **(1pt)** and pyogranulomatous, multifocal to coalescing, with fracture and chronic-active perilaryngeal myositis. **(1pt)**

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

WSC 2021-2022
Conference 23, Case 2.
Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Abomasum **(1pt)**: There is mild diffuse autolysis of the abomasal mucosa. At varying levels within the mucosa, compressing adjacent glands, **(1pt)** there are few apicomplexan megaloschizonts **(1pt)** measuring up to 2 millimeters in diameter **(1pt)**. The megaloschizonts are composed a 8-10 hyaline wall **(1pt)** with numerous exterior cilia-like laminar projections which encloses innumerable 3-4um elliptical zoites **(1pt)** which, in developing schizonts, are arranged around blastopores **(1pt)**. A single markedly hypertrophic host cell nucleus with prominent macronucleoli and moderate amounts of pink vacuolated cytoplasm is interposed between the schizont wall and the mass of zoites. **(1pt)** Within the adjacent lamina propria there are moderate numbers of lymphocytes and rare plasma cells. **(1pt).** Multifocally, several of the megaloschizonts are ruptured **(1pt)**, extruding zoites into the surrounding tissue where they are admixed with moderate numbers of viable and degenerate neutrophils **(1pt)**, macrophages, multinucleated giant cell macrophages and abundant cellular debris. Diffusely throughout the deeper aspects of the mucosa ad often extending into the submucosa, there are low to moderate numbers of eosinophils, lymphocytes and plasma cells in the deep mucosa and extending into the superficial submucosa. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1. Abomasum: Apicomplexan megaloschizonts **(2pt)**, few with multifocal rupture and mild neutrophilc abomasitis. **(1pt)**

2. Abomasum: Abomasitis, lymphoplasmacytic and eosinophilic, diffuse, mild. **(1pt)**

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

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

WSC 2021-2022
Conference 23, Case 3
Tissue from a goat.

MICROSCOPIC DESCRIPTION: Lung: Within a lobular pattern, alveolar septa are diffusely expanded **(1pt.)** up to three times normal) by moderate to large numbers of lymphocytes **(1pt.)**, macrophages **(1pt.)**, and fewer neutrophils and plasma cells, as well as hypertrophic and hyperplastic smooth muscle and in areas, small amounts of mature collagen **(1pt.)**. Similar inflammatory cells occasionally form perivascular and peribronchiolar lymphoid aggregates with follicle formation. **(1pt.)** Within affected lobules, alveoli are diffusely expanded by high-protein exudate **(1pt.)** which contains foamy alveolar macrophages **(1pt.)** , rare neutrophils , and small amounts of cellular debris, and are segmentally lined by hyperplastic type II pneumocytes **(1pt.)**. There are randomly -scattered foci of lytic necrosis affecting a small percentage of alveoli and septa. **(1pt.)** There is mild hyperplasia of BALT, and airway lumina in affected lobules contain refluxed material from surrounding alveoli admixed with mucin. **(1pt.)** Within one lobule, the alveolar and airway infiltrate is primarily neutrophils, **(1pt.)** with large numbers of predominantly viable neutrophils admixed with proteinaceous fluid and cellular debris. Interlobular septa are mildly edematous and infiltrated by inflammatory cells as described above. **(1pt.)**

MICROSCOPIC DIAGNOSIS: Lung: Pneumonia, interstitial **(1pt.)** lymphohistiocytic **(1pt.)**, diffuse, moderate with peribronchiolar and perivascular lymphoid hyperplasia **(1pt.)**, and abundant high protein alveolar edema **(1pt.)**.

2. Lung: Bronchopneumonia, suppurative, focally extensive, mild to moderate. **(1pt.)**

CAUSE: Small ruminant lentivirus (CAEV OK) **(2pt.)**

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

WSC 2021-2022 Conference 22
Case 4. Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Nasal mucosa: The nasal mucosa is markedly expanded up to ten times normal **(1pt)** and thrown into thick villar **(1pt)** folds which are often fused. The lamina propria is expanded **(1pt)** and nasal glands are surrounded, separated and rarely effaced **(1pt)** an infiltrate of large numbers of plasma cells **(1pt)**, with fewer lymphocytes **(1pt)**, macrophages **(1pt)**, neutrophils **(1pt)** and eosinophils. Glands are often hyperplastic, ectatic and tortuous, **(1pt)** with increased numbers of mitotic fighures, nuclear crowding, moderately decreased numbers of goblet cells **(1pt)**, and their lumina often contains low to moderate number of neutrophils and eosinophils admixed with mucin and small amounts of cellular debris. **(1pt)** There is multifocal single cell necrosis of glandular epithelium. Occasional epithelium within the surface epithelium and glands contain vacuoles with numerous faintly basophilic 2-3um bacilli within their cytoplasm **(1pt)**; similar bacilli are seen within macrophages in the lamina propria. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Nasal mucosa: Rhinitis, proliferative **(1pt)** and lymphoplasmacytic **(1pt),** , chronic, severe, with multifocal mucosal erosion, and numerous intrepithelial and intrahistiocytic bacilli. **(1pt)**

CAUSE: Salmonella enterica v. arizonae **(2pt)**

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