WSC 2022-2023 Conference 1, Case 1
Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Lung: Multifocally arising from the alveolar epithelium, replacing 80% of pulmonary parenchyma **(1pt.)** and compressing adjacent alveoli are numerous often coalescing, nodular, unencapsulated, well-demarcated, moderately cellular expansile neoplastic foci. (**2pt.)** The neoplasm is composed of one or more layers of cuboidal to columnar epithelial cells b which form acini or papillary projections into alveolar lumina **(1pt.)** and are supported by a variably dense fibrovascular stroma. **(1pt.)** Neoplastic cells have distinct cell borders, a moderate amount of finely granular, occasionally djvacuolated amphophilic to lightly eosinophilic cytoplasm **(1pt.),** and round to oval nuclei with finely stippled chromatin, and 1-3 variably distinct nucleoli. **(1pt.)** The mitotic rate is less than 1 per 2.37mm^2 field. **(1pt.)** The stroma of the neoplasm is expanded by moderate numbers of lymphocytes, plasma cells, macrophages and neutrophils, and neutrophils often infiltrate into neoplastic acini. **(1pt.)** Alveolar septa adjacent to neoplastic nodules are also mildly expanded by the previously described inflammatory cells. **(1pt.)** Multifocally, unaffjected alveolar and bronchiolar lumina adjacent to neoplastic nodules contain variable combinations and concentrations of degenerate and nondegenerate neutrophils, foamy alveolar macrophages, fibrin, and edema. **(1pt.)** There is marked hyperplasia of bronchiolar-associated lymphoid tissue. **(1pt.)** and bronchioles often contain variable combinations and concentrations of edema fluid, mucin, sloughed neoplastic cells are cellular debris. The pleura is moderately expanded by increased clear space and ectatic lymphatics (edema) and scattered previously described inflammatory cells. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Lung: Pulmonary adenocarcinoma **(3pt.)**

CAUSE: Betaretrovirus (Jaagsiekte sheep retrovirus [JSRV]) **(2pt.)**

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

WSC 2021-2022
Conference 1, Case 2
Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Esophagus **(1pt.)**: The esophagus is mildly and assymetrically dilated **(1pt.)** with overall thinning of the skeletal muscle layers **(1pt.)**. Circumferentially, there are numerous changes in the skeletal muscle including the following: hyalinization, loss of cross striations, **(1pt.)** hypereosinophilia, shrinkage **(1pt.)** (degeneration) **(1pt.)**, fragmentation and nuclear pyknosis and karyorrhexis **(1pt.)** (necrosis) **(1pt.)**, and hypertrophy and hyperplasia of satellite nuclei **(1pt.)** (attempts at regeneration). In areas of myodegeneration, myofibers are surrounded and often replaced by mature collagen **(1pt.)** throughout which are scattered low to moderate numbers of lymphocytes **(1pt.)**, macrophages, and rare plasma cells. Within area of myodegeneration, there is pyknosis of endothelial cell nuclei **(1pt.)** of small venules with partially occlusive thrombi and multifocal hemorrhage **(1pt.)** into the surrounding fibrous connective tissue. There is mild atrophy of submucosal adipose tissue. The overlying mucosa is intact.

MORPHOLOGIC DIAGNOSIS: Esophagus, skeletal muscle: Degeneration**(1pt.)** and necrosis **(1pt.)**, circumferential, multifocal to coalescing,jkkhm moderate, with replacement fibrosis **(1pt.)** and multifocal vasculitis. **(1pt.)**

CAUSE: Ovine orbivirus **(2pt.)** (Acute ionophore toxicosis OK)
O/C: **(1pt.)**

WSC 2021-2022, Conference 1, Case 3.
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Lung: There is diffuse consolidation of all lobules within this section of lung. **(1pt.)** Multifocally, bronchioles are expanded and largely effaced **(1pt.)** by a central area of brightly eosinophilic cellular debris, degenerate neutrophils and numerous epithelioid macrophages which extends into and largely effaces the bronchiolar smooth muscle **(1pt.)** (bronchiectasis) **(1 pt.).** Smooth muscle of the bronchiolar wall is multifocally hypereosinophilic (degenerate) or necrotic, infiltrated by the macrophages and fewer lymphocytes and fibroblasts enmeshed in small to moderate amounts of mature collagen. **(1pt.)**. Few airways with segmentally intact epithelium remain, and lining epithelium is multifocally necrotic attenuated, or in areas, piles up several layers thick (hyperplasia.) **(1pt.)** The lumina of these airways also contains abundant eosinophilic cellular debris and degenerate neutrophils. In some areas of the section, necrotic bronchioles have coalesced, share a single wall of multiple layers of epithelioid macrophages and fibrous connective tissue (granuloma) **(1pt.)**, and within the eosinophilic debris, large club-shaped colonies of coccobacilli are visible. **(1pt.)** Diffusely, alveoli are expanded and filled by variable combinations and concentrations of alveolar macrophages, viable and degenerate neutrophils, fewer lymphocytes and plasma cells, edema, polymerized fibrin, rare hemorrhage, and cellular debris **(1pt.)** Many alveolar septa are expanded **(1pt.)** up to three times normal by similajr inflammatory components, hypertrophy of septal macrophages, and Type II pneumocyte hyperplasia. **(1pt.)**. Interlobular septa and pleura connective tissues are markedly expanded **(1pt.)** by clear space, distended lymphatic which often contain fibrin thrombi **(1pt.)** and or small number s of neutrophils and macrophages, edema, and multifocal areas of fibrosis.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, bronchointerstitial **(1pt.)**, fibrinosuppurative **(1pt.)**and necrotizing, diffuse, severe, with bronchiectasis **(1pt.)** and colonies of coccobacilli.

CAUSE(S): *Mycoplasma bovis* **(2pt.)** and another bacilli (Trueperella pyogenes would be a good choice for the visible bacilli, but M. hemolytica or H. somni would be fine, too.) **(1pt.)**
O/C**: (1pt.)**

WSC 2020-2021
Conference 1 Case 4.
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Esophagus **(2pt)**: Affecting 10-15% of the mucosa **(2pt)**, there are multiple, well demarcated, segmental areas of mucosal erosion **(1pt)** and ulceration **(2pt)** (full-thickness necrosis); changes are characterized by loss of epithelium with replacement by necrotic debris **(1pt)**, low numbers of infiltrating neutrophils) **(1pt)**, and colonies of bacilli. **(1pt)** Adjacent to areas of erosion, epithelial cells have pale swollen, vacuolated cytoplasm (degeneration) **(1pt)** or are shrunken and hypereosinophilic with pyknotic or karyolytic nuclei (necrosis) **(1pt)** and few transmigrating neutrophils. The superficial submucosa is congested subjacent to areas of ulceration. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Esophagus: Erosion **(1pt)** and ulceration **(2pt)**, multifocal.

NAME A LIKELY CAUSE: Bovine pestivirus (BVD virus) **(3pt)**

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