WSC 2009-2010, Conference 10, Case 1.

Tissue from a sheep.

MICROSCOPIC DESCRIPTION: Lung: Diffusely, peribronchiolar and perivascular lymphoid tissue **(2 pt.)** is markedly expanded, often forming follicles **(1 pt.)** that range up to 1 mm in diameter and extend into the surrounding septa, accompanied by low numbers of macrophages **(1 pt.)**. Diffusely, alveolar septa are expanded up to three times normal **(1 pt.)** by low to moderate numbers of lymphocytes **(1 pt.)**, macrophages **(1 pt.)**, and rare neutrophils and plasma cells, as well as hyperplastic smooth muscle **(2 pt.)**and in areas, small amounts of mature collagen **(1 pt.)**. Alveoli are multifocally lined by type II pneumocytes **(1 pt.)** and contain foamy alveolar macrop**ha**ges **(1 pt.)**and rare multinucleated giant cells, admixed with small amounts of proteinaceous fluid. **(1 pt.)**

MICROSCOPIC DIAGNOSIS: Lung: Pneumonia, interstitial, lymphohistiocytic, diffuse, moderate with peribronchiolar and perivascular lymphoid hyperplasia, and smooth muscle hyperplasia. **(3 pt.)**

Cause: Ovine retrovirus **(2 pt.)**

Name the disease: Maedi-visna, ovine progressive pneumonia **(1 pt.)**

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

WSC 2009-2010. Conference 10, Case 2

Tissue from a pig.

MICROSCOPIC DESCRIPTION: Liver: Randomly **(1 pt.)** scattered throughout the section are variably sized areas of lytic necrosis **(2 pt.)**. These foci are characterized by loss of cord architecture, fragmented brightly eosinophilic hepatocytes with pyknotic or karyorrhectic nuclei **(1 pt.)**, low numbers of degenerate neutrophils **(2 pt.)**, rare macrophages **(1 pt.)** and abundant cellular debris **(1 pt.)**, which is often centered on 20-30 um colonies **(1 pt.)** of 1-2um basophilic coccobacilli **(1 pt.)** Occasionally, necrosis extends into centrilobular veins, where it is admixed with fibrin thrombi **(2 pt.)**. Hepatocytes at the rim of necrotic foci are brightly eosinophilic (degeneration) **(1 pt.)**. Lymphatics in portal areas and surrounding sublobular veins are moderately distended. (edema) **(1 pt.)**

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, necrotizing, random and multifocal, moderate, with colonies of coccobacilli **(3 pt.)**

CAUSE: Actinobacillus pleuropneumonia (Yersinia OK) **(2 pt.)**

O/C – **(1 pt.)**

WSC 2009-2010, Conference 10, Case 3.

Tissue from an ox.

MICROSCOPIC DESCRIPTION: Lung: There are multifocal to coalescing areas of necrosis **(1pt.)** which efface pulmonary architecture. Within these areas, there are innumerable degenerate **(1pt.)** and lesser numbers of neutrophils **(1pt.)**, admixed with lesser numbers of macrophages **(1pt.)**, lymphocytes, abundant cellular debris, hemorrhage, fibrin **(1pt.)**, and edema. In these areas, degenerate neutrophils exhibit nuclear streaming **(1pt.)**. These areas are often centered on small 10-15um colonies **(1pt.)** of basophilic 1-2um coccobacilli **(1pt.)**. Degenerate neutrophils and lesser number of macrophages fill and expand adjacent alveoli **(1pt.)**, where they are mixed with fibrin strands, cellular debris, edema fluid, colonies of bacilli, and hemorrhage. Alveolar macrophages are often necrotic or have ingested erythrocytes. Alveolar septa **(1pt.)** are rarely necrotic, diffusely markedly congested, contain increased numbers of circulating neutrophils and rare megakaryocytes, and occasionally are distended by accumulations of edema, fibrin, and rare fibrin thrombi. Airways **(1pt.)** are often filled with degenerate and lesser numbers of viable neutrophils, lesser macrophages, cellular debris, and there is multifocal necrosis of airway epithelium **(1pt.)** with infiltration by low numbers of neutrophils. Interlobular fibrous connective tissue **(1pt.)** and lymphatics, as well as perivascular fibrous connective tissue are markedly expanded by a combination of fibrin, clear space, proteinaceous fluid and low numbers of viable neutrophils.

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia, fibrinonecrotic, multifocal to coalescing, moderate to severe, with interlobular edema and numerous colonies of coccobacilli. **(3pt.)**

NAME TWO POSSIBLE CAUSES: *Mannheimia hemolytica, Pasteurella multocida, Mannheimia granulomatis* **(3pt.)**

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

WSC 2009-2010, Conference 10, Case 4.

Tissue from an ox.

MICROSCOPIC DESCRIPTION: Urinary bladder : Extending downward from the markedly hyperplastic transitional epithelium through the submucosa, there is an unencapsulated, infiltrative, moderately cellular, poorly demarcated, neoplasm **(2pt.)**. The neoplasm is composed of epithelial cells arranged in nests and cords **(1pt.)** on a dense fibrovascular stroma **(1pt.)**. Neoplastic cells are polygonal with indistinct cell borders and a moderate amount of a finely granular eosinophilic cytoplasm. **(1pt.)** Nuclei are irregularly round, with finely clumped chromatin, and one to two large magenta nucleoli. **(1pt.)** Mitoses average 2/hpf. **(1pt.)** Clusters of neoplastic cells are present within dilated lymphatics within the submucosa and serosa. **(1pt.)** There are large areas of necrosis **(1pt.)**, and in smaller nests, areas of central necrosis (comedo pattern). The overlying transitional epithelium is markedly hyperplastic **(1pt.)** and disordered **(1pt.)**, with large nests of transitional cells within the submucosa (von Brunn's nests) **(1pt.)**. There are aggregates of moderate numbers of lymphocytes and lesser plasma cells scattered thoughout the superficial submucosa, often subjacent to the mucosa. **(1pt.)**

MORPHOLOGIC DIAGNOSIS**:** Urinary bladder: Transitional cell carcinoma. **(4 pt.)**

CAUSE: Bracken fern (ptaquiloside is the active ingredient and most powerful carcinogen) **(3 pt.)**

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