

WSC 2009-2010. Conference 3, Case 1.

Tissue from a goat.

MORPHOLOGIC DESCRIPTION: Placenta (chorioallantois) **(1pt)**: The chorionic epithelium (trophoblasts) **(1pt)**, are multifocally necrotic **(1pt)** or is swollen due to marked intracytoplasmic edema **(1pt)**. Large numbers of contiguous epithelial cells **(1pt)** contain numerous 1.0 um extracellular and intracellular pleomorphic coccoid to rod-shaped **(1pt)** microorganisms (rickettsia) **(1pt)**. The intervillar spaces and the intercotyledonary space (non-villus chorion, chorion laeve) is likewise necrotic and contains/is replaced by numerous degenerate neutrophils, rare viable neutrophils, mineral, hemorrhage, fibrin, and necrotic debris **(1pt)**. Macrophages in these areas rarely contain hemosiderin. Diffusely, the chorioallantoic stroma is expanded by eosinophilic, finely granular material and clear space (edema), and there are many infiltrating neutrophils, plasma cells and few lymphocytes and macrophages **(1pt)**. Multifocally, the tunica intima and inner media of several arterioles contains small to moderate numbers of neutrophils **(1pt)**, with lesser numbers of macrophages, lymphocytes and plasma cells, and numerous small veins contain fibrin thrombi **(1pt)**.

MORPHOLOGIC DIAGNOSIS: Placenta: Placentitis, necrotizing, subacute and suppurative, diffuse, severe, with numerous extracellular and intraepithelial coccobacilli, and arteritis. **(4 pt)**

CAUSE: *Coxiella burnetti* **(3pt)**

O/C: **(2pt – 1 pt. for appropriate vocabulary, 1 pt. for appropriate structure.)**

WSC 2009-2010. Conference 3, Case 2.

Tissue from a mongoose.

MORPHOLOGIC DESCRIPTION: Liver: There are multifocal to coalescing, randomly distributed, variably-sized areas of hepatocellular necrosis **(3 pt.)**. At the edge of the areas of necrosis, hepatocytes are swollen **(1 pt.)** with foamy cytoplasm **(1 pt.)** , with karyorrhectic nuclei and contain multiple **(1 pt.)** , 2-6µm, irregularly round, brightly eosinophilic intracytoplasmic **(1 pt.)** viral inclusions **(2 pt.)** . Necrotic areas contain hemorrhage *ex vacuo* **(1 pt.)**, small numbers of neutrophils and necrotic debris **(1 pt.)**, globules of bile pigment, hypertrophic Kupffer cells, and rare plump fibroblasts. Portal areas contain small to moderate numbers of lymphocytes **(1 pt.)** , lesser plasma cells, and mild biliary reduplication **(1 pt.)** .

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, necrotizing, multifocal to coalescing, moderate, with intracytoplasmic viral inclusions **(4 pt.)**

Cause: Poxvirus **(2 pt.)**

Organization and Clarity - **(1 pt.)**

WSC 2009-2010. Conference 3, Case 3.

Tissue from a cat.

MORPHOLOGIC DESCRIPTION: Lung: Multifocally, approximately 50% of the alveolar spaces are filled with large numbers of viable neutrophils (**1 pt.**), lesser numbers of degenerate and necrotic neutrophils, alveolar macrophages, edema fluid (**1 pt.**), polymerized fibrin(**1 pt.**), and hemorrhage (**1 pt.**). Enmeshed within the alveolar contents are large extracellular (**1 pt.**) colonies of basophilic 2um coccobacilli (**1 pt.**). There is diffuse marked congestion of alveolar capillaries (**1 pt.**). Multifocally, alveolar septa are necrotic (**2 pt.**) and replaced by fibrin, abundant necrotic cellular debris, hemorrhage, degenerate neutrophils, and coccobacilli (**2 pt.**). Occasional airways contain a mixture similar to that seen in alveoli: large numbers of viable neutrophils, lesser numbers of degenerate and necrotic neutrophils, alveolar macrophages, edema fluid, polymerized fibrin, and hemorrhage, along with small numbers of coccobacilli. (**1 pt.**)

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, necrosuppurative, multifocal to coalescing, severe, with abundant extracellular coccobacilli (**3 pt.**)

Cause: *Yersinia pestis* (**3 pts.**)

Name another organ you would like to sample in this animal: Cervical lymph node (**1 pt.**)

O/C – (**1 pt.**)

WSC 2009-2010. Conference 3, Case 4.

Tissue from a pig.

MORPHOLOGIC DESCRIPTION: Kidney: There are changes at all levels of the nephron. Glomeruli are often enlarged and exhibit one or more of the following changes: hypercellularity (especially of the mesangium) **(1 pt.)**, synechia formation, thickening of capillary walls **(1 pt.)**, fibrin thrombi within glomerular capillaries **(1 pt.)**, hemorrhage with or without fibrin deposition within Bowman's space, partial to total necrosis of the capillary loop **(1 pt.)** with replacement by hemorrhage, fibrin, and karyorrhectic cellular debris, hypertrophy of parietal epithelium, and periglomerular fibrosis. Cortical tubules are often ectatic, and there is resulting attenuation of tubular epithelium. Multifocally tubular epithelium exhibits one or more of the following changes: hypereosinophilia and/or cytoplasmic vacuolation (degeneration) **(1 pt.)**, accumulation of brightly eosinophilic cytoplasmic droplets (protein or hemoglobin), and multifocal karyorrhexis/karyolysis (tubular necrosis) **(1 pt.)**. Ectatic tubules often contain hemorrhage, hemoglobin crystals, or protein casts **(1 pt.)**. The cortical interstitium is multifocally expanded by low to moderate numbers of lymphocytes and plasma cells, and rare plump fibroblasts. **(1 pt.)** The arcuate arteries and branches are transmurally expanded to totally effaced **(1 pt.)** by moderate numbers of neutrophils, lesser numbers of macrophages, lymphocytes, and plasma cells **(1 pt.)**, hypertrophic smooth muscle cells in disarray, brightly eosinophilic protein and fibrin, and karyorrhectic cellular debris **(1 pt.)**. The peripelvic fibrous connective tissue is markedly expanded by loosely arranged fibrous connective tissue, edema, and low numbers of neutrophils, macrophages, and lymphocytes **(1 pt.)**. Pelvic epithelium is moderately hypertrophic, hyperplastic, and cytoplasm contains clear, often coalescing cytoplasmic vacuoles **(1 pt.)**.

MORPHOLOGIC DIAGNOSIS: 1. Kidney: Glomerulonephritis, membranoproliferative and exudative, diffuse, moderate, with multifocal glomerular thrombosis, hemorrhage, and necrosis. **(2 pt.)**

2. Kidney, arcuate arteries and branches: Arteritis, necrotizing and proliferative, diffuse, moderate to severe. **(2 pt.)**

3. Kidney, pelvis: Epithelial hyperplasia and hypertrophy, diffuse, moderate, with intracytoplasmic vacuoles.

O/C: (1 pt.)

Cause: Porcine circovirus -2 (2 pt.)

Name the condition: Porcine necrotizing dermatitis and nephritis

Note: There are variations in slides with regard to the arteritis.