

WSC 2022-2023
Conference 18, Case 1
Tissue from a gazelle.

MICROSCOPIC DESCRIPTION: Lung: There is mild to moderate autolysis. Regionally and affecting approximately 50% of the section, alveolar septa **(1pt)** are moderately expanded by congestion, hemorrhage, edema, hypertrophic septal macrophages, occasional fibrin thrombi, low numbers of siderophages, lymphocytes, and patchy type II pneumocyte hyperplasia **(1pt)**. There is rare septal necrosis. There is regional atelectasis. Alveolar spaces contain variable combinations and concentrations of edema fluid **(1pt)**, hemorrhage, numerous foamy alveolar macrophages **(1pt)**, fewer neutrophils and siderophages **(1pt)**, cellular debris, and viral syncytia **(1pt)** ranging up to 20um in diameter with up to eight nuclei **(1pt)**. Nuclei are often distended by homogenous eosinophilic viral inclusions **(1pt)**, and there are occasionally one or multiple intracytoplasmic irregularly round brightly eosinophilic 2-4um viral inclusions **(1pt)**. Similar cytoplasmic inclusions are occasionally seen within the cytoplasm of foamy alveolar macrophages **(1pt)**. Airway epithelium is often sloughed into the lumen due to autolysis; remnant epithelium is hyperplastic **(1pt)** to attenuated and contains intracytoplasmic inclusions as previously described **(1pt)**. Airway lumina contains refluxed edema fluid and alveolar contents.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, bronchointerstitial **(1pt)**, necrotizing **(1pt)**, diffuse, marked, with edema **(1pt)**, numerous viral syncytia **(1pt)**, and intranuclear and intracytoplasmic eosinophilic viral inclusions. **(1pt)**

ETIOLOGIC DIAGNOSIS: Morbilliviral pneumonia **(1pt)**

NAME THE DISEASE: Pestis des petits ruminants **(2pt)**

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

WSC 22-23
Conference 18, Case 2
Tissue from a Grant's gazelle

MICROSCOPIC DESCRIPTION: Liver: There are multifocal to coalescing **(1pt)** areas of coagulative **(1pt)** and predominantly lytic **(1pt)** necrosis **(1pt)** affecting approximately 40% of the section **(1pt)**. At the periphery of necrotic foci, hepatocytes retain cellular architecture, loss of stain affinity, and loss of nuclear outlines. **(1pt)** The balance of the necrotic focus (and in some areas, the entire focus) is composed of large numbers of necrotic and fewer intact neutrophils **(1pt)**, admixed with abundant cellular debris **(1pt)**, hemorrhage **(1pt)** and occasional aggregates of polymerized fibrin. Rarely, at the periphery of necrotic foci, hepatocytes **(1pt)** and Kupffer cells contain granular basophilic coccobacilli **(1pt)** within their cytoplasm. Hepatocytes adjacent to areas of necrosis are swollen with one or multiple discrete lipid vacuoles (degeneration) **(1pt)**, and Kupffer cells are hypertrophied **(1pt)**. In areas of necrotic foci, portal areas are by large numbers of necrotic and intact neutrophils, fewer macrophages, lymphocytes and rare plasma cells that breach the limiting plate and extending into portal areas of the lobule. **(1pt)** There is mild ductular reaction, edema of portal tracts and dilated lymphatics. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Liver: Hepatitis, necrotizing **(1pt)**, multifocal to coalescing, marked, with intrahepatocytic and intrahistiocytic coccobacilli **(1pt)**.

CAUSE: *Chlamydia pecorum* **(2pt)**

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

WSC 2022-2023

Conference 18, Case 3

Tissue from a bald eagle.

MICROSCOPIC DESCRIPTION: Lung: There is diffuse loss of architecture at the levels of the air capillaries. Air capillary walls are markedly expanded by varying combinations and concentrations of macrophages, lymphocytes, plasma cells, Mott cells **(1pt)** and lumina are filled by moderate amounts of brightly eosinophilic protein and fibrin, **(1pt)** admixed with moderate amounts of cellular debris. Endothelial cells **(1pt)** often contain numerous 2-3um round intracytoplasmic apicomplexan zoites **(1pt)** and bulge into the lumen. Macrophages often contain a brown granular pigment (anthracosis)

Pancreas: There are multifocal to coalescing areas of lytic necrosis **(1pt)** of exocrine tissue which are characterized by a loss of architecture and replacement of glands by abundant eosinophilic and smaller amounts of basophilic cellular debris, hemorrhage and fibrin. **(1pt)** There is infiltration of low number of granulocytes. **(1pt)** Elsewhere, there is infiltration of the parenchyma by low numbers of lymphocytes and plasma cells. **(1pt)** Within or adjacent to areas of necrosis, endothelial cells often contain numerous 2-3um round intracytoplasmic apicomplexan zoites and bulge into the lumen. **(1pt)**

Skeletal muscle. Multifocally, myocytes contain single round 30-40um apicomplexan schizont **(1pt)** which occupy part of the sarcoplasm. Schizonts contain numerous 2-3um merozoites, and there is no surrounding tissue reaction. **(1pt)** Occasionally myocytes are mildly fragmented with pale bluish staining of the sarcoplasm (degeneration).

MORPHOLOGIC DIAGNOSIS: 1. Lung: Pneumonia, interstitial **(1pt)**, lymphoplasmacytic and histiocytic, **(1pt)** diffuse, marked with intraendothelial apicomplexan schizonts. **(1pt)**

Pancreas: Pancreatitis, necrotizing, **(1pt)** multifocal to coalescing, moderate with intraendothelial apicomplexan schizonts. **(1pt)**

Skeletal muscle: Sarcocysts, numerous. **(1pt)**

CAUSE: *Sarcocystis* sp. **(3pt)**

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

WSC 2022-2023

Conference 18, Case 4.

Tissue from a striped hyena.

MICROSCOPIC DESCRIPTION: Haired skin midline: A single section of haired skin with prominent erector pili muscles **(1pt)** is submitted for examination. Within the subcutis, there is a hemisected nodular, expansile, encapsulated, well-demarcated,, moderately cellular neoplasm **(2pt)** The neoplasm is composed of nests and packets **(2pt)** of polygonal **(1pt)** cells on a fine fibrovascular stroma **(1pt)**. Neoplastic cells have a moderate amount of finely granular eosinophilic cytoplasm with distinct cell borders **(1pt)**. Nuclei are irregularly round with finely clumped chromatin and 1-2 small basophilic nucleoli **(1pt)**. There is mild anisocytosis and anisokaryosis **(1pt)** and mitotic figures are rare **(1pt)**. There is marked congestion of vessels within the subcutis and deep dermis, **(1pt)** and moderately dilated apocrine glands. (1pt.).

MORPHOLOGIC DIAGNOSIS:: Glomus tumor **(5pt)**

NAME AN APPROPRIATE IMMUNOHISTOCHEMICAL STAIN: Smooth muscle actin **(2pt)**

O/C: (1pt)