

WSC 2024-2025
Conference 14, Case 1
Tissue from a lion.

MICROSCOPIC DESCRIPTION: Epiglottis **(1pt.)**: Scattered throughout the submucosa of the epiglottis **(1pt.)** and within and in between the mucous glands, there are round apicomplexan **(1pt)** cysts **(1pt)** measuring 250-400 um **(1pt)** in diameter. Cysts have a 10-30 um thick, hyaline pink fibrous capsule **(1pt)** that surrounds a 5-10 um thick rim of host cell cytoplasm **(1pt)** with multiple enlarged but flattened nuclei **(1pt)** which in turn surround a parasitophorous vacuole **(1pt)** containing numerous, densely packed crescentic 3-5 um bradyzoites **(1pt)**. Rarely within the submucosa, cysts are ruptured **(1pt)**, devoid of bradyzoites, and are replaced by moderate numbers of macrophages **(1pt)** with fewer lymphocytes and plasma cells. **(1pt)** Similar but less severe changes are present around partially collapsed cysts. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Epiglottis: Epiglottitis **(1pt)**, granulomatous **(1pt)**, multifocal, moderate, with numerous apicomplexan cysts **(1pt)**

CAUSE: *Besnoitia besnoiti* **(3pt)**

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

WSC 2024-2025
Conference 14, Case 2
Tissue from a goat kid.

MICROSCOPIC DESCRIPTION: Metencephalon **(1pt)**. One section of the cerebellum and brainstem is submitted for examination. The cerebellum is decreased in size **(1pt)** and collapses on itself **(1pt)** at subgross magnification. Cerebellar folia are moderately hypocellular **(1pt)** with decreased numbers of nuclei within the granular layer **(1pt)**. There are large gaps within the Purkinje cell layer **(1pt)** with rare neurons exhibiting loss of nuclei, contraction, and hypereosinophilia **(1pt)** (necrosis) **(1pt)**. Diffusely, there is dilation of axons sheaths **(1pt)** within all areas of the brainstem **(1pt)**. Brainstem nuclei are markedly hypercellular. **(1pt)**

MORPHOLOGIC DIAGNOSIS : Metencephalon: Cerebellar hypoplasia **(1pt)** with Purkinje cell necrosis **(1pt)** and loss **(1pt)**, marked loss of brainstem neurons **(1pt)**, and diffuse brainstem axon sheath dilation. **(1pt)**

Cause: Caprine bunyavirus **(3pt)**

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

WSC 2024-2025
Conference 14, Case 3.
Tissue from a pig.

MICROSCOPIC DESCRIPTION: Lung: Affecting approximately 20% of the section **(1pt.)**, alveolar septa are profoundly expanded **(1pt.)** by large numbers of macrophages **(1pt.)**, lymphocytes **(1pt.)** and fewer plasma cells, marked congestion, edema **(1pt.)** and small amounts of fibrin **(1pt.)**. Within these areas there is marked type II pneumocyte hyperplasia **(1pt.)**. Alveolar lumina are often filled with variable combinations and concentrations of neutrophils, macrophages, edema fluid, and polymerized fibrin, **(1pt.)**. Similar, but less profound changes diffusely affect alveolar septa in the remainder of the section. **(1pt.)** Diffusely, airway epithelium shows changes ranging from swelling and vacuolation (degeneration) **(1pt.)** with rare nuclear pyknosis and karyorrhexis (necrosis) **(1pt.)** to mild hyperplasia and infiltration by low numbers of lymphocytes **(1pt.)** . Airway lumina are partially to completely filled by various combinations and concentration of sloughed epithelium, macrophages, fibrin, and cellular debris. **(1pt.)** Peribronchial and perivascular tissues are infiltrated by moderate numbers of lymphocytes and and histiocytes.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, bronchointerstitial **(1pt.)**, lymphohistiocytic **(1pt.)**, multifocal to coalescing, moderate.

CAUSE: Influenza A, **(3pt.)**

O/C - (1pt.)

WSC 2024-2025
Conference 14, Case 4.
Tissue from a calf

MICROSCOPIC DESCRIPTION: Lung: Two sections of lung are submitted for examination and both are similar, differing in the severity. Diffusely, alveolar septa are markedly expanded by congestion **(1pt.)**, edema, small amounts of polymerized fibrin, intraseptal macrophage hyperplasia, and infiltrating macrophages **(1pt.)**, lymphocytes **(1pt.)**, and fewer neutrophils. There is widespread type II pneumocyte hyperplasia **(1pt.)**. Alveolar spaces contain varying combinations and concentrations of the following: foamy alveolar macrophages, neutrophils **(1pt.)**, few siderophages and multinucleated giant cell macrophages, cellular debris, hemorrhage **(1pt.)**, edema **(1pt.)**, and polymerized fibrin **(1pt.)**. This exudate is often refluxed into the airways, where it is mixed with sloughed and necrotic airway epithelium. **(1pt.)** Airway epithelium is multifocally hyperplastic and/or ulcerated. **(1pt.)** Low to moderate numbers of lymphocytes and plasma cells are present within the edematous peribronchial and perivascular tissue **(1pt.)**. There is moderate expansion of intralobular septa with dilated and/or thrombosed lymphatics. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial **(1pt.)**, fibrinous **(1pt.)**, lymphohistiocytic **(1pt.)** and neutrophilic **(1pt.)**, subacute, diffuse, moderate, with type II pneumocyte hyperplasia **(1pt.)**.

CAUSE: Salmonella Dublin (any systemic gram-negative OK). **(2pt.)**

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