

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

**MICROSCOPIC DESCRIPTION:** Kidney: There are multifocal to coalescing randomly distributed areas of coagulative necrosis (**1pt.**) and hemorrhage (infarcts) replacing 75% of the cortex and extending into the medulla (where it effaces about a third of the tissue). Within these areas, vessel walls are brightly eosinophilic with necrosis of endothelium, smooth muscle and often contain brightly eosinophilic protein and cellular debris within their walls (**1pt.**) (vasculitis) (**1pt.**) and many contain fibrinocellular thrombi (**1pt.**). A similar necrotic process affects the majority of glomeruli (**1pt.**), where glomerular capillaries are thickened by exuded protein and cellular debris; many glomeruli have hemorrhage which expands Bowman's space, and Bowman's space also contains abundant necrotic debris. More severely affected glomeruli are infiltrated by numerous viable and degenerate neutrophils (**1pt.**) with loss of normal architecture and contraction. In areas of extensive necrosis, tubular architecture is preserved, but the tubular epithelium has lost stain affinity and nuclei are absent (coagulative necrosis) (**1pt.**), the lumen often contains hemorrhage, and the surrounding interstitium by large numbers of viable and necrotic neutrophils, hemorrhage, and cellular debris. (**1pt.**) In less affected areas in the medulla and cortex, tubules contain variable combinations and concentrations of sloughed epithelium, eosinophilic protein, hemorrhage, viable and degenerate neutrophils, and cellular debris. (**1pt.**)

Mesentery and lymphoid tissue: The mesentery is largely effaced by variable mature and heavily vascularized fibrous connective tissue that replaces the mesenteric fat. (**1pt.**) The fibrous connective tissue contains moderate numbers of infiltrating lymphocytes, plasma cells and fewer macrophages and rare neutrophils. (**1pt.**) There is marked reactive hyperplasia of the entrapped nodes with large germinal centers that contain moderate number of fragmented lymphocytes and poorly formed mantles (lymphocytolysis). (**1pt.**) There is expansion of the paracortex which numerous scattered tingible body macrophages. (**1pt.**)

**MORPHOLOGIC DIAGNOSIS:** 1. Kidney, vessels and glomeruli: Vasculitis (**1pt.**), necrotizing (**1pt.**), multifocal to coalescing, severe with thrombosis (**1pt.**) and extensive cortical and medullary infarction. (**1pt.**)

2. Mesentery: Fibrosis, diffuse, marked.

3. Mesenteric lymph node: Reactive hyperplasia, diffuse, moderate with lymphocytolysis (**1pt.**)

**NAME THE CONDITION:** Purpura hemorrhagica (**2pt.**)

WSC 2023-2024  
Conference 1, Case 2  
Tissue from a sheep.

**MICROSCOPIC DESCRIPTION:** Heart: Up to one third of the subendomyocardial muscle fibers are necrotic and mineralized **(2pt.)**, or effaced by fibrous connective tissue **(1pt.)** that contains small numbers of cardiac interstitial cells **(1pt.)** and macrophages **(1pt.)**. Myofiber architecture is preserved **(1pt.)**, with crystalline mineral **(1pt.)** providing an outline of the effete cardiomyocytes. Within areas of mineralization, cardiomyocytes exhibit one or more of the following changes: hyalinization, loss of cross-striations, vacuolation (degeneration) shrinkage, (atrophy) **(1pt.)**, and pyknosis (necrosis) **(2pt.)**, and there is diffuse mild fibrosis **(2pt.)** with plump fibroblasts and inflammation as previously described. There is mild edema in the adjacent unaffected myocardium

**MORPHOLOGIC DIAGNOSIS:**, Heart, myocardium: Fibrosis **(1pt.)** and mineralization **(1pt.)**, subendocardial, diffuse, severe with polyphasic myocardial necrosis. **(1pt.)**

**CAUSE:** Vit E/Se imbalance **(2pt.)**

Name the condition: White muscle disease **(2pt.)**

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

WSC 2023-2024  
Conference 1, Case 3.  
Tissue from a sheep.

**MICROSCOPIC DESCRIPTION:** Cerebrum (presumptive): Within the cerebrum and compressing the adjacent neuroparenchyma is a single multilocular fluid-filled bladder **(1pt.)**. The bladder wall is fragmented and characterized by an up to 400 um thick ridged tegument **(1pt.)** surrounding spongy parenchyma **(1pt.)** with many embedded, oval, 10 x 30 um, basophilic to clear, calcareous corpuscles. **(1pt.)** The bladder lumen contains cross and tangential sections of several larval cestodes (coenurus) characterized by up to 700 um diameter invaginated scolices **(1pt.)** that often contain one or two muscular suckers **(1pt.)** and an armed rostellum **(1pt.)** with refractile, chitinized hooks. The bladder is surrounded by a 0.4mm, brightly eosinophilic thick felted layer of palisading epithelioid macrophages **(1pt.)** admixed with fewer lymphocyte **(1pt.)**s, often in aggregates, plasma cells, neutrophils, eosinophils, and multinucleated, often debris-laden multinucleated giant cell macrophages **(1pt.)** and abundant polymerized fibrin, proteinaceous fluid and cellular debris. **(1pt.)** Multifocally, within the adjacent grey matter, blood vessels are surrounded by numerous lymphocytes **(1pt.)** and fewer plasma cells and macrophages and have hypertrophic endothelium (reactive). Multifocally, there is mild vacuolation of the parenchyma (spongiosis), and gliosis. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** Cerebrum: Encephalitis **(1pt.)**, granulomatous **(1pt.)**, focally extensive, severe, with coenurus **(1pt.)**.

**CAUSE:** *Coenurus cerebralis* (*Taenia multiceps* ok) **(3pt.)**

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

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

**MICROSCOPIC DESCRIPTION:** Cerebrum: One section (or multiple fragments) of cerebrum are submitted for examination. **(1pt)** Within the cerebrum is an infiltrative, unencapsulated, multilobular well-demarcated neoplasm. **(1pt)** The neoplasm is composed of a range of well-differentiated tissues of ectodermal, mesodermal, and endodermal origin. **(1pt)** The predominant cell in terms of distribution is a poorly differentiated neuroectodermal cell **(1pt)** which comprises over 70% of the neoplasm in these sections and is arranged in lobules composed of nests, packets, and rare rosettes and psudorosettes. **(1pt)** The neoplastic cells have distinct cell borders with a moderate amount of finely vacuolated eosinophilic cytoplasm. **(1pt)** Nuclei are oval with finely stipple chromatin and 1-2 small eosinophilic nucleoli. **(1pt)** Mitoses in this population average 3 per 2.37mm<sup>2</sup> field. **(1pt)** Tissues present in the neoplasm that are derived from ectodermal tissue are include numerous follicular structures **(1pt)** containing a central area of lamellated keratin and attempts at formation of matrical cells **(1pt)**. In some of these structures, there are melanocytes within the outer layers. **(1pt)** There are numerous lobules of well-differentiated nervous tissue resembling peripheral nerves. **(1pt)** Mesodermal tissue is represented by mature adipocytes, **(1pt)** which are often enmeshed in thin bands of fibrous connective tissue containing fibroblasts. **(1pt)** Endodermal tissue includes numerous well-differentiated but disordered glandular formations **(1pt)** lined by a combination of cuboidal epithelium and numerous goblet cells **(1pt)**; the lumen of these structures is often filled with pale blue mucin. There is mild edema and gliosis of the adjacent compressed and or infiltrated neuroparenchyma. **(1pt)**

**MORPHOLOGIC DIAGNOSIS:** Cerebrum: Teratoma. **(3pt)**

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