

WSC 2026-2027
Conference 1, Case 1
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Kidney: Two sections of kidney are submitted for examination, and both are similar. There are changes at all levels of the nephron. Glomeruli are diffusely enlarged and hypercellular **(1pt.)**, with increased numbers of mesangial nuclei. Capillary loops are multifocally thickened and contain increased numbers of neutrophils **(1pt.)**. Numerous capillary loops diffusely necrotic (glomerulolysis) or brightly eosinophilic (fibrinoid necrosis) **(1pt.)** and Bowman's space is filled with hemorrhage **(1pt.)** and polymerized fibrin **(1pt.)**. In lesser affected glomeruli, glomerular necrosis is focal and/or capillary loops contain fibrin thrombi. **(1pt.)** There is often periglomerular fibrosis. Tubules contain one or more of the following changes: segmental to diffuse necrosis of tubular epithelium **(1pt.)** with sloughing into the lumen, attenuation of tubular epithelium **(1pt.)**, intratubular protein, polymerized fibrin, or hemorrhage. **(1pt.)** Multifocally, the interstitium contains aggregates of low numbers of lymphocytes and plasma cells with fewer macrophages. **(1pt.)** There is multifocal tubular loss, and within these areas, the interstitium is expanded by plump fibroblasts and small amounts of loosely arranged collagen. **(1pt.)** Tubular epithelium as well as macrophages within the interstitial space contain brown granular pigment (hemosiderin). **(1pt.)** Small vessels at the corticomedullary junction contain fibrin thrombi and multifocally their walls are brightly eosinophilic (vasculitis). **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Kidney: Glomerulonephritis **(1pt.)**, exudative **(1pt.)**, diffuse, marked with glomerulolysis **(1pt.)**, fibrinoid necrosis, and tubular degeneration, necrosis, and intraluminal hemorrhage and proteinosis. **(1pt.)**

CAUSE: *Leptospira* sp. (post-streptococcal or *E. coli* hemolytic-uremic syndrome and snakebite OK **(2pt.)**

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

WSC 2026-2027
Conference 1, Case 2
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Haired skin: Diffusely expanding the dermis **(1pt.)** and extending to the overlying ulcerated epidermis is an inflammatory nodule composed of coalescing, poorly demarcated foci of pyogranulomatous **(2pt.)** inflammation. The coalescing foci of inflammation are composed centrally of numerous viable and degenerate neutrophils **(1pt.)**, surrounded by epithelioid macrophages **(1pt.)**, scattered multinucleated foreign body-type giant cells **(1pt.)**, admixed with cellular debris with scattered aggregates of lymphocytes **(1pt.)** and plasma cells embedded in mature collagen populated by robust fibroblasts. Scattered throughout the inflammatory nodule and often engulfed within multinucleated (and less commonly uninucleated) macrophages **(1pt.)** are clusters of pigmented yeasts **(1pt.)** which have 2-3 um-thick dark brown cell walls **(1pt.)**, clear to pale brown cytoplasm with a central basophilic nucleus. Pseudohyphae are 5-10 um wide **(1pt.)**, septate with irregular, dichotomous and non-dichotomous, acute angle to right angle branching **(1pt.)** and thin, pigmented, nonparallel walls with constrictions at the level of the septations. Many yeasts contain bulbous swellings (sclerotia). There are perivascular aggregates of moderate numbers of histiocytes and fewer lymphocytes and plasma cells within the adjacent dermis. **(1pt.)** The remaining overlying epidermis is moderately hyperplastic.

MORPHOLOGIC DIAGNOSIS: Haired skin: Dermatitis, pyogranulomatous **(1pt.)**, diffuse, severe, with dematiaceous **(1pt.)** yeast **(1pt.)** and pseudohyphae **(1pt.)**.

NAME THE CONDITION: Phaeohyphomycosis **(2pt.)**

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

WSC 2026-2027
Conference 1, Case 3.
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Kidney: Two sections of kidney are submitted for examination and both are similar. 95+% of the section (both cortex and medulla) is effaced by coalescing areas of granulomatous inflammation (1pt.) consisting of sheets of epithelioid macrophages (1pt.) admixed with low to moderate numbers of eosinophils (1pt.), multinucleated macrophages of the foreign body- and Langhans' types (1pt.), lymphocytes (1pt.), plasma cells (1pt.), fewer neutrophils (1pt.), and often large amounts of aggregated eosinophilic cellular debris surrounded by lamellae of loosely arranged lamellae of mature fibrous connective tissue (1pt.). Entrapped within the granulomatous inflammation there are moderate number of cross- and tangential sections of adult (1pt.) rhabditoid nematodes (1pt.) that are 10-25 um in diameter with a smooth cuticle, platymyarian-meromyarian musculature, an esophagus with terminal bulb (1pt.), and numerous deeply basophilic 2-3 um internal structures within the pseudocoelom. Smaller larvae (1pt.) measuring 8-10um with a thin cuticle are numerous. Within the areas of granulomatous inflammation, there is marked interstitial fibrosis which compress remnant glomeruli and tubules, resulting in tubular atrophy and loss (1pt.), tubular ectasia with protein casts and sloughed tubular epithelium, and interstitial aggregates of lymphocytes and plasma cells. Glomerular changes include glomeruloclerosis, focal segmental sclerosis, mesangial fibrosis, and marked periglomerular fibrosis. There are scattered areas of crystalline mineral within areas of inflammation.

MORPHOLOGIC DIAGNOSIS: Kidney: Nephritis, granulomatous (1pt.), chronic, diffuse, severe, with adult and larval rhabditoid (1pt.) nematodes (1pt.).

CAUSE: *Halicephalobus gingivalis* (2pt.)

O/C: (1pt.)

WSC 2026-2027

Conference 1, Case 4.

Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lung: Diffusely, alveolar lumina are filled with varying combinations and concentrations of viable and degenerate neutrophils **(1pt)**, alveolar macrophages **(1pt)**, hemorrhage, edema fluid, polymerized fibrin **(1pt)**, and cellular debris. Multifocally within the lumina, there are moderate numbers of cocci **(1pt)**, both individually and in chains **(1pt)**, which are occasionally present within the cytoplasm of neutrophils. Alveolar septa are expanded up to three times normal thickness **(1pt)** by congestion **(1pt)**, edema **(1pt)**, increased numbers of circulating neutrophils, and hypertrophy of interseptal macrophages. Alveolar septa are multifocally discontinuous (septal necrosis) **(1pt)**. Alveolar contents are often refluxed into airways. **(1pt)** Airway epithelium is often necrotic and sloughed. Pulmonary veins often contain non-occlusive fibrin thrombi. **(1pt)** Interlobular septa and the pleura are multifocally expanded **(1pt)** by edema, fibrin **(1pt)**, small amounts of hemorrhage, dilated lymphatics which often contain fibrin thrombi **(1pt)**, and low to moderate numbers of neutrophils.

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia **(1pt)**, fibrinosuppurative **(1pt)** and necrotizing, diffuse, marked, with multifocal fibrinosuppurative pleuritis **(1pt)** and numerous intra-alveolar cocci. **(1pt)**

CAUSE: *Streptococcus equi* var *zooepidemicus* **(2pt.)**