WSC 2024-2025
Conference 3, Case 1
Tissue from a guinea pig.

MICROSCOPIC DESCRIPTION: Heart, myocardium: Multifocally, the right ventricular myocardium is expanded by several discrete, well-demarcated nodules **(2 pt.)** of myofibers. These altered cardiomyocytes extend both from the endocardium halfway through the wall **(1 pt.)**, and as a thin strip along the epicardium toward the apex of the heart. **(1 pt.)** Within these nodules, cardiomyocytes vary markedly in size **(2 pt.)**, and are expanded up to 4-5 times normal diameter **(2 pt.)** by abundant homogeneous to lacy pink cytoplasm (glycogenosis) **(2 pt.)**. There is minimal compression of adjacent cardiomyocytes **(2 pt.)** and rare infiltration of the myocardium by low numbers of histiocytes **(2 pt.),** which extend into the surrounding interstitial fibrous connective tissue.

MORPHOLOGIC DIAGNOSIS: 1. Heart, ventricular myocardium: Rhabdomyomas, multiple. (or Heart, myocardium: Glycogenosis, multifocal to coalescing, severe, with mild multifocal myocardial necrosis.) **(5 pt.)**

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

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WSC 2024-2025
Conference 2, Case 2
Tissue from a minipig.

MICROSCOPIC DESCRIPTION: Kidney: There is multifocal acute **(1pt.)** hemorrhage **(2pt.)**scattered throughout all of the section, to include cortex, medulla, capsule and pelvis. **(1pt.)** Diffusely, up to 50% of tubules, both in the cortex and medulla demonstrate evidence of one or more of the following: epithelial swelling and vacuolation **(1pt.)**, and accumulation of eosinophilic protein globules within the cytoplasm **(1pt.)** (degeneration) **(1pt.)**, fragmentation, pyknosis and sloughing into the lumen (necrosis) **(2pt.)**, and numerous tubules are lined by attenuated epithelium with basophilic cytoplasm **(1pt.)**. A higher percentage of tubules contain abundant eosinophilic protein within their lumina **(1pt.)** (proteinosis) **(1pt.),** and some tubules contain free erythrocytes within their lumina (hemorrhage) **(1pt.)**. There is abundant reflux of protein back into Bowman's space, compressing and peripheralizing the glomerulus. **(1pt.)** Scattered throughout the renal pelvis, arterioles are surrounded by few lamellae of mature collagen.

MORPHOLOGIC DIAGNOSIS: Kidney: Hemorrhage **(1pt.)**, acute **(1pt.)**, multifocal to coalescing, marked with tubular degeneration **(1pt.)**, necrosis **(1pt.)**, proteinosis **(1pt.)** and hemorrhage,.

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

WSC 2024-2025
Conference 3, Case 3.
Tissue from a rhesus macaque.

MICROSCOPIC DESCRIPTION: Heart, left and right ventricular wall and interventricular septum **(1pt.)**: Multifocally and transmurally, **(1pt.)** cardiac myocytes are separated, surrounded, and occasionally replaced by large numbers of lymphocytes **(1pt.)** plasma cells **(1pt.)** and macrophages **(1pt.)**and fewer neutrophils. In infiltrated areas of myocardium, cardiac myocytes are shrunken, angulated with pyknosis or karyolysis, loss of cross striations and a hypereosinophilic often fragmented sarcoplasm **(1pt.)** (necrosis) **(1pt.)** There is mild multifocal edema as well as small areas of hemorhhage and polymerized fibrin. **(1pt.)** Multifocally, individual myofibers contain variably sized, intracytoplasmic **(1pt.)** oval to elongate pseudocysts (up to 60 x 125um) **(1pt.)**, with numerous 2-4 um round to oval protozoal amastigotes **(1pt.)** with a distinct basophilic nucleus and a rod-shaped kinetoplast **(1pt.)** oriented parallel to the nucleus. The endocardium and epicardium have similar, but less severe, changes.

MORPHOLOGIC DIAGNOSIS: Heart: Pancarditis **(1pt.)**, lymphoplasmacytic and histiocytic, multifocal to coalescing, marked, with numerous intramyocytic protozoal amastigotes. **(1pt.)**

CAUSE: Trypanosoma cruzi (**3pt.)**

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

WSC 2020-2021
Conference 3 Case 4.
Tissue from a rhesus macaque.

MICROSCOPIC DESCRIPTION: Oral cavity: Extending to the overlying mildly hyperplastic, multifocally eroded mucosal epithelium and effacing the moderately edematous lamina propria, **(1pt)** there is an unencapsulated, poorly demarcated, infiltrative, moderately cellular neoplasm. **(1pt)** The neoplasm is composed of round cells **(1pt)** arranged in nests and streams **(1pt)**on a pre-existent stroma. **(1pt)** Neoplastic cells are round, polygonal, and spindled, **(1pt)** with a small amount of granular amphophilic cytoplasm. **(1pt)** Rare cells contain variably sized brown melanin granules. **(1pt)** Nuclei are round with 1-2 prominent basophilic nucleoli and finely stippled chromatin. **(1pt)** Anisocytosia dn anisokaryosis are mild to moderate, and mitoses average 16 per 2.37mm^2 field. **(1pt)** There are variably sized areas of necrosis **(1pt)** accounting for up to 10% of the section, and the neoplastic cells extend to all borders. There are multifocal areas of ulceration within the overlying mucosal epithelium with infiltration of innumerous 3-4um yeasts **(1pt)** which form dichotomously branching pseudohyphae. **(1pt)** There is infiltration of the underlying ulcerated epithelium with numerous neutrophils and fewer macrophages, lymphocytes and plasma cells with fibroblast proliferation, and there is thrombosis of vessels in this area. **(1pt)** There is multifocal epidermal erosion in other areas with marked intra-and extracellular edema with vesicle formation. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1. Oral cavity: Melanoma **(3pt)**.
2. Oral mucosa: Stomatitis, ulcerative, focally extensive, marked, with numerous yeast and pseudohyphae, and hyphae. **(1pt)**

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