

WSC 2025-2026

Conference 15, Case 1

Tissue from a C57BL/6NCrI mouse.

MICROSCOPIC DESCRIPTION: Kidney: One section of kidney is submitted for examination. Throughout the cortex, approximately 50% of cortical tubules **(1pt)** predominantly proximal convoluted tubules **(1pt)** exhibit one or more of the following: ectasia **(1pt)**, epithelial attenuation with loss of cytoplasmic eosinophilia **(1pt)**, luminal filling by variable combinations and concentrations of protein **(1pt)**, eosinophilic and basophilic cellular debris, large numbers of necrotic and fewer intact neutrophils **(1pt)**, epithelial necrosis and loss **(1pt)**, epithelial regeneration **(1pt)** characterized by piling up of epithelium with karyomegalic nuclei and basophilic cytoplasm. **(1pt)** There is multifocal mineralized of tubular basement membranes **(1pt)**, and often large aggregates of crystalline mineral within the lumen. **(1pt)** Similar, but significantly less severe changes are present within medullary tubules. **(1pt)** The interstitium within affected areas is mildly fibrotic **(1pt)** with low numbers of infiltrating macrophages **(1pt)**, extension of neutrophils from ruptured tubules, and few lymphocytes and plasma cells. Glomeruli exhibit occasional dilation of Bowman's space and hypertrophy of parietal epithelium. **(1pt)** The renal capsule has an undulant profile.

MORPHOLOGIC DIAGNOSIS: Kidney, cortex: Tubular degeneration, necrosis, and regeneration, **(1pt)**with tubular proteinosis **(1pt)**, hyaline and granular tubular casts **(1pt)**, mineralization **(1pt)**, and interstitial granulomatous inflammation and fibrosis.

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

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Conference 15, Case 2

Tissue from a rhesus macaque.

MICROSCOPIC DESCRIPTION: Stomach: Two sections of stomach are submitted for examination. Surrounding and separating gastric glands and in some areas, totally effacing the mucosa and multifocally infiltrating through the muscularis mucosae and into the underlying submucosa **(1pt.)**, there is an unencapsulated, expansile, well-demarcated, moderately cellular neoplasm **(2pt.)** Neoplastic cells are polygonal **(1pt.)** and arranged in nests and packets **(2pt.)** on a fine fibrovascular stroma **(1pt.)**. Neoplastic cells have indistinct cell borders and moderate amounts of finely vacuolated eosinophilic cytoplasm. **(2pt.)** Nuclei are irregularly round with finely stippled chromatin and 1-3 basophilic nucleoli. **(1pt.)** Anisocytosis and anisokaryosis are mild, and mitoses are rare. **(1pt.)** There are aggregates of large numbers of lymphocytes and plasma cells beneath the intact mucosal lining. **(1pt.)** There is multifocal edema at the superficial edge of the tumor beneath the intact overlying mucosal epithelium. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: 1. Stomach: Neuroendocrine tumor (carcinoid) **(3pt.)**

2. Stomach: Gastritis, lymphoplasmacytic, diffuse, marked. **(1pt.)**

NAME TWO POSITIVE IMMUNOSTAINS: Synaptophysin, chromogranin A **(2pt.)**

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

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Conference 15, Case 3.

Tissue from a wild mouse.

MICROSCOPIC DESCRIPTION: Mandibular salivary gland: One section of the seromucous **(1pt.)** mandibular salivary gland **(1pt.)** and the adjacent brown fat, mammary tissue, and skeletal muscle are submitted for examination. The interstitium of the salivary glands is infiltrated by moderate numbers of lymphocytes **(1pt.)**, plasma cells, and macrophages. Serous salivary glandular epithelium contains numerous eosinophilic droplets. Multifocally, the nuclei of rare acinar cells are karyomegalic and contain a single rectangular eosinophilic intranuclear viral inclusions which are surrounded by a clear halo which peripheralizes the nucleus. **(2pt.)** that is surrounded by a clear halo (cytomegalovirus inclusions.) There is scattered single cell necrosis of salivary epithelium **(1pt.)** which are shrunken, brightly eosinophilic, and have pyknotic nuclei, or are replaced with eosinophilic or basophilic cellular debris. Within the interstitium, histiocytes (1pt.) and fibroblasts (1pt.) contain one or more 2-4um irregularly shaped viral inclusions. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Salivary gland: Sialoadenitis, necrotizing and lymphoplasmacytic, chronic, multifocal, mild, with karyomegalic intranuclear viral inclusions. **(4pt.)**

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

WSC 2025-2026

Conference 15, Case 4.

Tissue from a B6.129S4-C3^{tm1Crr}/J mouse.

MICROSCOPIC DESCRIPTION: Kidney: One section of kidney, ureter and urinary bladder are submitted for examination. The renal parenchyma is collapsed on itself due to the presence of one or multiple large cysts **(1pt.)** which markedly distort renal architecture and multifocally contain small amounts of hemorrhage and cellular debris. Cysts are lined by 1-5 layers of often attenuated cuboidal epithelium. **(1pt.)** Within the remaining cortex, there are large numbers of fetal glomeruli **(1pt.)** with nuclei at the periphery of the tuft and decreased size of the capillary tuft. **(1pt.)** Remnant cortical tubules exhibit one or more of the following: ectasia, cytoplasmic swelling with vacuolation (degeneration) **(1pt.)**, pyknosis, karyorrhexis, and loss (necrosis) **(1pt.)**, occasional basophilia (regeneration) **(1pt.)** and atrophy **(1pt.)** with loss of lumina. The cortical interstitium contains moderate numbers of fibroblasts **(1pt.)** and small amounts of new collagen and infiltrated by low to moderate number of individualized neutrophils, macrophages, lymphocytes and plasma cells. **(1pt.)** Areas of medulla are difficult to identify due to the profound tubular loss **(1pt.)** and fibrosis of this region. **(1pt.)** Multifocally, arterioles (likely at the corticomedullary junction (but it is extremely difficult to locate them precisely in this markedly disorganized and collapsed kidney) are tortuous and their walls are marked expanded. There is multifocal endothelial loss, intimal hyperplasia, extrusion of eosinophilic plasma proteins into the wall **(1pt.)**, and infiltration and effacement of the smooth muscle by infiltrating macrophages, **(1pt.)** and fewer neutrophils, lymphocytes and plasma cells, which are present in higher numbers within the adventitia, and to a lesser extent, the outer regions of the mural smooth muscle.

Ureter: One section of bladder and adjacent brown fat is submitted for examination. Like the kidney, the ureter is collapsed on itself due to marked dilation. **(1pt.)** The ureteral wall is lined by one to multiple layers of attenuated urothelium. The smooth muscle wall is thinner than normal (due to ureteral dilation).

MORPHOLOGIC DIAGNOSIS: 1. Kidney: Hydronephrosis **(1pt.)**, diffuse, severe, with marked medullary fibrosis **(1pt.)** and tubular loss, mild to moderate cortical fibrosis and tubular atrophy and loss.
2. Kidney, cortex: Asynchronous maturation with fetal glomeruli.. **(1pt.)**
3. Kidney, arteries: Arteritis, necrotizing and histiocytic, multifocal, marked. **(1pt.)**
4. Ureter: Hydroureter, diffuse, mild. **(1pt.)**