

WSC 2024-2025
Conference 6, Case 1
Tissue from a rat.

MICROSCOPIC DESCRIPTION: Lymph node: Nodal architecture is markedly effaced and the node is expanded by an unencapsulated, densely cellular, well-demarcated, infiltrative round cell neoplasm. **(2pt.)** Neoplastic cells are arranged in sheets **(1pt.)** on a pre-existent stroma. Neoplastic cells have distinct cell borders with a moderate amount of finely granular eosinophilic cytoplasm. **(1pt.)** Nuclei are irregularly round to reniform **(1pt.)**, often excentric **(1pt.)**, with finely stippled chromatin and 1-2 basophilic nucleoli. Anisocytosis and anisokaryosis in mild to moderate, and mitoses average 22 per 2.37mm² field. **(1pt.)** There are numerous macrophages **(1pt.)** scattered throughout the section with abundant granular bright eosinophilic cytoplasm **(1pt.)** and rarely, hemosiderin **(1pt.)**. Neoplastic cells extend into the adjacent perinodal fat. **(1pt.)**

Kidney: A similar neoplastic infiltrate **(1pt.)** is multifocally present within the cortical interstitium **(1pt.)**, where it separates, surrounds and replaces tubules. Neoplastic cells are also present in the parapelvic fat, and circulating within blood vessels. Diffusely, proximal convolute tubular epithelium contains large numbers of 2um brightly eosinophilic cytoplasmic protein droplets **(1pt.)** (lysozyme) **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: Kidney, abdominal mass: Hematopoietic sarcoma (full credit for either myeloid neoplasm or histiocytic sarcoma.) **(5pt.)**,

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

WSC 2024-2025
Conference 6, Case 2
Tissue from a mouse.

MICROSCOPIC DESCRIPTION: Abdominal mass, (with epididymis, seminal vesicles and coagulating gland): Effacing the testicular parenchyma there is an infiltrative, poorly demarcated, variably cellular, multilobular and cystic, poorly demarcated neoplasm **(1pt)** composed of well-differentiated tissues from each of the three germ cell layers **(1pt)** Scattered throughout the neoplasm is a population of poorly differentiated neoplastic cells which are arranged in islands and nests. **(1pt)** Neoplastic cells have indistinct cell borders and a moderate amount of finely granular basophilic cytoplasm. Nuclei are irregularly round with finely stippled chromatin. Anisokaryosis and anisocytosis are moderate, with mitoses average 8 per 2.37mm² field. **(1pt)** There is frequent apoptosis within this population. The most widely distributed of the well-differentiated tissues closely recapitulates neural tissue **(1pt)** with numerous neurons, oligodendroglia, and astrocytes **(1pt)**, aggregates of small basophilic primitive neuroepithelial cells and rare variably-sized ependymal-lined cysts. There are numerous randomly scattered cysts of stratified squamous epithelium with gradual keratinization **(1pt)** , occasional keratohyaline granules, and a center of lamellated often mineralized lamellar keratin **(1pt)** which is occasionally infiltrated by large numbers of neutrophils. **(1pt)** In some areas, there are aggregates of disorganized keratinized epithelial cells. Other foci of ectodermal tissue include scattered acini of well-differentiated pancreas **(1pt)**, as well as cystic areas of seromucous salivary tissue **(1pt)**. Mesenchymal tissues include aggregates of skeletal muscle cells **(1pt)**, osteocytes **(1pt)** within occasionally mineralized osteoid, fat, smooth muscle, and scattered cartilage with chondrocytes. Endodermal cysts are lined by ciliated columnar respiratory epithelium **(1pt)** throughout which are scattered mucin-containing cells or non-ciliated enterocytes **(1pt)** with scattered goblet cells. Endodermal cysts often contain abundant pink protein, mucus, and large numbers of viable and necrotic neutrophils. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Caudal abdominal mass (presumptive testis OK, since we have multiple sections of accessory sex glands and an epididymis on this section): Teratoma **(3pt)**

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

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Conference 5, Case 3.

Tissue from a rhesus macaque.

MICROSCOPIC DESCRIPTION: Ovary: Effacing normal tissue and extending into the adjacent broad ligament and uterine body **(1pt)**, there is an unencapsulated, infiltrative, moderately cellular poorly demarcated neoplasm. **(1pt)** The neoplasm is composed of epithelial cells **(1pt)** arranged in tubules and acini (glands) **(1pt)** on a dense fibrous stroma. **(1pt)** Neoplastic cells are columnar to cuboidal **(1pt)** with indistinct cell borders and a moderate amount of basophilic cytoplasm. **(1pt)** Nuclei are irregularly round with finely stippled chromatin and 1-3 prominent nucleoli. **(1pt)** Anisocytosis and anisokaryosis is moderate and mitoses average 10 per 2.37mm² field. **(1pt)** There is often necrotic cells or pink protein within neoplastic glands. There is lymphovascular invasion **(1pt)** in the adjacent broad ligament and multifocal nests of neoplastic cells within the uterine submucosa and muscularis. **(1pt)**

Vertebra: The endplate of one of two vertebrae is infiltrated by the neoplasm as described above. **(1pt)** In areas of infiltration, there is hemorrhage, lysis of both medullary trabecular **(1pt)** and cortical lamellar bone **(1pt)** with replacement by neoplastic cells. There is focal proliferation of periosteal new bone over tubules of neoplastic cells **(1pt)** which traverse the cortex and extend into the surrounding soft tissue and fat.

MORPHOLOGIC DIAGNOSIS: 1. Ovary, uterus: Adenocarcinoma **(3pt)**.

2. Vertebral body: Metastatic adenocarcinoma. **(1pt)**.

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

WSC 2020-2021

Conference 6 Case 4.

Tissue from a African green monkey

MICROSCOPIC DESCRIPTION: Cerebrum at level of lateral ventricle: The meninges **(1pt)** and Virchow-Robin's spaces **(1pt)** within the cerebral gray matter are expanded or cuffed by up to 10 layers of macrophages **(1pt)**, lymphocytes **(1pt)**, plasma cells **(1pt)**, rare multinucleated giant cells, admixed with multifocal hemorrhage **(1pt)**, polymerized fibrin, edema, and polymerized fibrin. Scattered multifocally and randomly throughout the gray matter **(1pt)**. are numerous granulomas **(1pt)** centered on schistosome eggs. **(1pt)** Eggs are 100 x 50 μm (1pt), irregularly oval, have a 2-3 μm thick yellow-brown shell **(1pt)**, a prominent lateral spine **(1pt)**, and contain a multinucleated miracidium **(1pt)**. The eggs are surrounded by 1-5 layers of lamellated macrophages **(1pt)** and occasionally, foreign body-type giant cell macrophages (microgranuloma). Some eggs are collapsed, infiltrated by macrophages/foreign body giant cell macrophages, and mineralized. There is multifocal gliosis in proximity to microgranulomas.

MORPHOLOGIC DIAGNOSIS: Cerebrum at level of lateral ventricle: Meningoencephalitis, **(1pt)**.granulomatous, **(1pt)**. multifocal to coalescing, moderate with schistosome eggs. **(1pt)**.

CAUSE: *Schistosoma mansoni* **(3pt.)**

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