

.WSC 2024-2025
Conference 10, Case 1
Tissue from a sheep

MICROSCOPIC DESCRIPTION: Liver: One section of liver is submitted for examination. Within the section, there is an multinodular **(1pt.)**, infiltrative, well-demarcated, unencapsulated, moderately cellular neoplasm. **(1pt.)** The neoplasm is composed of discrete nodules of neoplastic hepatocytes **(1pt.)** which lack normal sinusoidal or lobular architecture, or any biliary structures. **(1pt.)** Hepatocytes are densely packed in sheets **(1pt.)**, with distinct cell borders and abundant cleared **(2pt.)** eosinophilic granular cytoplasm. **(1pt.)** Nuclei are small, irregularly round, with 1-2 small basophilic nucleoli. **(1pt.)** Anisocytosis and anisokaryosis are mild and mitoses average 3 per 2.37mm² field. **(1pt.)** There are multifocal areas of necrosis **(1pt.)** and hemorrhage scattered throughout the neoplastic nodules and scattered apoptotic neoplastic cells. . Nodules compress adjacent hepatocytes and distort sinusoidal architecture, with sinusoidal congestion. **(1pt.)** Hepatocytes contain small amounts of intracytoplasmic granular pigment. **(1pt.)** There is mild biliary hyperplasia **(1pt.)** and small numbers of lymphocytes and plasma cells within portal areas. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Liver: Hepatocellular carcinoma, clear cell variant. **(3pt.)**

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

WSC 2024-2025
Conference 10, Case 2
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Testis: There are multiple discrete tumors in this testis.

Approximately 50% of the testis is effaced by a neoplasm which is infiltrative, poorly demarcated, densely cellular and unencapsulated. **(1pt)** Neoplastic cells both intratubular and extratubular, and is composed of polygonal to columnar cells which in their columnar phenotype palisade along basement membranes and centrally within tubules assume a more polygonal germ-cell appearance. **(1pt)** Outside of the tubules, they are arranged in sheets. Neoplastic cells have indistinct cell borders with a moderate amount of finely granular eosinophilic cytoplasm. **(1pt)** Nuclei are irregularly round with 1-2 prominent basophilic nucleoli. **(1pt)** Anisokaryosis and anisocytosis is mild to moderate, and mitoses average 12 per 2.37mm² field. **(1pt)** There are multinucleated forms within the central areas of tubules.

Adjacent to this mixed tumor, an additional 20% of the section is effaced by a second unencapsulated, moderately cellular poorly demarcated, moderately cellular neoplasm. **(1pt)** Neoplastic cells are polygonal and arranged in nests and packets on a fine fibrovascular stroma. Neoplastic cells have moderate amounts of a finely vacuolated cytoplasm; in some cells, vacuoles coalesce to form a single large clear lipid droplet that peripheralizes and compresses the nucleus and occasional intracytoplasmic lipofuscin. **(1pt)** Nuclei are irregularly round with 1-3 small basophilic nucleoli. **(1pt)** Anisocytosis is moderate, anisokaryosis is minimal, and mitoses are rare. **(1pt)**

A third neoplasm is present within tubules at the periphery and is well-demarcated, unencapsulated, and densely cellular. **(1pt)** The neoplasm is composed of germ cells with a traditional round appearance. Neoplastic germ cells have indistinct cell borders and a moderate amount of finely granular basophilic cytoplasm. **(1pt)** Nuclei are large, often centrally placed and round with a prominent single eosinophilic nucleolus. Anisocytosis and anisokaryosis is mild, and mitoses average 5 per 2.37mm² field. **(1pt)**

The remnant seminiferous tubules have diminished numbers of spermatogonia, mildly undulant basement membranes and no developing spermatids. The epididymis is devoid of sperm. **(1pt)**

MORPHOLOGIC DIAGNOSIS: 1. Testis: Mixed germ cell tumor. **(3pt)**

2. Testis: Interstitial cell tumor. **(1pt)**

3. Testis: Seminoma, intratubular. **(1pt)**

4. Testis, seminiferous tubules: Atrophy, diffuse, moderate, with aspermatogenesis. **(1pt)**

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

WSC 2024-2025
Conference 10 Case 3.
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Adrenal gland: There are two distinct neoplasms in this gland. Expanding the cortex, there is a 2cm, nodular, multicystic, poorly demarcated, expansile neoplasm. **(1pt.)** The neoplasm is composed of polygonal cells arranged in nests and packets **(1pt.)** on a fine fibrovascular stroma. Neoplastic cells have distinct cell borders and a moderate amount of eosinophilic cytoplasm with numerous discrete vacuoles. **(1pt.)** Nuclei are central, round with 1-2 small basophilic nucleoli. **(1pt.)** Anisocytosis and anisokaryosis is minimal, and mitoses are rare. **(1pt.)** Cystic areas of drop out and hemorrhage are scattered through the neoplasm, as well as scattered siderophages. **(1pt.)**

This neoplasm compresses a second neoplasm that arises in the medulla. The neoplasm is infiltrative, poorly demarcated, multilobular, and moderately cellular. **(1pt.)** Neoplastic cells are arranged in nest and packets **(1pt.)** on a fine fibrovascular stroma. Neoplastic cells have distinct cell borders with a moderate amount of a pink-brown cytoplasm. **(1pt.)** Nuclei are irregularly round with coarsely stippled chromatin and 1-2 large eosinophilic nuclei. **(1pt.)** Anisocytosis and anisokaryosis is marked with occasional nuclear gigantism. **(1pt.)** Mitoses average 2 per 2.37mm² field. **(1pt.)**

There are multiple hyperplastic foci of cortical cells resembling zona glomerulosa within the adrenal capsule. **(1pt.)**

Morphologic Diagnosis: 1. Adrenal gland, cortex: Adrenocortical adenoma. **(3pt.)**
2. Adrenal gland, medulla: Pheochromocytoma. **(3pt.)**

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

WSC 2024-2025
Conference 10 Case 4.
Tissue from a dog

MICROSCOPIC DESCRIPTION: Spleen: Effacing the splenic parenchyma **(1pt.)**, there is an unencapsulated, moderately cellular multilobular, unencapsulated and poorly demarcated neoplasm. **(1pt.)**The neoplasm is composed of cells with multiple phenotypes **(1pt.)** – both polygonal **(1pt.)** and spindle **(1pt.)** on a fine fibrovascular stroma. Polygonal cells are arranged in sheets **(1pt.)** with a moderate amount of a coarsely vacuolated cytoplasm**(1pt.)**. Cytoplasmic vacuoles often coalesce into a single vacuole **(1pt.)**. The less frequent spindle cells are arranged in short streams and bundles **(1pt.)** without cytoplasmic vacuolation. Nuclei are irregularly round with coarsely stippled chromatin and 1-3 small nucleoli. **(1pt.)** Anisocytosis and anisokaryosis is moderate and mitoses average 14 per 2.37mm² field. **(1pt.)** There are multifocal areas of coagulative necrosis **(1pt.)**and hemorrhage **(1pt.)**scattered throughout the section with infiltration of macrophages and siderophages with hematoidin pigment at the periphery. Splenic stroma is compressed at the periphery of the neoplasm and there is no evidence of remnant red or white pulp architecture. **(1pt.)**

Liver: A similar neoplasm is present in a small fragment of liver as well.

MORPHOLOGIC DIAGNOSIS: Spleen, liver: Melanoma (full credit for liposarcoma)**(3pt.)**

NAME TWO APPROPRIATE STAINS: Melan A, PNL2, Oil Red O **(2pt.)**

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