

SC 2022-2023
Conference 9, Case 1
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lymph node: Effacing 50% of the node **(1pt)**, there is an unencapsulated, poorly demarcated, moderately cellular, infiltrative neoplasm. **(2pt)** The neoplasm is composed of epithelial cells forming large islands, nests, and tubules **(2pt)**, and in cystic areas, papillary projections. **(1pt)** The frequency of tubule formation in some areas forms a “sieve-like” pattern. **(1pt)** Neoplastic cells are polygonal **(1pt)**, cuboidal when lining tubules, with indistinct cell borders and a moderate amount of vacuolated eosinophilic cytoplasm. **(1pt)** Nuclei are irregularly round with vesicular chromatin and 1-2 basophilic nucleoli. **(1pt)** There is moderate anisokaryosis, and occasional nuclear gigantism. **(1pt)** Up to 33% of the neoplasm is replaced by large areas of coagulative necrosis. **(1pt)** There is reactive hyperplasia **(1pt)** of the adjacent node with marked paracortical expansion and focally extensive medullary histiocytosis. There are low numbers of siderophages **(1pt)** scattered throughout the node, primarily in proximity to the neoplasm. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Lymph node: Urothelial carcinoma, metastatic **(4pt)**

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

WSC 2022-2023
Conference 9, Case 2
Tissue from a dog

MICROSCOPIC DESCRIPTION: Thyroid gland **(1pt.)**: Markedly expanding the thyroid, there is a well-demarcated, encapsulated, moderately cellular, nodular, multilobulated neoplasm **(2pt.)** which effaces normal architecture. The neoplasm is composed of polygonal **(1pt.)** cells with variable cellular morphology. Neoplastic cells are arranged in nests, packets and trabeculae **(1pt.)** on a fine fibrovascular stroma. **(1pt.)** Neoplastic cells are polygonal with indistinct cell borders and a moderate amount of finely vacuolated eosinophilic cytoplasm. **(1pt.)** Approximately half of the neoplastic cells are enlarged with abundant finely granular and brightly eosinophilic cytoplasm **(1pt.)** (Hurthle cells) **(2pt.)**, and transition between the two cell types is visible. Nuclei are round to oval, with finely stippled chromatin with small basophilic nucleoli. **(1pt.)** Mitoses average 2 per 2.37mm. **(1pt.)** There is multifocal invasion of the fibrous capsule by neoplastic cells. **(2pt.)** There is moderate compression of normal thyroid follicles by the compression capsule of the neoplasm. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Thyroid gland: Thyroid tumor **(2pt.)**, Hurthle cell type **(2pt.)**.

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

WSC 2022-2023
Conference 9, Case 3
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Bile duct **(1pt)**. Expanding the submucosa and surrounding and separating glands, **(1pt)**, there is an encapsulated, infiltrative, well-demarcated, moderately cellular neoplasm **(1pt)** with a thin compression capsule. **(1pt)** Neoplastic cells are polygonal **(1pt.)** (spindled in some regions) and arranged in nests and packets **(1pt.)** on a fine fibrovascular stroma **(1pt.)**. Neoplastic cells have indistinct cell borders and moderate amounts of finely vacuolated brownish cytoplasm. **(1pt)** Nuclei are irregularly round with finely stippled chromatin and 1-2 prominent nucleoli. **(1pt.)** There is mild anisocytosis and anisokaryosis **(1pt.)** Mitoses are rare. **(1pt.)** There is multifocal individual apoptosis and hemorrhage throughout the neoplasm. **(1pt)** Neoplastic cells infiltrate the capsule **(1pt)** and there are aggregates of neoplastic cells within dilated capsular lymphatics. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Bile duct: Neuroendocrine tumor (carcinoid) **(4pt.)**

NAME TWO POSITIVE IMMUNOSTAINS: Synaptophysin, chromogranin A **(1pt.)**

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

WSC 2022-2023
Conference 9, Case 4.
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Adrenal gland **(1pt)**: Expanding and replacing the medulla, and compressing the overlying cortex, **(1pt)** is an unencapsulated, well demarcated, moderately cellular, multilobulated neoplasm. **(1pt)** Neoplastic cells are polygonal, arranged in nests and packets **(1pt)** on a moderate fibrovascular stroma. Neoplastic cells are polygonal with indistinct cell borders and moderate amounts of finely granular, brown granular cytoplasm **(1pt)**. Nuclei are irregularly round, often eccentric, with coarsely stippled chromatin and one to two large nucleoli **(1pt)**. There is moderate anisokaryosis. **(1pt)** Mitoses average less than 1 per 10 HPF **(1pt)**. There is marked vacuolation of the overlying compressed adrenocortical cells with large clear vacuoles scattered throughout the zona glomerulosa.

Heart, left ventricle **(1pt)**: Diffuse, there is multifocal to coalescing expansion of the interstitium by fibroblasts and loosely arranged collagen fibers. **(1pt)** Myofibers in areas of fibrosis are shrunken and hypereosinophilic (atrophic). **(1pt)** There is infiltration of the myocardium by adipocytes. **(1pt)** Multifocally, myocardial and epicardial arterioles demonstrate marked thickening of the tunica intima by fibroblasts and smooth muscle cells. The tunica media is expanded by abundant brightly eosinophilic protein **(1pt)**, hyperplastic smooth muscle in disarray, and collagen. The tunica adventitia is expanded by low to moderate numbers of macrophages and lymphocytes **(1pt)** and there is mild to moderate periarteriolar edema.

MORPHOLOGIC DIAGNOSIS: 1. Adrenal gland: Pheochromocytoma. **(3pt)**
2. Heart: Arteriolar fibrinoid necrosis, diffuse, moderate with cardiomyocyte atrophy, loss, and myocardial fibrosis. **(1pt)**

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