

WSC 2015-2016, Conference 22

Case 1. Tissue from a mouse.

**MICROSCOPIC DESCRIPTION:** Liver: There are multifocal **(1 pt.)** and randomly **(1 pt.)** scattered areas of necrosis **(1 pt.)** within the section ranging up to 1mm in diameter **(1 pt.)**. In some areas, hepatocytes are brightly eosinophilic **(1 pt.)** and have lost differential staining **(1 pt.)** while maintaining normal plate architecture **(1 pt.)** (coagulative necrosis) **(1 pt.)**. Many of these foci are bordered, infiltrated, and effaced by low to moderate numbers of viable and degenerate neutrophils **(1 pt.)** admixed with cellular debris (lytic necrosis) **(1 pt.)**. Multifocally, and randomly, portal and central veins contain partially occlusive fibrin thrombi **(1 pt.)**. Diffusely, hepatocytes are mildly expanded by a cytoplasmic accumulation of numerous discrete, clear vacuoles **(1 pt.)** (lipidosis) **(1 pt.)**. Multifocally, small aggregates of immature red and white cell precursors are present within the section, most commonly adjacent to portal areas (EMH) **(1 pt.)**.

**MORPHOLOGIC DIAGNOSIS:** Liver: Hepatitis, necrotizing, multifocal and random, moderate. **(3 pt.)**

**CAUSE:** *Burkholderia cepaci* (any gram-negative OK, except *C. piliforme*). **(2 pt.)**

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

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Case 2. Tissue from a rat.

**MICROSCOPIC DESCRIPTION:** Testis: There are two neoplasms within this tissue section **(1 pt.)**. Within blood vessels throughout the section **(1 pt.)**, and focally extending into the adjacent testicular interstitium is an unencapsulated, moderately cellular, infiltrative, neoplasm **(1 pt.)** composed of lymphocytes **(1 pt.)**. Neoplastic cells have distinct cell borders with a small amount of brightly eosinophilic granular cytoplasm **(1 pt.)**. Nuclei are round to indented with finely clumped chromatin and 1-2 basophilic nucleoli **(1 pt.)**. Mitotic figures are rare **(1 pt.)**. Within the testis, compressing adjacent seminiferous tubules is a 4x2mm, well-demarcated, unencapsulated, multilobular neoplasm **(1 pt.)** composed of cords and vague nests **(1 pt.)** of polygonal cells supported by a fine fibrovascular stroma **(1 pt.)**. Neoplastic cells have variably distinct cell borders, abundant eosinophilic vacuolated cytoplasm **(1 pt.)**, round to oval nuclei with finely stippled chromatin and one variably distinct nucleolus. **(1 pt.)** Mitotic figures are rare in this population as well. **(1 pt.)** The neoplasm contains several up to 1mm diameter lakes of eosinophilic, flocculent material (cystic degeneration) or hemorrhage. **(1 pt.)** The immediately adjacent seminiferous tubules are compressed, ectatic and atrophied, with irregular, undulant basement membranes, lined by a single layer of Sertoli cells, devoid of germ cells, spermatocytes and spermatids, and contain variable amounts of a fibrillar to homogeneous eosinophilic protein. **(1 pt.)** Further away from the neoplasm, tubules contain germ cells, spermatids, and multinucleated giant cell spermatids **(1 pt.)**.

**MORPHOLOGIC DIAGNOSIS:** 1. Testis, blood vessels: Mononuclear cell leukemia. **(2 pt.)**  
2. Testis: Interstitial cell tumor (Leydig cell adenoma – INHAND). **(2 pt.)**

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

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Case 3. Tissue from a rat.

**MICROSCOPIC DESCRIPTION:** External ear canal **(1 pt.)**: Arising from and focally expanding the squamous lining of the medial aspect of the external ear canal **(1 pt.)**, there is a papillary **(1 pt.)** and exophytic **(1 pt.)**, moderately cellular, well-demarcated squamous neoplasm **(1 pt.)**. The neoplasm is arranged in thick rete ridges at the base **(1 pt.)** developing into long papillary fronds **(1 pt.)** on a moderate fibrous stroma, and demonstrates normal polarity and maturation **(1 pt.)**. Neoplastic cells have distinct cell borders with a moderate to large amount of eosinophilic fibrillar cytoplasm with keratohyalin granules and occasionally exhibit intercellular bridges. **(1 pt.)** Nuclei are irregularly round with finely stippled chromatin and 1-2 large eosinophilic nuclei. **(1 pt.)** Mitotic figures are rare. **(1 pt.)** There are areas of necrosis **(1 pt.)** and dropout scattered throughout the stratum spongiosum on numerous fronds. The fibrous stroma is vascular with infiltration of numerous lymphocytes and plasma cells **(1 pt.)**, with fewer macrophages and neutrophils. The neoplasm is lined and fronds separated by abundant keratotic and cellular debris with few neutrophils **(1 pt.)**. The fibrous lining of the tympanic bulla is multifocally expanded by abundant granulation tissue. **(1 pt.)**

**MORPHOLOGIC DIAGNOSIS:** Tympanic bulla: Squamous papilloma. **(4 pt.)**

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

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Case 4. Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Pituitary gland, pars distalis **(1 pt.)**: Expanding and replacing the normal pituitary architecture and compressing the adjacent remaining rim of normal pars distalis is an 4 x 4mm, unencapsulated, well circumscribed neoplasm **(1 pt.)** composed of polygonal **(1 pt.)** cells arranged in nests, packets **(1 pt.)**, and trabeculae supported by a fine fibrovascular stroma and separated by variably-sized blood-filled spaces **(1 pt.)**. Neoplastic cells have indistinct cell borders, moderate amounts of granular eosinophilic cytoplasm **(1 pt.)**, a round nucleus with finely clumped chromatin and one distinct eosinophilic nucleolus. **(1 pt.)** Mitoses are rare. There is mild anisokaryosis and anisocytosis. **(1 pt.)**

**Mammary gland:** Expanding the mammary gland and compressing an adjacent ectatic duct, there is an expansile, encapsulated, well-demarcated, multinodular, moderately cellular epithelial neoplasm **(1 pt.)**. The neoplasm is composed of lobules of variably-sized glands and acini **(1 pt.)** on a moderate fibrous stroma. Acini are lined by columnar epithelial cells with vacuolated cytoplasm and distinct cell borders. **(1 pt.)** Nuclei are apical, irregularly round, and have 1-2 small basophilic nucleoli. **(1 pt.)** Mitotic figures are rare. Acini are variably ectatic, with lumina filled with bright eosinophilic secretory product **(1 pt.)**, which often compresses the adjacent attenuated epithelium. Occasionally acini contain lamellated pink concretions (corpora amylacea) **(1 pt.)** which are also present within the lumen of the ectatic duct. Adjacent skeletal muscle is shrunken and atrophic.

**MORPHOLOGIC DIAGNOSIS:** 1. Pituitary gland, pars distalis: Adenoma. **(2 pt.)**

2. Mammary gland: Fibroadenoma. **(2 pt.)**

**NAME A LIKELY ELEVATED HORMONE:** Prolactin. **(1 pt.)**

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