WSC 2010-2011, Conference 1, Case 1.

Tissue from a rat.

MICROSCOPIC DESCRIPTION: Mammary gland: Expanding the mammary gland and elevating the overlying dermis and epidermis, there is a nodular, well-demarcated **(1 pt.)**, encapsulated, moderately cellular, multilobular **(1 pt.)** neoplasm composed of glands and acini **(1 pt.)** on a variably thick fibrovascular stroma. Lobules of neoplastic cells are separated by dense bands of fibrous connective tissue **(2 pt.)** containing few fibrocytes. Neoplastic cells are polygonal **(1 pt.)** with distinct cell borders and moderate amounts of a basophilic cytoplasm **(1 pt.)**which contains numerous discrete clear, variably-sized vacuoles **(2 pt.)**. Nuclei are irregularly round, occasionally peripheralized, and have coarsely stippled chromatin and 1-2 magenta nucleoli **(1 pt.)**. Mitotic figures are rare **(1 pt.)**. Neoplastic cells surround acini that range in size up to 150um in diameter **(1 pt.)**. Occasional acini are lined by cells with cells with large nuclei and dark basophilic cytoplasm (atypia) **(2 pt.)**. There is mild to moderate lobular hyperplasia hyperplasia of surrounding mammary gland tissue **(1 pt.)**.

MORPHOLOGIC DIAGNOSIS: Mammary gland: Fibroadenoma. **(4 pt.)**

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

WSC 2010-2011. Conference 1, Case 2

Tissue from a rat.

MICROSCOPIC DESCRIPTION: Kidney: Diffusely, the cytoplasm of proximal convoluted tubular epithelium **(1 pt.)** contains numerous eosinophilic granules **(1 pt.)** (lysosomes), ranging up to 2um in diameter**(1 pt.)**. Scattered throughout the renal cortex, tubular epithelium of the proximal convoluted tubule is brightly eosinophilic and fragmented with hyperchromatic nuclei **(1 pt.)** (degeneration) **(2 pt.)** and sometimes there is karyorrhexis **(1 pt.)** and detachment from the basement membrane (necrosis) **(2 pt.)**. Rarely tubules are lined with markedly attenuated epithelium and contain sloughed cells within the lumen **(1 pt.)**. Scattered tubules are lined by cuboidal epithelium with basophilic granular cytoplasm **(1 pt.)** and large vesicular nuclei and rare mitotic figures (regeneration) **(2 pt.)**. There are rare aggregates of small numbers of lymphocytes and plasma cells in periglomerular and peritubular locations **(1 pt.)**.

MORPHOLOGIC DIAGNOSIS: Kidney, cortex: Tubular degeneration and necrosis, multifocal, with rare regeneration. **(3pt.)**

CAUSE: Aminoglycoside toxicity **(2 pt.)**

O/C – **(1 pt.)**

WSC 2010-2011, Conference 1, Case 3.

Tissue from a rat.

MICROSCOPIC DESCRIPTION: Vagina **(1 pt.)** : Expanding and infiltrating the muscular tunics and submucosa **(1 pt.)**, is an unencapsulated, poorly circumscribed, moderately cellular, cystic neoplasm **(2 pt.)**composed of spindle cells **(1 pt.)** arranged in short interlacing streams and bundles **(1 pt.)** on a fibrillar eosinophilic matrix **(1 pt.).** Neoplastic cells have indistinct borders and a small amount of eosinophilic fibrillar to vacuolated cytoplasm **(1 pt.)**. Nuclei are oval to elongate with vesicular chromatin and one variably distinct basophilic nucleolus **(1 pt.)**. Multifocally, elongate nuclei have a central band of chromatin that spans the greater diameter of the nucleus (Anitschkow type nuclei). Mitoses are rare **(1 pt.)**. There are variable areas of cellular density throughout the neoplasm **(1 pt.)** (Antoni A and B) and large areas of necrosis **(1 pt.)**. Multifocally, there are pseudocysts **(1 pt.)**scattered through the neoplasm which are lined by densely packed neoplastic cells in a columnar arrangement and contain variable combinations and concentrations of hemorrhage, edema, and hemosiderin-laden macrophages, as well as wispy basophilic protein **(1 pt.)**. There are low numbers of lymphocytes, plasma cells, and hemosiderin laden-macrophages scattered through the neoplasm **(1 pt.)**.

MORPHOLOGIC DIAGNOSIS: Vagina: Malignant schwannoma. **(5 pt.)**

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

WSC 2010-2011, Conference 1, Case 4.

Tissue from a mouse.

MICROSCOPIC DESCRIPTION: Liver: Diffusely throughout the section, effacing sinusoidal architecture (most prominently around sublobular veins) and often filling vessels **(1 pt.)**, there is an unencapsulated, densely cellular, infiltrative well-demarcated neoplasm **(1 pt.)** composed of sheets of blastic lymphocytes **(1 pt.)** on a pre-existent matrix. Neoplastic lymphocytes are large, mildly anisokaryotic **(1 pt.)**, with prominent irregularly round nuclei and finely clumped chromatin with 2-3 basophilic nucleoli **(1 pt.)**. Mitotises average 2-3 per high power field **(1 pt.)**. There is marked apoptosis **(1 pt.)** and tingible body macrophages **(1 pt.)** are present in low numbers throughout the neoplasm. Throughout the neoplasm, remaining hepatocytes are often compressed and atrophic.

Lung: Multifocally throughout the section, alveolar capillaries and pulmonary venules and veins **(1 pt.)** contain and often surrounded by neoplastic blast lymphocytes as previously described. Within vessels, there are low to moderate numbers of lymphoblasts in the peripheral blood admixed with abundant dense blue homogenous matrix (DNA emboli) **(2 pt.)**

MORPHOLOGIC DIAGNOSIS**:** 1. Liver: Lymphocytic leukemia. **(2 pt.)** 2. Lung: Lymphocytic leukemia with DNA protein emboli. **(3 pt.)**

NAME THE CONDITION: Acute tumor lysis syndrome (ATLS) **(3 pt.)**

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