

WSC 2016-2017, Conference 22

Case 1. Tissue from a cyno.

(NOTE: There may be differences due to significant variations in the submitted sections. One section had a lot of liver and a cross-section through the gall bladder; the one below had a larger section of neoplasm with necrosis.)

MICROSCOPIC DESCRIPTION: Liver: Effacing up to 75% of the section, there is an infiltrative, unencapsulated, moderately cellular, multilobular, well-demarcated neoplasm. **(2pt.)** The neoplasm is separated into distinct lobules by thick bands of fibrous connective tissue **(1pt.)**, and neoplastic cells are arranged into nests **(1pt.)**, packets, and prominent rosettes **(1pt.)** and pseudorosettes on a fine fibrovascular stroma **(1pt.)**. Neoplastic cells have indistinct cell borders and a moderate amount of clear cytoplasm. **(1pt.)** Nuclei are centrally located, oval, with finely clumped chromatin and 1-3 small blue nucleoli. **(1pt.)** Mitoses are rare. **(1pt.)** There is extensive EMH throughout the neoplasm. **(1pt.)** . There is varying amounts of necrosis and hemorrhage within several of the lobules. **(1pt.)** Fibrous septa separating lobules multifocally contains prominent blood vessels and an infiltrate of low to moderate numbers of neutrophils **(1pt.)**, fewer macrophages, and rare lymphocytes and plasma cells, and contain numerous profiles of hyperplastic bile ducts **(1pt.)** as well as atrophic hepatocytes **(1pt.)**, congested vessels and dilated lymphatics. Hepatocytes within the adjacent liver are mildly swollen and their cytoplasm contains abundant glycogen. **(1pt.)** There is a small amount of extramedullary hematopoiesis within portal areas and sinusoids

MORPHOLOGIC DIAGNOSIS: Liver: Hepatoblastoma **(4pt.)**

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

WSC 2016-2017, Conference 22

Case 2. Tissue from a mouse.

(NOTE: There may be differences due to significant variations in the submitted sections. Some sections have good sections of the chorioallantois – the slide described here only had a small amount at the periphery of the section.)

**MICROSCOPIC DESCRIPTION:** Placenta: This is a section of hemochorial placenta **(1pt.)** without attached uterus or membrane, essentially the placental disk. **(1pt.)** Approximately 33% of the disk is undergoing a combination of coagulative **(1pt.)** and lytic necrosis **(1pt.)**, with an extensive area in which cellular outlines are maintained, which nuclei are condensed, pyknotic, or simply fade out **(1pt.)** (coagulative necrosis). Some of this area is infiltrated by large numbers of admixed with abundant cellular debris **(1pt.)** (lytic necrosis), which multifocally extends in a netlike fashion through out the rest of the tissue. **(1pt.)** There are also multiple focally extensive areas of hemorrhage **(1pt.)**, edema, as well as large aggregates of polymerized fibrin **(1pt.)**. Within the viable areas of the placental disk, there is individual necrosis of trophoblasts **(1pt.)** and foci of dystrophic mineralization **(1pt.)**. In the fetal membranes, which surround the placental disk, there are moderate numbers of viable and degenerate neutrophils **(1pt.)**, abundant cellular debris, edema, and multiple 100um colonies of small 1-2um cocobacilli. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** Placenta and membranes: Placentitis and amniochorionitis **(1pt.)**, necrotizing **(1pt.)**, multifocal to coalescing, moderate, with colonies of coccobacilli. **(1pt.)**

**CAUSE:** *Pasteurella pneumotropica* **(2pt.)**

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

WSC 2016-2017, Conference 22

Case 3. Tissue from a mouse.

(NOTE: There may be differences due to significant variations in the submitted sections. One section had overlying skin and adjacent salivary gland which simplifies the diagnosis; the section described below did not.)

MICROSCOPIC DESCRIPTION: Fibrous connective tissue containing skeletal muscle and brown fat at the border **(1pt.)**: Effacing pre-existent tissue, there is a 1.25x1cm expansile, well-demarcated, partially encapsulated, moderately cellular, multilobular neoplasm **(2pt.)**. The neoplasm is composed of nests **(1pt.)** of spindle cells **(1pt.)** which are separated into lobules by a moderate fibrovascular stroma **(1pt.)**. Neoplastic cells have indistinct cell borders and a moderate amount of finely vacuolated basophilic cytoplasm, **(1pt.)** and often palisade along the stroma at the edge of the lobules. **(1pt.)** Nuclei are oval to elongate with finely clumped chromatin and 1-2 small basophilic nuclei. **(1pt.)** Mitoses average 1-2 per 400X field. **(1pt.)** Many of the lobules contain large central areas of lytic necrosis. **(1pt.)** At one edge of the section, there is a large area of mature granulation tissue **(1pt.)** with a focus of the previously described neoplasm. Additionally, there is an extensive area of granulomatous inflammation **(1pt.)**, containing numerous 20-30um vacuolated histiocytes **(1pt.)** admixed with hemorrhage and hemosiderin-laden macrophages **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: Fibrovascular tissue, site unspecified: Myoepithelioma. **(4pt.)**

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

CASE 4. Tissue from a rhesus monkey.

(NOTE: There may be differences due to significant variations in the submitted sections. Some sections had multiple affected bronchioles; the one described below only had one. )

**MICROSCOPIC DESCRIPTION:** Lung: Within the section, the wall of a bronchiole is expanded **(1pt.)** and bands of smooth muscle are separated and surrounded by large numbers of macrophages **(1pt.)**, lymphocytes and plasma cells **(1pt.)**, with fewer eosinophils **(1pt.)** and rare neutrophils. The wall is further expanded by bands of fibrosis **(1pt.)** which house much of the inflammatory infiltrate and extend into adjacent alveoli. Many macrophages contain intracytoplasmic golden-brown **(1pt.)** strongly birefringent **(1pt.)** pigment (mite pigment) **(1pt.)**. Airway epithelium is diffusely severely attenuated and often lost **(1pt.)**, and replaced with inflammatory cells as previously described, and the dilated airway contains multiple cross sections of adult arthropods **(2pt.)**. Arthropods are approximately 300-500 um in width, and contain a chitinized exoskeleton **(1pt.)**, jointed appendages **(1pt.)**, striated musculature, a body cavity, digestive tract, and neural tissue. There are aggregates of anthracosilicotic pigment in perivascular locations.

**MORPHOLOGIC DIAGNOSIS:** Lung: Bronchiolitis and bronchitis, pyogranulomatous **(1pt.)** and eosinophilic, chronic, multifocal, moderate, and bronchiolar intraluminal arthropods **(1pt.)** with mite pigment **(1pt.)**,

**CAUSE:** *Pneumonyssus simicola* **(2pt.)**

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