

WSC 2011-2012. Conference 6

Slide 1. Tissue from a horse.

MICROSCOPIC DESCRIPTION: Fibrovascular tissue. Within this tissue, dissecting between skeletal muscle fibers, there is an unencapsulated, well-demarcated, infiltrative, moderately cellular, multilobulated neoplasm **(2 pt.)**. The neoplasm is composed of nests and packets **(2 pt.)** of polygonal **(2 pt.)** cells on a fine fibrovascular stroma **(2 pt.)**. Neoplastic cells have a moderate amount of finely granular eosinophilic cytoplasm with distinct cell borders **(2 pt.)**. Nuclei are irregularly round with finely clumped chromatin and 1-2 small basophilic nucleoli **(2 pt.)**. Mitotic figures are rare **(2 pt.)**. Neoplastic cells abut and rarely extend into blood-filled spaces. There are aggregates of small numbers of lymphocytes scattered throughout the neoplasm. Adjacent to the tumor, muscle fibers are multifocally shrunken, hyalinized, occasionally have prominent internalized nuclei and (degeneration **(2 pt.)**), and are occasionally surrounded by low numbers of lymphocytes and plasma cells.

MORPHOLOGIC DIAGNOSIS: Fibrovascular tissue: Glomus tumor **(3 pt.)**

O/C: (1 pt.)

(Note: According to the contributor, some slides have marked anisokaryosis with bizarre nuclei (pictures were provided). They were not seen in the slide I have described, nor were they present on any slides provided to AFIP staff. Hence I am unable to make this a malignant glomus tumor.)

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Slide 2. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Small intestine. The serosa and mesentery is markedly expanded and multifocally effaced **(1 pt.)** by multifocal to coalescing foci of granulomatous **(1 pt.)** inflammation ranging up to 500 um in diameter which extend into the surrounding mesentery and are centered on lymphatics **(1 pt.)**. The foci are composed of a central area of anisotropic amphophilic homogenous material **(1 pt.)** which is surrounded by large numbers of foamy macrophages with numerous clear intracytoplasmic vacuoles **(2 pt.)** (lipophages) admixed with lesser numbers of multinucleated giant cell macrophages **(1 pt.)** (Touton cells), neutrophils, lymphocytes, rare plasma cells, abundant cellular debris, and occasionally, mineral. **(1 pt.)** Scattered throughout the inflammatory infiltrate are numerous clear round spaces often in close contact with aggregates of viable and degenerate neutrophils, which often contain wispy aggregates of basophilic material. **(1 pt.)** Separating these areas of granulomatous inflammation is a mixture of mature fibrous connective tissue and granulation tissue. **(1 pt.)** Similar, but less severe changes are present around lymphatics within the submucosa, muscularis, and the serosa, and other vessels within the muscularis and submucosa have prominent cuffs of lymphocytes admixed with rare histiocytes. **(1 pt.)** Villi are diffusely blunted **(2 pt.)**. The lamina propria, especially at the base of the villi and between crypts is edematous; clear space and dilated lymphatics separate crypts. **(1 pt.)** Mucosal capillaries are congested.

MORPHOLOGIC DIAGNOSIS: Small intestine and mesentery: Lymphangitis, lipogranulomatous, diffuse, severe, with mild villar blunting and lymphangiectasia. **(3 pt.)**

NAME THE CONDITION: Intestinal lymphangiectasia **(2 pt.)**

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

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Slide 3. Tissue from an ox.

(NOTE: There are two very distinct sections that were sent by the contributor. One section shows acute necrosis and centrally contains a trematode; this is described below. A second section shows more chronic lesion with an abundance of fibrous connective tissue and a trematode off to the side of the tissue section. Your experience may vary....)

MICROSCOPIC DESCRIPTION: Liver: Centrally within the section, free **(1 pt.)** within the hepatic parenchyma, there is a 1cm x 0.4cm adult **(1 pt.)** trematode **(1 pt.)** with a thick, eosinophilic spiny tegument **(1 pt.)**, a narrow subjacent band of smooth muscle, a spongy body cavity without a pseudocoelom and numerous somatic cell nuclei, numerous cross-sections of a digestive tract containing abundant black granular pigment **(1 pt.)**, and numerous smaller vitellarian glands **(1 pt.)**. A tangential section of the reproductive tract contains sections through a few non-operculated morulated eggs **(1 pt.)** with a thick translucent wall. Immediately adjacent to the fluke is a migration tract **(1 pt.)** composed of abundant fibrin and hemorrhage admixed with abundant necrotic debris, few scattered fluke eggs as previously described, numerous neutrophils, eosinophils and fewer macrophages containing ingested erythrocytes, hemosiderin granules, and often a spicular anisotropic black pigment (in this case, I think this is acid-hematin – I don't see convincing fluke pigment in my section). **(1 pt.)** Adjacent hepatocytes show a variety of changes from marked thinning (atrophy) **(1 pt.)**, and in these areas, sinusoids contain large numbers of neutrophils and eosinophils in addition to marked congestion. In other areas, there is extensive coagulative necrosis **(1 pt.)** of hepatocytes with hemorrhage. Portal areas throughout the section, as well as are moderately to markedly expanded by varying combinations and concentrations of eosinophils, lymphocytes, plasma cells, neutrophils, edema, and immature fibrous connective tissue. **(1 pt.)** Similar changes are seen in the fibrous connective tissue surround centrilobular veins and bile ducts, and there are low to moderate numbers of eosinophils within the biliary epithelium **(1 pt.)**. There are numerous foci of hepatocellular necrosis scattered through the section which contain moderate numbers of neutrophils and histiocytes, and varying amounts of hemorrhage.

MORPHOLOGIC DIAGNOSIS: Liver: Necrosis and hemorrhage, focally extensive with adult trematode and diffuse granulomatous and eosinophilic cholangitis and cholangiohepatitis. **(3 pt.)**

CAUSE: *Fascioloides magna* (2 pt.)

Name a potential sequela: Black's disease (1pt.)

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

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Slide 4. Tissue from a cat.

MICROSCOPIC DESCRIPTION: Lung: Diffusely alveolar septa are variably thickened **(1 pt.)** (in some areas up to 5x normal) by large numbers of macrophages, neutrophils, congestion, fibrin, edema, and marked type II pneumocyte hyperplasia **(1 pt.)**. Occasionally, there is septal fibrosis with plump fibroblasts and type I pneumocyte nuclei are prominent. In a patchy distribution, approximately 80% of alveolar lumina are filled with large numbers of foamy macrophages and viable neutrophils, admixed with lesser numbers of lymphocytes, and small amounts of fibrin and cellular debris. **(1 pt.)** Bronchi and bronchioles are both surrounded and infiltrated with large numbers of lymphocytes, plasma cells, neutrophils and histiocytes **(1 pt.)** which in low numbers infiltrate the airway epithelium **(1 pt.)** (often forming small nests). Within bronchioles, this infiltrate separates and surrounds submucosal glands and bronchiolar cartilage, and in all airways extends into the adjacent fibrous connective tissue. **(1 pt.)** Rarely submucosal glands are dilated and filled with low to moderate numbers of neutrophils and cellular debris. **(1 pt.)** Bronchiole and bronchiolar lumina contain low to moderate numbers of neutrophils and macrophages admixed with rare lymphocytes, plasma cells, fibrin and cellular debris. **(1 pt.)** The epithelium lining bronchioles is moderately hyperplastic; there is multifocal ciliary loss and rare necrosis of epithelial cells. **(1 pt.)** Multifocally, pleural mesothelium is hyperplastic **(1 pt.)** and infiltrated by large numbers of viable degenerate neutrophils and cellular debris. The associated hilar lymph node is enlarged and reactive with marked paracortical hyperplasia, sinus histiocytosis, plasmacytosis, and moderate numbers of neutrophils and tangible body macrophages and prominent lymphoid follicles. **(2 pt.)**

MORPHOLOGIC DIAGNOSIS: 1. Lung: Pneumonia, bronchointerstitial and proliferative, neutrophilic, histiocytic, and lymphoplasmacytic, diffuse, marked with, and neutrophilic and lymphoplasmacytic bronchitis and bronchiolitis **(3 pt.)**.

2. Lymph node: Reactive hyperplasia, diffuse, moderate. **(1 pt.)**

CAUSE: *Mycoplasma sp.* **(1 pt.)** and feline calicivirus **(2 pt.)**

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