WSC 2011-2012, Conference 15

Case 1. Tissue from a cat.

(Great entity, but due to the lack of identifiable features, a poor descriptive slide.)

MORPHOLOGIC DESCRIPTION: Stomach: The mucosa is discontinuous with large areas of ulceration. Within these areas, the exposed submucosa is replaced by a combination of granulation tissue **(1pt.)** granulation tissue with numerous vertically oriented dilated capillaries with reactive endothelium, separated by large numbers of neutrophils **(1pt.)**, eosinophils **(2pt.)**, histiocytes **(1pt.)**, lymphocytes, plasma cells, hemorrhage, fibrin, edema, and cellular debris. Multifocally, the granulation tissue is covered by a crust of degenerate neutrophils and eosinophils, fibrin, and cellular debris **(1pt.)**. Subjacent to the granulation tissue, there is a network of abundant dense hyaline fibrous connective tissue bands which contains large proliferating fibroblasts **(1pt.)** with prominent nuclei and nucleoli. In between are numerous infiltrating macrophages, eosinophils, neutrophils, lymphocytes, and rare plasma cells, admixed with small amounts of cellular debris **(2pt.)**. The serosa is thickened by increased fibrous connective tissue and lesser numbers of previously described inflammatory cells **(1pt.)**. Within the remaining mucosa, there are dnse baseal lymphoid follicles with germinal centers, glands are reduced in number and separated by numerous lymphocytes and lesser plasma cells and neutrophils, and rare glands are mildly ectatic and contain sloughed epithelial cells admixed with neutrophils and cellular debris. **(1pt)**

MICROSCOPIC DIAGNOSIS: Stomach: Necrosis, focally extensive, with marked fibrosis and eosinophilic and histiocytic inflammation **(2pt.)**

NAME THE CONDITION: Feline gastrointestinal eosinophilic sclerosing fibroplasia **(4pt.)**

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

NOTE: There is some significant slide variation – some sections do not have pylorus.

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Case 2. Tissue from a dog.

MORPHOLOGIC DESCRIPTION: Heart: Scattered throughout the myocardium are areas of cardiomyoctye degeneration **(1 pt)** ranging up to 1mm by 1 mm. Within these areas, myofibers are shrunken, eosinophilic, hyalinized, **(1 pt)** with pyknotic nuclei, and contain abundant mineral. **(1 pt)** Within and adjacent to these areas, the interstitial connective tissue is expanded by edema and low to moderate numbers of neutrophils, fewer histiocytes, and small amounts of cellular debris **(1 pt)**. There is multifocal myocardial loss **(1 pt)** with dense bands of fibrous connective tissue **(1 pt)** and increased amounts of adipocytes **(1 pt)** traversing the section – myocytes in these areas are mildly shrunken (atrophy).

Skeletal muscle (diaphragm): There is marked loss **(1 pt)** of myofibers with replacement with abundant well-differentiated fat **(1 pt)**. Remaining myofibers are widely separated by adipose tissue and bands of dense collagen **(1 pt)**. Within them, myocytes are shrunken and hyalinized (degeneration) **(1 pt)**, and surrounded by variably thick septa of fibrous connective tissue and infiltrating adipocytes. **(1 pt)** Multifocally, rare myocytes are mineralized **(1 pt)** and there are small aggregates of lymphocytes adjacent to several small vessels.

MICROSCOPIC DIANGOSIS: 1. Heart, myocardium: Degeneration, necrosis, and loss, multifocal, with myocardial fibrosis and mineralization. **(2 pt)**

2. Diaphragm: Myofiber atrophy, and loss, diffuse, moderate with myoctye atrophy and marked fatty infiltration. **(2 pt)**

NAME THE CONDITION: Muscular dystrophy **(2 pt)**

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

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Case 3. Tissue from a sheep.

MORPHOLOGIC DESCRIPTION: Liver: Diffusely, hepatocytes are swollen **(1pt)** by the presence of numerous clear vacuoles in their cytoplasm **(1pt)**, distorting normal hepatic plate architecture **(1pt)** (degeneration). Lobules are smaller than normal, with decreased space between portal and centrilobular areas due to hepatocellular loss. There is marked variation in nuclear size **(1pt)**, and cytoplasmic invaginations **(1pt)** are common. Mitotic figures are also common, and some are bizarre. **(2pt)** Randomly within the lobule, hepatocytes are shrunken, hypereosinophilic, rounded up, and have pyknotic nuclei (necrosis) **(1pt)**, and occasionally mixed with small numbers of neutrophils and cellular debris. Biliary ductules are often dilated with yellow plugs of bile **(1pt)** (intracanalicular cholestasis) **(1pt)**. Kupffer cells are diffuse hyperplastic **(1pt)**, and occasionally swollen with phagocytosed cellular debris **(1pt)**. There are numerous large nuclei lining sinusoids (Ito cells) **(1pt)**, and the space of Disse is often prominent as a result of wispy collagen **(1pt)** within the sinusoidal space. There is mild expansion of portal areas by collagen, as well as low numbers of lymphocytes and plasma cells. **(1pt)**

MICROSCOPIC DIAGNOSIS: Liver: Hepatocellular degeneration and necrosis, diffuse, moderate, with marked Ito cell hyperplasia, fibrosis, and intracanalicular cholestasis. **(3pt)**

CAUSE: Phompsin toxicosis **(1pt)**

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

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Case 4. Tissue from an ox.

MORPHOLOGIC DESCRIPTION: Lymph node: There is loss of normal follicular architecture **(1pt)**, and the cortex and medulla is infiltrated by sheets of macrophages **(1pt)** with abundant eosinophilic granular cytoplasm which range up to 25 microns with prominent reniform nuclei **(1pt)**. Multinucleated giant cell macrophages are also present **(1pt)** and admixed with pre-existent lymphocytes and large numbers of plasma cells **(1pt)**. Both within histiocytes and in extracellular spaces **(1pt)**, there are numerous round **(1pt)** 7-15 um **(1pt)** algae **(2pt)** with a 1-2um refractile wall, abundant granular purple granular cytoplasm with a prominent nucleus **(1pt)**. Larger algae (sporangia) **(1pt)**contain up to 6 endospores **(1pt)**. Occasional empty, collapsed sporangia and digested refractile sporangial wall remnants are seen within macrophages. **(1pt)**

MICROSCOPIC DIAGNOSIS: Lymph node: Lymphadenitis, granulomatous, diffuse, moderate to marked with numerous intrahistiocytic and extracellular endosporulating algae and moderate plasmacytosis. **(3pt)**

CAUSE: *Prototheca zopfii or Cholorella sp.***(2pt)**

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