WSC 2014-2015, Conference 19

Case 1. Tissue from a ferret.

MICROSCOPIC DESCRIPTION: Lung: Multifocally within the lung, often is subpleural **(1 pt)** or peribronchiolar **(1 pt)** regions, there are numerious nodular aggregates of inflammatory cells measuring up to 2mm in diameter **(1 pt)**. The inflammatory nodules are composed of numerous macrophages **(2 pt)**, often with foamy cytoplasm **(1pt)** due to an intracytoplasmic accumulation of lipid **(2 pt)**, admixed with aggregates of lymphocytes **(1 pt)** and plasma cells **(1 pt)** and moderate amounts of cellular debris , throughout which are scattered moderate numbers of acicular cholesterol clefts **(2 pt)**. There are multifocal areas of metaplastic bone **(1 pt)** within the section.

MORPHOLOGIC DIAGNOSIS: Lung: Histiocytosis, subpleural,multifocal, moderate with abundant intracellular lipid and numerous cholesterol clefts. **(4 pt)**

NAME THE CONDITION: Endogenous lipid pneumonia **(2 pt)**

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

WSC 2015-2015, Conference 19

Case 2. Tissue from a rat.

(NOTE: This seems like a poor descriptive slide, and it is. However, the lesion has been extremely important, as this condition and lesion plagued researchers using rats for decades prior to the identification of the causal agent several years ago.)

MICROSCOPIC DESCRIPTION: Lung: Multifocally, approximately 3% of the alveoli **(1 pt)** are filled by variable combinations and concentrations of foamy alveolar macrophages **(1 pt)**, neutrophils **(1 pt)**, as well as aggregates of lymphocytes**(1 pt)**, and fewer plasma cells **(1 pt)**, admixed with small amounts of fibrin **(1 pt)** and cellular debris. In these areas, alveolar septa are lined by plump type II pneumocytes **(1 pt)** , and septa are expanded **(2 pt)** by macrophages, fewer neutrophils, and mild congestion. Pulmonary arterioles **(2 pt)**are often bounded by moderate numbers of macrophages , admixed with lymphocytes and plasma cells.

MORPHOLOGIC DIAGNOSIS: Lung: Pneumonia, interstitial, histiocytic, multifocal, mild, with lymphocytic perivasculitis. **(3 pt)**

NAME THE CONDITION: Rat respiratory virus **(2 pt)**

CAUSE: *Pneumocystis carinii* **(3 pt)**

O/C: (1 pt)

WSC 2015-2015, Conference 19

Case 3. Tissue from a mouse.

MICROSCOPIC DESCRIPTIONS: Uterus, pancreas, and small intestine **(1 pt)**: Expanding the uterine wall and markedly compressing the lumen, there is a infiltrative, densely cellular, poorly demarcated, unencapsulated, multinodular neoplasm **(2 pt)**. The neoplasm is composed of sheets **(1 pt)** of round cells **(1 pt)** which often spindle on pre-existent stroma **(1 pt)**. Neoplastic cells have indistinct cell borders with a moderate amounts of eosinophilic vacuolated cytoplasm. Nuclei range from irregularly round to elliptical with finely stippled chromatin and 1-2 basophilic nuclei **(1 pt)**. Mitotic figures average 1-2 per 400X field **(1 pt)**. There are large areas of necrosis **(1 pt)** within the neoplasm. The lumen of the uterus, although compressed, is filled with degenerate neutrophils and cellular debris **(1 pt)**, and multifocally, the wall is expanded by granulation tissue, lymphocytes, macrophages, and plasma cells. The neoplasm infiltrates and effaces much of the pancreas, with acini within infiltrated areas demonstrating hypereosinophilia and shrinkage (atrophy). **(1 pt)** There is marked trilinear extramedullary hematopoiesis within the adjacent spleen **(1 pt)**, and mild lymphocytolysis of remaining white pulp.

MORPHOLOGIC DIAGNOSIS: 1. Uterus, mesentery, pancreas, and small intestine: Histiocytic sarcoma **(3 pt)**

2. Uterus: Endometritis, subacute and suppurative, diffuse, moderate. **(2 pt)**

NAME AN ASSOCIATED LESION: Renal tubular proteinosis, **(2 pt)**

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

WSC 2015-2015, Conference 18

Case 4. Tissue from a monkey.

MICROSCOPIC DESCRIPTION: Lung: Affecting 50% of the section is large expansile nodular areas of septal necrosis **(1pt)**. Within these areas, alveoli are maximally expanded by large numbers of neutrophils **(1pt)** admixed with fewer alveolar macrophages **(1pt)**, moderate amounts of edema fluid, polymerized fibrin **(1pt)**, cellular debris, and number intra- and extracellular **(1pt)** 2-3um bacilli **(1pt)** which are often surrounded by clear space **(1pt)** in the extracellular milieu. Rarely, alveoli also contain large multinucleated giant cells **(1pt)** ranging up to 60um. Alveolar septa are maximally stretched and often discontinuous, generally congested, and multifocally lined by plump type II pneumocytes **(1pt)**, and in some areas, fibrotic. Within these areas, bronchi are dilated and filled with a similar cellular and bacteria-laden exudate **(1pt)**; airway epithelium is multifocally degenerate or necrotic, and sloughed into the luminal exudate. **(1pt)** There are fibrin clots **(1pt)** within several large vessels. Within intervening and adjacent unaffected lung, septa are maximally congested, and alveoli contain moderate amounts of edema fluid **(1pt)** and fibrin. The pleura is multifocally expanded by low to moderate numbers of histiocytes, lymphocytes, rare neutrophils, and edema.

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia, necrosuppurative, multifocal to coalescing, severe with numerous intra- and extracellular bacilli. **(3pt)**

CAUSE: *Klebsiella pneumonia* **(3pt)**

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