

WSC 2012-2013, Conference 11

Case 1. Tissue from a Montezuma quail.

**MICROSCOPIC DESCRIPTION:** Lung: There is diffuse hypercellularity of the lungs (**1 pt**), resulting in loss of separation of air capillaries and compression of respiratory atria (**1 pt**). The interstitium is expanded by large numbers of histiocytes (**1 pt**), lymphocytes, plasma cells, and heterophils (**1 pt for all the rest**), multifocally admixed with edema and abundant cellular debris (**1 pt**). There are numerous small foci of necrosis (**2 pt**) scattered throughout the section, in which necrotic histiocytes are admixed with abundant fibrin and cellular debris. The parabronchi are diffusely dilated and respiratory atria and infundibuli often contain hemorrhage, admixed with histiocytes, fibrin, and cellular debris (**1 pt**). The adventitia surrounding pulmonary arterioles is loosely arranged (edema) (**1 pt**) and infiltrated by inflammatory cells as previously described. Histiocytes are multifocally expanded by a large protozoal schizont (**1 pt**) which contains 8-16 crescentic zoites (**1 pt**) measuring 2x4um (**1 pt**).

**MORPHOLOGIC DIAGNOSIS:** Lung: Pneumonia, interstitial, histiocytic and necrotizing, diffuse, moderate with numerous intrahistiocytic protozoal schizonts (**3 pt**)

**CAUSE:** *Sarcocystis* sp. (**3 pt**)

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

(Note: The airway system of the bird goes like this: parabronchi => respiratory atria => infundibulum => air capillaries)

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Case 2. Tissue from a snake.

**MICROSCOPIC DESCRIPTION:** Lung **(1 pt)**: Multifocally, the faveolar interstitium **(1 pt)** and the submucosa of the parabronchi **(1 pt)** are markedly expanded to effaced by numerous well-formed granulomas **(2 pt)** ranging up to 700um in diameter and composed of a central area of brightly eosinophilic necrotic debris **(1 pt)** and degenerating heterophils **(1 pt)** surrounded by a thick layer of epithelioid macrophages **(1 pt)** and multinucleated foreign body giant cells **(1 pt)**. There are lesser numbers of viable heterophils scattered among the macrophages **(1 pt)**, and higher numbers of heterophils surround the granulomas, where they are admixed with moderate numbers of lymphocytes **(1 pt)** and plasma cells enmeshed in concentric layers of mature collagen and fibroblasts **(1 pt)**. Granulomas located within the parabronchial submucosa form polypoid projections **(1 pt)** occluding 50-60% of the airway lumen, which also contains moderate amounts of pink proteinaceous edema fluid **(1 pt)** and sloughed degenerate epithelial cells. Similar proteinaceous fluid fills faveolae throughout the section. In one area of the section, in the absence of well-formed granulomas, the faveolar interstitium is expanded by moderate numbers of histiocytes and heterophils **(1 pt)**. Multifocally, pneumocytes occasionally pile up in a disorganized fashion and exhibit an increased mitotic rate (hyperplasia.)

**MORPHOLOGIC DIAGNOSIS:** Lung: Pneumonia, interstitial, granulomatous, diffuse, severe. **(2 pt)**

**ETIOLOGIC DIAGNOSIS:** Pulmonary mycobacteriosis **(2 pt)**

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

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Case 3. Tissue from a deer.

NOTE: (There is marked variation in slides) This slide had less severe inflammation and did not have choroid plexus.) In slides with choroid plexus, there is severe lymphoblastic choroiditis !wow! and necrotizing lesion of arteries that approach fibrinoid necrosis. My slide didn't have either of those...)

**MICROSCOPIC DESCRIPTION:** Cerebrum at level of lateral ventricles (**1 pt**): Multifocally, primarily within the meninges (**1 pt for location**), but also deeper within the neuropil, walls of arteries (**1 pt**) and larger venules are surrounded by low to moderate numbers of lymphocytes (**1 pt**) with fewer histiocytes (**1 pt**) and neutrophils (**1 pt**). Occasionally, inflammatory cells are present within the walls (**2 pt**) of arteries and large caliber veins, where they are admixed with small amounts of cell debris (**1 pt**) and serum proteins (vasculitis) (**2 pt**). Similar inflammatory cells are present in small numbers within the meninges (**1 pt**).

**MORPHOLOGIC DIAGNOSIS:** Cerebrum: Arteritis and phlebitis, lymphocytic, multifocal, moderate with vasculitis and lymphohistiocytic meningitis. (**3 pt**)

**NAME THE DISEASE:** Malignant catarrhal fever (**1 pt**)

**CAUSE:** Ovine herpesvirus-2 (or any other virus associated with MCF except cervine herpesvirus) (**2 pt**)

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

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Case 4. Tissue from a common Northern boa.

**CYTOLOGIC DESCRIPTION:** Peripheral blood. There is a peripheral leukocytosis (**1 pt**) with a predominance of small lymphocytes (**2 pt**) with fewer intermediate-sized lymphocytes (**1 pt**). Many lymphocytes contain a single lightly basophilic to amphophilic intracytoplasmic homogenous protein inclusion (**2 pt**) which peripheralizes the nucleus. These inclusions are mildly pleomorphic (**1 pt**), ranging from round to oval to elongate (**1 pt**) with a diameter of 2-6 $\mu$ m (**1 pt for any measurement**). Smaller round inclusions (1-3 $\mu$ m) are noted in moderate numbers of erythrocytes (**2 pt**). Erythrocytes are adequate in number, with mild polychromasia (**1 pt**) and rare circulating rubricytes and metarubricytes (**1 pt**). Thrombocytes are adequate in number with normal morphology (**1 pt**).

**MORPHOLOGIC DIAGNOSIS:** Blood smear: Marked lymphocytosis with numerous intralymphocytic and intraerythrocytic intracytoplasmic viral inclusions. (**3 pt**)

**NAME THE DISEASE:** Boid inclusion disease (**2 pt.**)

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