WSC 2017-2018 Conference 7

Case 1 – Tissue from a goat.

MICROSCOPIC DESCRIPTION: Thymus: Expanding the thymus, there is an unencapsulated, infiltrative, moderately cellular poorly demarcated neoplasm. **(1pt)** Neoplastic epithelial **(1pt)** cells are arranged in sheets **(1pt)** on a pre-existent stroma. Neoplastic cells have indistinct cell borders with a moderate amount of finely granular eosinophilic cytoplasm. **(1pt)** Nuclei are irregularly round to oval with coarsely stippled chromatin and 1-2 prominent eosinophilic nucleoli. **(1pt)** Mitoses are rare. **(1pt)** Thymic lymphocytes are present in normal numbers and morphology. **(1pt)**

Haired skin: There is diffuse loss of folliculosebaceous units across the section. The superficial dermis is mildly expanded by an interface **(1pt)** dermatitis composed of moderate numbers of lymphocytes **(1pt)** with fewer plasma cells and histiocytes**(1pt)**. Lymphocytes and rare histiocytes occasionally infiltrate the basal epithelium **(1pt)**, resulting in modest intraepithelial edema and expansion of intracellular bridges. There are shrunken and hypereosinophilic (apoptosic) keratinocytes at all levels of the epidermis. **(1pt)**. There is mild congestion and edema within the papillary dermis. There is mild epidermal hyperplasia **(1pt)**, and parakeratotic hyperkeratosis. Multifocally, the stratum corneum is expanded by a serocellular crust with numerous intracorneal pustules **(1pt)** composed numerous degenerate neutrophils admixed with abundant cellular debris and eosinophilic serum. There are several ciliates entrapped in the keratin (contaminants).

MORPHOLOGIC DIAGNOSIS: Thymus: Thymoma, (lymphocytic type). **(3pt)**
2. Haired skin: Dermatitis, lymphocytic, interface, diffuse, mild to moderate with multifocal epithelial apoptosis. **(1pt)**

NAME THE CONDITION: Thymoma-associated exfoliative dermatitis **(1pt)**

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

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Case 2 – Tissue from a dog.

MICROSCOPIC DESCRIPTION: Pericardium **(1pt)** and pericardial fat: The pericardium is expanded by an unencapsulated, densely cellular, infiltrative, well-demarcated and arborizing neoplasm. **(1pt)** Neoplastic cells are arranged in sheets **(1pt)** and papillary and micropapillary projections **(1pt)** on a pre-existent stroma. Neoplastic cells have indistinct cell borders with a moderate amount of vacuolated **(1pt)** basophilic cytoplasm **(1pt).** Nuclei are irregularly round to oval with finely clumped chromatin and 1-3 eosinophilic nucleoli. **(1pt)** Mitotic rate averages 6-7/400X field. **(1pt)** There is marked anisocytosis and anisokaryosis. **(1pt)** There is abundant single-cell necrosis as well as small foci of necrosis **(1pt)**, and congested vessels occasionally contain fibrin thrombi. The adjacent pericardial fat and a large segment of pericardium is expanded by a thick sheet of granulation tissue **(1pt)**. The pericardial fat also contains a multilocularcyst **(1pt)** which is lined by tall cuboidal ciliated **(1pt)** epithelium. Subjacent to the epithelial lining are moderate numbers of lymphocytes. The cyst lumen is filled with small amounts of hemorrhage and polymerized fibrin.

MORPHOLOGIC DIAGNOSIS: 1. Pericardium: Mesothelioma **(4pt)**
2. Pericardial fat: Branchial cyst. **(2pt)**

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

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Case 3 – Tissue from a calf.

MICROSCOPIC DESCRIPTION: Brainstem **(1pt)**: Multifocally expanding the walls **(1pt)** of vessels throughout the section and extending into the surrounding neuropil **(1pt)** are moderate numbers of lymphocytes **(1pt)** and macrophages **(1pt)** with fewer neutrophils **(1pt)**, plasma cells and necrotic debris (necrotizing vasculitis) **(2pt)**. Occasional vessels contain fibrin thrombi **(1pt)**, and some contain fibrin within the wall and perivascular space. There is mild multifocal edema adjacent to affected vessels. **(1pt)** There are numerous aggregates of microglia (glial nodules) **(1pt)** throughout the section which are infiltrated by low numbers of lymphocytes, and a moderate diffuse gliosis **(1pt)** is present throughout the section. There are rare foci of parenchymal necrosis **(1pt)** in which there is infiltration of moderate numbers of degenerate neutrophils admixed with edema and cellular debris. **(1pt)** Low numbers of lymphocytes and histiocytes are present within the meninges.

MORPHOLOGIC DIAGNOSIS: Brainstem: Meningoencephalitis, lymphohistiocytic **(1pt)** and neutrophilic **(1pt)**, multifocal, moderate, with necrotizing vasculitis **(1pt)**.

CAUSE: *Chlamydophila pecorum* **(2pt)**

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

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Case 4 – Tissue from a cat.

MICROSCOPIC DESCRIPTION:

Lung (multiple sections): Multifocally, bronchiolar lumina are filled by large numbers of degenerate and streaming neutrophils **(1pt.)** (oat cells) **(1pt.)**, large numbers of necrotic, sloughed airway epithelium **(1pt.)** fewer macrophages, and abundant karyorrhectic (necrotic) debris **(1pt.)**. Airway epithelium is segmentally necrotic **(1pt.)** and lost, and the luminal border of these cells (and remaining intact epithelium) contains numerous attached basophilic rods. **(1pt.)** This inflammatory exudate often extends into and fills adjacent alveoli. **(1pt.)** Within less affected areas, alveoli contain various combinations and concentrations of neutrophils and macrophages admixed with edema, polymerized fibrin, and hemorrhage. **(1pt.)** Alveolar septa are diffusely expanded up to five times normal diameter **(1pt.)** by abundant edema, fibrin **(1pt.)**, congestion, hypertrophic pulmonary intraseptal macrophages and increased numbers of circulating neutrophils. **(1pt.)** There are multifocal, randomly scattered, vaguely nodular areas of lytic septal necrosis **(1pt.)** (likely adjacent to bronchioles outside the plane of section), in which septal architecture is replaced by innumerable degenerate neutrophils, cellular debris, polymerized fibrin, hemorrhage, and edema. Pulmonary veins often contain fibrinocellular thrombi, **(1pt.)** and perivascular connective tissue is diffusely edematous. Multifocally, the pleura contains small numbers of lymphocytes, plasma cells, and macrophages. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Lung: Bronchopneumonia, necrosuppurative, **(1pt.)** diffuse, marked with diffuse fibrinous interstititial pneumonia **(1pt.)**, vascular thrombosis, and numerous cilia-associated bacteria. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Bordetella bronchiseptica. **(2pt.)**

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