WSC 2016-2017, Conference 13

Case 1. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Prostate: There is diffuse moderate glandular hyperplasia **(2 pt.)**. Approximately 75% of the gland is infiltrated by moderate to large numbers of lymphocytes **(1 pt.)** and fewer neutrophils **(1 pt.)** and macrophages **(1 pt.)**, which expand the interstitium and infiltrate and replace glands **(1 pt.)**. Within the inflamed areas, glands are multifocally effaced and glandular epithelium is necrotic **(1 pt.)** and sloughed into the lumen and admixed with moderate amounts of eosinophilic protein **(1 pt.)** and cellular debris **(1 pt.)**. There is a focally extensive area in which centrally, glands and interstitium have lost their differential staining (coagulative necrosis) **(1 pt.)**; bordering glands are largely replaced by abundant cellular debris (lytic necrosis) **(1 pt.)**.

Epididymis: Multifocally, the interstitium **(1 pt.)** is expanded by low to moderate numbers of lymphocytes **(1 pt.)** and plasma cells **(1 pt.)**

MORPHOLOGIC DIAGNOSIS: Prostate gland: Prostatitis, suppurative and lymphoplasmacytic, chronic, multifocal to coalescing, severe **(2pt.)**.

Epididymis: Epididymitis, lymphocytic, multifocal, mild. **(1 pt.)**

CAUSE: *Brucella canis* **(2pt.)**

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

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Case 2. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Cerebrum: Within the white matter **(1pt.)** and multifocally extending into the gray matter of the brain stem, there is an unencapsulated, poorly-demarcated, moderately-cellular infiltrative neoplasm **(2pt.)** composed of polygonal cells **(1pt.)** in a honeycomb formation **(1pt.)** supported by a scant fibrovascular stroma **(1pt.)**. Neoplastic cells have distinct cell borders, a moderate amount of eosinophilic, finely-granular cytoplasm, and **(1pt.)** a prominent perinuclear clear zone (perinuclear halo) **(1pt.)**. Neoplastic cells have one round, hyperchromatic central to paracentral nucleus with an indistinct nucleolus. **(1pt.)** Mitoses are rare. **(1pt.)** Numerous prominent blood vessels lined by cuboidal epithelium **(1pt.)** form glomerular sprouts **(1pt.)** throughout the neoplasm. The adjacent neuropil contains moderate to large numbers of astrocytes and glial cells (gliosis) **(1pt.)** as well as moderate edema **(1pt.)** and small amounts of hemorrhage.

MORPHOLOGIC DIAGNOSIS: Cerebrum: Oligodendroglioma **(4 pt.)**

NAME AN APPROPRIATE IMMUNOSTAIN: Olig-2 **(1pt.)**

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

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Case 3. Tissue from an ox.

MICROSCOPIC DESCRIPTION: Haired skin: There is diffuse marked epidermal hyperplasia and hyperkeratosis. Variably thick plaque-like layers of compacted keratin **(1 pt.)** span numerous follicles **(1 pt.)** often deeply extending **(1 pt.)** into them, and multifocally contain viable and degenerate neutrophils **(1 pt.)**, cellular debris,, cross sections of dysplastic pigmented hair shafts, and abundant cocci. The stratum spinosum, granulosum and corneum are markedly expanded **(1 pt.)**, and often obscure the ostia of hair follicles. Along the epidermal surface, the epidermis is multifocally eroded and infiltrated by moderate numbers of degenerate neutrophils **(1 pt.)**admixed with cellular debris, which often form small vesicles within the epidermis. Keratinocytes adjacent to these areas of inflammation in both the epidermis and deep within inflamed follicles often are expanded by marked intracellular edema **(1 pt.)**. Scattered throughout the epidermis, but most prominent in the hair follicles, there are low to moderate numbers of bright pink, apoptotic keratinocytes **(1 pt.)**. There is multifocal suppurative folliculitis **(1 pt.)** and remaining hair shafts within follicles are often thin, split, and/or twisted and the demarcation between cortex and medulla is indistinct **(1 pt.)**. The superficial dermis is diffuse hypercellular with numerous foci of infiltrating neutrophils and necrotic debris scattered through a background of diffuse infiltration of moderate numbers of lymphocytes and macrophages. **(1 pt.)** The adjacent, more normal skin is covered by thin discrete plaques of basket-weave orthokeratotic hyperkeratosis, has a mildly thickened epidermis, an edematous and slightly fibrotic dermis which is infiltrated by low to moderate numbers of neutrophils and lymphocytes primarily in perivascular areas, dilated apocrine glands, and thin, twisted hair shafts as previously described. **(1 pt.)**

MORPHOLOGIC DIAGNOSIS: Haired skin: Epidermal dysplasia **(1 pt.)**, diffuse, severe, with focally extensive epidermal and follicular compact orthokeratotic hyperkeratosis **(1 pt.)**, suppurative and pustular epidermitis and folliculitis **(1 pt.)**, and follicular dysplasia **(1 pt.)**

NAME THE CONDITION: Icthyosis congenital **(3 pt.)**

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

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CASE 4. Tissue from a cat.

MICROSCOPIC DESCRIPTION: Spleen: The red pulp is markedly and asymmetrically expanded **(1 pt.)** by large areas of congestion **(1 pt.)**, hemorrhage **(1 pt.)**, and fibrin **(1 pt.)** deposition which effaces normal sinusoidal splenic architecture. Scattered throughout the section are multifocal, poorly demarcated areas which contain a foamy **(1 pt.)**, lightly eosinophilic cellular infiltrate composed of innumerable macrophages **(1 pt.)** which often contain a single light pink nucleus (trophozoite nucleus) **(2 pt.)**. Scattered thoughout this infiltrate is a small amount of hemorrhage and fibrin. **(1 pt.)** Throughout the remainder of the section, blood vessels are markedly dilated and partially occluded by fibrin thrombi. **(1 pt.)** Sinusoids are also often dilated and or occluded by polymerized fibrin **(1 pt.)** . There is diffuse mild extramedullary hematopoiesis. **(1 pt.)**

MORPHOLOGIC DIAGNOSIS: Spleen: Splenitis, granulomatous, multifocal to coalescing, severe, with thrombosis, sinusoidal fibrin deposition, and numerous fungal trophozoites.

2. Spleen, red pulp: Extramedullary hematopoiesis, diffuse, mild to moderate.

CAUSE: *Pneumocystis carinii (***2 pt.)**

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