WSC 2012-2013, Conference 20

Case 1. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Mammary gland: Within the dermis, there is a poorly cellular, infiltrative, unencapsulated, poorly demarcated neoplasm **(2 pt)**. Neoplastic cells are distributed in an individualized **(1 pt)** fashion, rarely forming nests and acini **(1 pt)** on a dense fibrous stroma **(1 pt)**. Neoplastic cells are polygonal **(1 pt)** to spindled range up to 50 um in diameter with distinct cell borders and a moderate amount of eosinophilic cytoplasm **(1 pt)** and occasionally have a single discrete clear vacuole **(1 pt)**, which occasionally contains neutrophils. Nuclei are irregularly round with finely stippled chromatin and 1-2 large eosinophilic nucleoli **(1 pt)**. There is moderate anisocytosis and anisokaryosis. Mitotic figures average 1/400x field **(1 pt)**. They often fill and expand lymphatics **(2pt)**, and surrounding tissue is often edematous. In a large portion of the neoplasm, neoplastic cells line mammary ducts **(1 pt)**, proliferating up to 5 cells deep **(1 pt)** and expanding the ductal lumen. Apoptotic cells are common within ducts, and many ducts lined with neoplastic cells contain low numbers of neutrophils **(1 pt)** admixed with cellular debris, and ducts are surrounded by low to moderate numbers of lymphocytes **(1 pt)**, with fewer plasma cells, histiocytes, and hemosiderin-laden macrophages.

MORPHOLOGIC DIAGNOSIS: Mammary gland: Anaplastic mammary carcinoma **(3pt)**

O/C: (1 pt)

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Case 2. Tissue from a cat.

MICROSCOPIC DESCRIPTION: Haired skin: Within the dermis, elevating a mildly hyperplastic hyperkeratotic epidermis and multifocally surrounding **(1 pt)** follicles and adnexa are multiple nodules composed of high numbers of macrophages **(2 pt)** and fewer neutrophils **(2 pt)** with low numbers of largely perivascular lymphocytes **(1 pt)** and plasma cells **(1 pt)**. Macrophage cytoplasm is greatly expanded **(1 pt)** by 4-10 um **(1 pt)** diameter, round to elongate **(1 pt)**, lightly eosinophilic yeasts that are surrounded by a clear halo **(1 pt)**. Multifocally, there are extracellular yeasts free within these nodules. The overlying dermis is loosely arranged (edema) **(1 pt)** and low to moderate numbers of foamy macrophages, often in perivascular areas. The mildly hyperplastic **(1 pt)** epidermis is multifocally characterized by mild acanthosis and spongiosis **(1 pt)**.

MORPHOLOGIC DIAGNOSIS: Haired skin: Dermatitis, pyogranulomatous, multifocal to coalsescing, severe with numerous intrahistiocytic yeasts. **(3 pt)**

CAUSE: *Sporothrix schenkii (Cryptococcus OK too, due to size. Too big for Histo, sorry!)* **(2 pt)**

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

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Case 3. Tissue from a dog.

(NOTE: THERE IS SLIDE VARIATION. SOME SLIDES HAVE EPIDERMAL CLEFTING WHILE OTHERS DON'T).

MICROSCOPIC DESCRIPTION: Haired skin: Multifocally, there are areas of epidermal acanthosis **(1pt)** powith mild orthokeratotic and parakeratotic hyperkeratosis **(1pt)**. Within these areas, at all levels of the epidermis **(2pt)**, there are low to moderate numbers of individual and small groups of eosinophilic, shrunken **(1pt)**, apoptotic **(2pt)** keratinocytes with pyknotic nuclei. Rarely, these apoptotic cells are surrounded by 1-4 lymphocytes (satellitosis). Other keratinocytes exhibit hydropic degeneration **(1pt)** with peripheralization of nuclei. There is multifocal pigmentary incontinence. Within the superficial dermis, there is a mild interface dermatitis **(1pt)** consisting of low numbers of neutrophils **(1pt)**, lymphocytes **(1pt)** and plasma cells, which multifocally infiltrate the epidermis, and which, with mild superficial edema **(1pt)**, result in a smudged appearance to the dermal-epidermal junction. Similar changes are present within hair follicles **(1pt)**.

MORPHOLOGIC DIAGNOSIS: Haired skin: Apoptosis, transepidermal, epidermal and follicular, multifocal, with necrosis, hydropic degeneration, subepidermal clefting, orthokeratotic hyperkeratosis, and neutrophilic and lymphohistiocytic interface dermatitis **(4pt)**

NAME THE CONDITION: Erythema multiforme **(2pt)**

O/C: (1pt)

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Case 4. Tissue from a dog.

MICROSCOPIC DESCRIPTION: Lung: Effacing approximately 70% of the section and filling a large airway **(1pt)**, there is a well-demarcated, unencapsulated, moderately cellular, infiltrative **(1pt)**, multinodular neoplasm . Neoplastic cells are arranged in ribbons **(1pt)** and nests on a moderately dense fibrous stroma **(1pt)**. Neoplastic cells are polygonal to spindled with indistinct cell borders and a small amount of homogenous amphophilic cytoplasm **(1pt)**. Nuclei are irregularly round with finely clumped chromatin and 1-2 round eosinophilic nucleoli. **(1pt)** Mitotic figures average 1 per 400XHPF **(1pt)**. Individual and small groups of cells exhibit abrupt keratinization **(2pt)**, and there are large nests of cells in which extensive areas of central keratinization has resulted in the formation of ghost cells **(2pt)**. There are large areas of necrosis **(1pt)** throughout the neoplasm, or centrally within neoplastic lobules (comedo necrosis). Neoplastic cells are scattered throughout the remainder of the lung parenchyma, both as individual and clusters of cells within the alveolar spaces **(1pt)** where they are admixed with low to moderate numbers of alveolar macrophages **(1pt)**, edema fluid **(1pt)**, hemorrhage,and cellular debris, as well as within capillaries **(1pt)** of the fibrotic **(1pt)** alveolar septa.

MORPHOLOGIC DIAGNOSIS: Lung: Metastatic pilomatrixoma (trichoepithelioma OK) **(3pt)**

O/C: (1pt)