

WSC 2017-2018 Conference 18

Case 1 – Tissue from a horse.

MICROSCOPIC DESCRIPTION: Haired skin. Within this tissue, extending from the deep dermis and elevating the overlying superficial atrophic dermis and epidermis, effacing adnexa and compressing adjacent adnexa on the periphery **(1 pt.)**, there is an unencapsulated, well-demarcated, infiltrative, moderately cellular, multilobulated and vaguely nodular neoplasm **(2 pt.)**. The neoplasm is composed of nests and packets **(1 pt.)** of polygonal **(1 pt.)** cells on a fine fibrovascular stroma **(1 pt.)**. At the periphery, neoplastic cells instead form ribbons **(1 pt.)** within the overlying mildly edematous dermis. Neoplastic cells have a moderate amount of finely granular centrally placed eosinophilic cytoplasm (cleared at the periphery) **(1 pt.)** with distinct cell borders **(1 pt.)**. Nuclei are irregularly round with finely clumped chromatin and 1-2 small basophilic nucleoli **(1 pt.)**. Mitotic figures are rare **(1 pt.)**. There are aggregates of small numbers of lymphocytes scattered adjacent to the neoplasm. **(1 pt.)** There is mild overlying orthokeratotic hyperkeratosis.

MORPHOLOGIC DIAGNOSIS: Haired skin: Glomus tumor **(5 pt.)**

NAME TWO APPROPRIATE IMMUNOHISTOCHEMICAL STAINS: Vimentin, smooth muscle actin, desmin **(2 pt.)**

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

Case 2 – Tissue from a piglet

MICROSCOPIC DESCRIPTION: Haired skin: The deep dermis is markedly expanded by edema **(1pt)** which separates individual collagen fibers and bounded at the superficial edge by a dense band of inflammatory cellular debris **(1pt)**. Numerous small 2-4 small bacilli **(1pt)** separate the collagen fibers and there is an infiltrate of large number of viable and degenerate neutrophils **(1pt)** admixed with fewer foamy macrophages and abundant cellular debris. Vessel walls are expanded by transmigrating neutrophils admixed with granular protein, polymerized fibrin, and cellular debris **(1pt)** (vasculitis) **(1pt)**, and are often occluded by fibrin or fibrinocellular thrombi. **(1pt)** Thrombi often contain bacilli as well. Similar but less severe changes are seen in the superficial dermis. Myocytes of the panniculus carnosus are shrunken, mildly eosinophilic (atrophic) and separated by edema, bacteria and infiltrating neutrophils. **(1pt)** Vessels in the superficial dermis are markedly congested and contain bacilli, but vasculitis and thrombosis is rare. Dermal lymphatics are expanded and contain moderate numbers of neutrophils, fibrin, and hemorrhage. **(1pt)** There is marked degeneration and necrosis of apocrine glands, whose lumen is filled with sloughed epithelium, occasional neutrophils, and cellular debris. **(1pt)** There is multifocal necrosis of follicles especially at the base of the follicles with pyknosis, and intracellular and intracellular edema. **(1pt)** The superficial dermis is markedly congested, and there is multifocal hemorrhage **(1pt)** and colonies of bacilli. There is mild intracellular edema of epidermal keratinocytes, with multifocal erosions and pustule formation. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Haired skin: Dermatitis, necrotizing **(1pt)**, diffuse, severe, with vasculitis **(1pt)**, thrombosis **(1pt)**, apocrine gland, follicular and epidermal necrosis, and numerous extracellular bacilli. **(1pt)**

CAUSE: *Pasteurella multocida* **(pt)**

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

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Case 3 – Tissue from a cat.

MICROSCOPIC DESCRIPTION: Mucosal membrane, pinna **(1pt)**: There is profound epidermal hyperplasia of the epidermis and epithelium of the outer root sheath **(1pt)** with formation of long rete ridges extending deeply into the inflamed superficial dermis. There is marked hyperpigmentation of the epithelium at all levels. **(1pt)** The basal epithelium is polygonal and mildly disordered and there are numerous mitotic figures **(1pt)**. There is marked swelling of follicular keratinocytes and scattered shrunken eosinophilic (apoptotic) keratinocytes. There is infiltration of low numbers of eosinophils and neutrophils within the basal epidermis. Overlying the epidermis and filling hair follicles, there is a 3mm **(1pt)** layer of ortho- and parakeratotic hyperkeratotic scale **(1pt)** which contains large aggregates of degenerate neutrophils and eosinophils admixed with abundant cellular debris. **(1pt)** Within the deeper levels of the scale, it becomes lamellated, and admixed with serum, and hemorrhage **(1pt)**. The aggregates of degenerate neutrophils and eosinophils at the deep edges of the crust also infiltrate the superficial layers of the proliferative epidermis **(1pt)**, forming small vesicles and pustules **(1pt)**. The superficial dermis is infiltrated by numerous neutrophils **(1pt)** and eosinophils **(1pt)**. Also present within the dermis, there are numerous mast cells **(1pt)** which are arranged in sheets and cords. Apocrine glands are diffusely dilated and contain various combinations and concentrations of secretory material, sloughed epithelium, degenerate neutrophils, and cellular debris. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Haired skin, pinna: Otitis externa **(1pt)**, proliferative **(1pt)** and hyperkeratotic **(1pt)**, with luminal

Name the condition: Feline proliferative and necrotizing otitis externa **(2pt)**

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

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Case 4 – Tissue from a horse:

MICROSCOPIC DESCRIPTION: Haired skin: The deep dermis and panniculus **(1pt.)** is markedly expanded by abundant edema **(1pt.)** and hemorrhage **(1pt.)** which separates collagen fibers. Vascular bundles are surrounded and highlighted by a marked cellular infiltrate. **(1pt.)** Vascular walls are thickened by hypertrophic endothelium **(1pt.)** and occasionally hyalinized and markedly expanded/effaced by variable combinations and concentrations of extruded protein **(1pt.)**, polymerized fibrin, neutrophils, and eosinophilic and basophilic granular debris **(1pt.)** (vasculitis) **(1pt.)**. These vessels are often surrounded by small proliferating vessels and dis cohesive endothelial cells project into the surrounding edematous dermis. **(1pt.)** Large numbers of neutrophils surround these vessels as well as extend into the surrounding dermis. **(1pt.)** Within vascular bundles, lymphatics are dilated **(1pt.)** and filled with high-protein fluid as well as moderate numbers of neutrophils. Similar changes are seen, but lesser severe in the superficial dermis **(1pt.)**.

MORPHOLOGIC DIAGNOSIS: Haired skin, dermis and panniculus: Vasculitis **(1pt.)**, necrotizing **(1pt.)**, diffuse, severe, with marked hemorrhage and edema **(1pt.)** and moderate neutrophilic dermatitis.

CAUSE: *Streptococcus equi* var. *equi* **(2pt.)**

Name the condition: Purpura hemorrhagica **(2pt.)**

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