

WSC 2020-2021

Conference 11, Case 1.

Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Haired skin, multiple biopsies (changes from all biopsies are summarized here. Expanding the mid- to superficial dermis **(1pt.)**, elevating the overlying hyperplastic and multifocally ulcerated epidermis, there is an inflammatory infiltrate which tracks downward along adnexa **(1pt.)**. The infiltrate is composed of innumerable polygonal to spindled histiocytes **(2pt.)** which range from 8-15um in diameter **(1pt.)** with indistinct cell borders and a moderate amount of finely granular eosinophilic cytoplasm. **(1pt.)** Nuclei are irregularly oval to spindled nuclei with finely stippled chromatin and 1-2 basophilic nucleoli. Mitoses average 5 per 2.37mm<sup>2</sup> field. **(1pt.)** Multifocally there are individual and small clusters of apoptotic histiocytes. There are numerous lymphocytes **(1pt.)** scattered throughout the infiltrated, often in aggregates, admixed with fewer plasma cells, neutrophils **(1pt.)** and small amounts of cellular debris. The overlying epidermis is moderately hyperplastic **(1pt.)**, with a prominent basal cell layer, and expanded stratum spongiosum and loss of the granular cell layer, expansion of the stratum corneum and mild parakeratotic hyperkeratosis **(1pt.)**. These changes occasionally extend into follicular ostia **(1pt.)** which lack hair shafts and are expanded by keratin debris. Multifocally the epithelium demonstrates partial to full thickness necrosis **(1pt.)**, with marked inter-and intracellular edema **(1pt.)** and formation of a serocellular crust with abundant viable and degenerate neutrophils, mixed with serum, fibrin, and abundant cellular debris. Subjacent to areas of ulceration, within the superficial dermis, there is multifocal hemorrhage and siderosis.

**MORPHOLOGIC DIAGNOSIS:** Langerhans cells histiocytosis **(4pt.)**

**GIVE TWO APPROPRIATE DIFFERENTIAL DIAGNOSES BASED ON THIS H&E SLIDE:**

1. Cutaneous histiocytoma **(1pt.)**
2. Cutaneous histiocytosis **(1pt.)**

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

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Conference 11, Case 2.

**MICROSCOPIC DESCRIPTION:** Glabrous skin, pinna: **(1pt.)** Within the dermis, extending to the overlying epidermis, entrapping and effacing adnexa, **(1pt.)** there is a multinodular **(1pt.)** infiltrate (a pattern most prominently seen deeper in the dermis) of large numbers of macrophages **(2pt.)**. Macrophages range from 6-10um in diameter **(1pt.)** with moderate amount of finely vacuolated eosinophilic cytoplasm and a single oval nucleus with finely stippled chromatin and 1-3 small basophilic nucleoli. **(1pt.)** There are fewer neutrophils **(2pt.)** scattered randomly through the nodules, and the periphery of the nodule is often bounded by large numbers of lymphocytes, **(2pt.)** often in highest concentrations in perivascular areas, and fewer plasma cells. There are small numbers of lymphocytes and plasma cells surrounding vessels deep to the nodules. The overlying epidermis is mildly hyperplastic **(1pt.)** with occasional long thin rete ridges. There is a focus of acute hemorrhage within the dermis underneath the haired skin of the pinna.

**MORPHOLOGIC DIAGNOSIS:** Haired skin, pinna, ear: Dermatitis, granulomatous, nodular, focally extensive, severe. **(2pt.)**

**NAME THE CONDITION:** Leproid granuloma **(3pt.)**

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

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Conference 11, Case 3.

Tissue from a dog.

**MICROSCOPIC DESCRIPTION:** Kidney: There are multifocal to coalescing areas of hypereosinophilia which are most prominent in the inner portions of the renal cortex **(1pt.)** which correspond to necrosis of glomeruli and tubular epithelium which extend the length of the nephron. Diffusely, glomeruli are necrotic **(1pt.)** with thrombosis of capillary loops **(2pt.)** and segmental to global replacement of capillary loops by granular necrotic debris. **(1pt.)** There is abundant hemorrhage within the necrotic glomeruli as well as within Bowman's space. **(1pt.)** The wall of afferent and intralobular arterioles is often replaced with brightly eosinophilic protein **(1pt.)** with necrosis of mural smooth muscle, and cellular debris (fibrinoid necrosis) **(1pt.)**. There are extensive areas in which there is segmental to total necrosis of tubular epithelium **(2pt.)** with abundant granular luminal debris **(1pt.)** and hemorrhage; these luminal contents may be seen in tubular segments at all levels, including the medulla. **(1pt.)** Other tubules are ectatic with attenuated epithelium and contains luminal protein. **(1pt.)** Tubular proteinosis is especially prominent in the medulla. **(1pt.)** In areas of tubular necrosis, the interstitium is expanded by large numbers of viable and necrotic neutrophils **(1pt.)**, hemorrhage, and cellular debris. **(1pt.)**

**MORPHOLOGIC DIAGNOSIS:** Kidney: Vasculitis, necrotizing **(1pt.)**, glomerular **(1pt.)** and arteriolar, diffuse, severe, with thrombosis **(1pt.)**, and extensive tubular necrosis and proteinosis.

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

WSC 2020-2021

Conference 11, Case 4.

Tissue from a horse.

Haired skin: Within the superficial dermis **(1pt.)**, subjacent to the epithelium, clusters of small vessels have walls that are either effaced by abundant eosinophilic protein **(1pt.)**, or contain variable amounts of protein, hemorrhage **(1pt.)**, and cellular debris **(1pt.)** (vasculitis) **(1pt.)** Occasionally affected vessels are surrounded by two or three lamellations of mature collagen **(1pt.)** and low numbers of lymphocytes and neutrophils **(1pt.)**. There is frequent perivascular hemorrhage and scattered siderophages. **(1pt.)** Within the superficial dermis, subjacent to the epidermis, the subepithelial collagen is smudgy **(1pt.)**, and expanded and interposed by thin amphophilic aggregated elastin filaments **(1pt.)** (solar elastosis) **(1pt.)**. Occasionally within the deeper dermis, vascular walls may contain small numerous of necrotic smooth muscle cells and cellular debris (vasculitis) **(1pt.)** and/or asymmetric nodular areas of mural hyalinosis **(1pt.)**, in which the normal lamellar appearance of the arteriolar wall is lost, and which occasionally contains small amounts of cellular debris. **(1pt.)** The overlying epidermis is moderately acanthotic with mild epidermal and follicular orthokeratotic hyperkeratosis.

MORPHOLOGIC DIAGNOSIS: Haired skin, superficial dermis: Vasculitis **(1pt.)**, necrotizing **(1pt.)**, diffuse, marked, with mild solar elastosis. **(1pt.)**

NAME THE DISEASE: Pastern leukocytoclastic vasculitis, photoaggravated vasculitis **(2pt.)**

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