

WSC 2024-2025
Conference 8, Case 1
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Haired skin: Multiple punch biopsies of skin are submitted and all are similar. Multifocally and segmentally, hair follicles **(1pt.)** and adnexa are small (atrophic) **(1pt.)** and superficial (telogenization) **(1pt.)** and are surrounded by fine collagen fibers which have decreased eosinophilic staining and birefringence. **(1pt.)** Basement membranes are prominent surrounding affected follicles. Hair shafts are occasionally fragmented or replaced with keratin debris. **(1pt.)** There are few lymphocytes and macrophages surrounding the base of the hair shaft. **(1pt.)** There is multifocal orthokeratotic hyperkeratosis which extends down into the ostia of superficial hair follicles. **(1pt.)** and there are focal areas of parakeratotic hyperkeratosis and focal pustule formation. There is regional epidermal hyperplasia overlying affected follicles and one section demonstrates granulation tissue beneath the hyperplastic epithelium. Similar collagenous changes are present deep to the affected hair shafts and extend to the deep margins. **(1pt.)** Within the deep dermis, blood vessels **(1pt.)** are surrounded, infiltrated, and effaced by an inflammatory infiltrate composed of numerous macrophages, lymphocytes, plasma cells and few neutrophils, **(1pt.)** and numerous lymphocytes and plasma cells that often form dense perivascular nodular aggregates and efface vessel walls (vasculitis) **(1pt.)**. there is rare thrombosis of affected vessels. Nodular aggregates of moderate numbers of macrophages, lymphocytes, and plasma cells are scattered throughout all levels of the dermis **(1pt.)** and also infiltrate the pannicular carnosus. **(1pt.)** Within the panniculus carnosus, skeletal muscle fibers are occasionally degenerate with pale eosinophilic sarcoplasm and loss of cross-striations or necrotic with hypereosinophilic fragmented sarcoplasm. **(1pt.)** Similar inflammatory cells often surrounding atrophic nerve fibers which have decreased numbers of axons. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: Haired skin, dermis: Vasculitis **(1pt.)**, lymphohistiocytic **(1pt.)**, multifocal, thrombosis, marked follicular atrophy **(1pt.)**, lymphoplasmacytic dermatitis and mild skeletal muscle and neural atrophy. **(1pt.)**

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

WSC 2024-2025
Conference 8, Case 2
Tissue from a dog.

MICROSCOPIC DESCRIPTION: Haired skin: Multiple punch biopsies of haired skin are submitted for examination and all are similar. Diffusely, hair follicles are moderately ectatic, lack hair shafts **(1pt.)** and contain multiple cross- and tangential sections of linear arthropods **(1pt.)** up to 40µm in diameter and 200µm in length **(1pt.)** with a thin, eosinophilic, chitinous exoskeleton **(1pt.)**; short, jointed appendages **(1pt.)**; a hemocoel; striated muscle; and digestive and reproductive tracts. In 5 of the six biopsies, perifollicular inflammation is limited to few lymphocytes and plasma cells; in one biopsy, perifollicular inflammation is more significant with moderate numbers of lymphocytes **(1pt.)**, plasma cells **(1pt.)**, macrophages **(1pt.)**, neutrophils, and fewer eosinophils **(1pt.)** are present within the perifollicular dermis (suggesting furunculosis outside the plane of section). Follicular ostia contain lamellated keratin debris. Dermal collagen fibers are surrounded and separated by moderate amounts of pale homogenous ground substance **(1pt.)** (mucinosis) **(1pt.)**. Few lymphocytes surround apocrine glands and occasionally small vessels in the dermis **(1pt.)**. There is mild pigmentary incontinence at the base of several unaffected hair follicles. There are low numbers of lymphocytes, plasma cells, eosinophils and mast cells surrounding superficial dermal vessels **(1pt.)**. There is mild multifocal epidermal hyperplasia with overlying orthokeratotic hyperkeratosis. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: 1. Haired skin: Folliculitis, perifolliculitis and dermatitis **(1pt.)**, lymphohistiocytic and eosinophilic, **(1pt.)** diffuse, mild to moderate with numerous intrafollicular mites. **(1pt.)**
2. Haired skin: Mucinosis, diffuse, moderate. **(1pt.)**

CAUSE: Demodex canis **(1pt.)**

Name a likely breed: Shar Pei (based on the mucinosis) **(1pt.)**

WSC 2024-2025
Conference 8, Case 3.
Tissue from a horse.

MICROSCOPIC DESCRIPTION: Penile mucosa **(1pt.)**: The submucosa **(1pt.)** is markedly expanded by numerous coalescing poorly formed granulomas **(2pt.)** which are composed of large numbers of epithelioid macrophages **(1pt.)** which are occasionally centered on cores of foreign body type or Langhans type multinucleated macrophages **(2pt.)** often surrounded by low number of neutrophils **(1pt.)**. One granuloma is centered on abundant eosinophilic necrotic debris. Small to moderate numbers of lymphocytes **(1pt.)** and plasma cells **(1pt.)** are scattered at the periphery, and granulomas are bounded by few wispy lamellae of collagen **(1pt.)**. The overlying epithelium is severely hyperplastic **(2pt.)**, forming exophytic nodules of proliferative squamous epithelium, deep blunt anastomosing rete ridges with multifocal ulceration. **(1pt.)** In areas of epithelial hyperplasia and ulceration, there is an infiltrate of large number of lymphocytes and plasma cells which extends up to the proliferative epithelium. **(1pt.)**

Morphologic Diagnosis: Penis: Balanoposthitis **(1pt.)**, granulomatous **(1pt.)**, diffuse, severe, with Langhans and foreign body type macrophages **(1pt.)** and marked epidermal hyperplasia **(1pt.)** and ulceration.

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

WSC 2024-2025
Conference 8 Case 4.
Tissue from a mouse

MICROSCOPIC DESCRIPTION: Haired skin: Three sections of haired skin are submitted for examination, and all are essentially similar. There is multifocal dysplasia **(2pt.)** of hair follicles **(1pt.)** which produce thin, twisted, hair shafts **(2pt.)** which are often broken **(1pt.)** within the ostia. In some follicles, broken hair shafts are embedded in the follicular wall. **(1pt.)** Low to moderate numbers of neutrophils, **(1pt.)** macrophages **(1pt.)** and lymphocytes **(1pt.)** are clustered around the bulb **(1pt.)** of a number of affected follicles, and around vessels in the deep dermis. There are multifocal serocellular crusts **(1pt.)** replacing the epidermis which contain numerous viable and degenerate neutrophils admixed with abundant cellular and keratin debris, and rare bacterial colonies. In some areas, necrosis is full thickness **(1pt.)** and extends into the superficial dermis where there are numerous infiltrating neutrophils and lymphocytes. **(1pt.)**

MORPHOLOGIC DIAGNOSIS: 1. Haired skin: Trichodysplasia **(1pt.)**, diffuse, moderate, with lymphohistiocytic perifolliculitis and bulbitis **(1pt.)**, and mild multifocal ulcerative dermatitis. **(1pt.)**

NAME THE CONDITION: Primary follicular dystrophy of C57BL/6 mice **(2pt.)**

O/C: (1pt.)