

WSC 2022-2023
Conference 8, Case 1
Tissue from an ox.

MICROSCOPIC DESCRIPTION: Haired skin (presumptively along dorsum due to presence of piloerector muscles): There is diffuse severe hypoplasia **(1pt)** of the epidermis **(1pt)** and follicles. **(1pt)** The epidermis is markedly thinned to 3-4 cell layers thick with one cell layer representing each of the layers of the skin. **(1pt)** There is minimal orthokeratotic hyperkeratosis. **(1pt)** Follicles are decreased in number **(1pt)** with an absence of primary follicles and remaining follicles are in telogen **(1pt)**. Hair shafts are thin and occasionally twisted, **(1pt)** with no formation of the medulla. **(1pt)** Sebaceous glands are mildly decreased in size. **(1pt)** Apocrine glands are decreased in number **(1pt)** and often dilated. **(1pt)** Piloerector muscles are atrophic. **(1pt)** Most of the nuclei within the dermis are of fibroblasts, but there are few scattered lymphocytes and macrophages **(1pt)** The deep dermis is markedly thickened. **(1pt)**

MORPHOLOGIC DIAGNOSIS: Haired skin: Hypotrichosis **(1pt)**, diffuse, severe with trichodysplasia. **(1pt)**

NAME THE CONDITION: X-linked ectodermal dysplasia **(2pt)**

NAME ANOTHER AFFECTED ORGAN: Teeth (anodontia/hypodontia) **(1pt)**

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

WSC 2022-2023
Conference 8, Case 2
Tissue from a hedgehog

MICROSCOPIC DESCRIPTION: Haired skin: Expanding and effacing the deep dermis and subcutis, and approximately 60% of the slide, **(1pt.)** there is a focally extensive 10mm diameter nodule composed of innumerable viable and necrotic neutrophils **(1pt.)**, macrophages **(1pt.)**, lymphocytes **(1pt.)** and plasma cells **(1pt.)** admixed with fewer multinucleated giant cell macrophages of the foreign body type **(1pt.)** ranging up to 60um with up to twenty nuclei and abundant cellular debris. Macrophages often contain effete neutrophils and cellular debris. **(1pt.)** At the periphery, these inflammatory cells separate and surround remnants of subcutaneous adipocytes (lipocysts) and centrifugally, are enmeshed in progressively mature and dense collagen and plump fibroblasts. **(1pt.)** At the periphery of the main nodule, there are dense perivascular aggregates of similar inflammatory cells forming additional smaller nodules, **(1pt.)** and similar cells are dispersed widely in moderate numbers in the adjacent dermis. Scattered throughout the main nodule, there are numerous cross sections of yeasts **(1pt.)** ranging from 6-14um **(1pt.)** and occasionally forming pseudohyphae **(1pt.)** which may be seen in tangential sections. At the periphery of the nodule, inflammatory cells as previously described infiltrate, surround, and replace subcutaneous adipocytes **(1pt.)** and atrophic skeletal muscle. **(1pt.)** Vessels within this area contain numerous circulating and paved neutrophils, as do dilated lymphatics. The overlying superficial epidermis is edematous **(1pt.)** with markedly dilated lymphatics and there are low numbers of macrophages, neutrophils, eosinophilic and macrophages in perivascular areas. **(1pt.)** Apocrine glands are dilated. There is mild orthokeratotic hyperkeratosis.

MORPHOLOGIC DIAGNOSIS: Haired skin: Dermatitis and cellulitis, pyogranulomatous **(1pt.)**, focally extensive, severe, with numerous yeasts **(1pt.)** and pseudohyphae.

CAUSE: *Trichophyton erinaceae* **(2pt.)**

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

WSC 2022-2023
Conference 8, Case 3
Tissue from a calft.

MICROSCOPIC DESCRIPTION: Haired skin: Two sections of haired skin are submitted for examination. Changes are similar in both sections. Diffusely, there is infiltration and effacement of sebaceous glands by an infiltrate of moderate numbers of lymphocytes with few macrophages and rare neutrophils and plasma cells. Lymphocytes often infiltrate the infundibula and ostia of the hair follicles as well, resulting in disorganization of epithelium of the outer root sheath and occasionally apoptosis of these cells. Similar inflammatory cells are present diffusely and in small aggregates in the superficial dermis, with in small aggregates as well as in perivascular areas in the superficial dermis where they are admixed with small numbers of mast cells and eosinophils.. **(1pt)**
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MORPHOLOGIC DIAGNOSIS: 1. Haired skin: Sebaceous adenitis, lymphocytic, diffuse, marked with multifocal mural folliculitis.
2. Haired skin: Dermatitis, eosinophilic and mastocytic, superficial and perivascular, diffuse, mild.

Name the condition: Sebaceous adenitis. **(2pt)**

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

WSC 2021-2022,
Conference 8, Case 4.
Tissue from a dog

MICROSCOPIC DESCRIPTION: Pawpad **(1pt)** and adjacent haired skin: Expanding the pad, elevating the overlying ulcerated glabrous skin, effacing the normal adipose tissue and infiltrating and effacing the eccrine sweat glands **(1pt)** and underlying subcutis, there are multifocal to coalescing poorly-formed granulomas **(1pt)**. The granulomas are composed of innumerable epithelioid macrophages **(1pt)**, and fewer viable and necrotic neutrophils **(1pt)** and foreign body-type macrophages **(1pt)** with scattered fewer lymphocytes **(1pt)** and plasma cells **(1pt)**. Epithelioid macrophages and giant cells often engulf (1 pt.) numerous 5-15um **(1pt)** diameter round to oval thin-walled sporangia **(1pt)** with flocculent amphophilic to deeply basophilic cytoplasm that contain 2 to 4, distinct, basophilic, wedge-shaped endospores **(1pt.)** surrounded by a clear halo (algae) **(1pt)**. Many of the engulfed algae consist only of a collapsed cell wall. Dense fibrous bands separate the granulomas and extend into the surrounding dermis. The dermis subjacent to the ulcerated pad is effaced by granulation tissue, congested and occasionally thrombosed vessels and hemorrhage, and is covered by a serocellular crust and remnant of necrotic epithelium. **(1pt)** The granulomatous inflammation and algal forms extends laterally into the adnexa and dermis of the haired skin. **(1pt)** The epidermis of the haired skin is mildly acanthotic with mild orthokeratotic hyperkeratosis.

MORPHOLOGIC DIAGNOSIS: Pawpad and haired skin: Pododermatitis **(1pt)**, ulcerative and granulomatous **(1pt)**, focally extensive, severe, with numerous intrahistiocytic and extracellular algae**(1pt)**.

CAUSE: *Prototheca sp.* **(3pt.)**

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