

Case 1. Tissue from a cat.

**MORPHOLOGIC DESCRIPTION:** Haired skin: The epidermis is focally and markedly thickened by a poorly demarcated, moderately cellular, unencapsulated, verrucous, and infiltrated neoplasm **(1pt)**. The neoplasm is composed of cords and islands of keratinizing polygonal epithelial cells **(1pt)** on a moderately dense fibrous stroma **(1pt)**. Neoplastic epithelial cells have distinct cell borders and abundant eosinophilic granular to fibrillar cytoplasm **(1pt)**. Nuclei are irregularly round with 1-2 large magenta nuclei **(1pt)**. Nuclei exhibit moderate anisocytosis and anisokaryosis. Mitoses are rare **(1pt)**. Centrally, islands often exhibit central areas of keratinization **(1pt)**. The surrounding epithelium is markedly thickened up to 10-12 cells layers thick and thrown into prominent folds **(1pt)**. Epithelial cells within all levels of the epidermis have a monomorphic appearance, have abundant eosinophilic cytoplasm which occasionally contains melanin granules (hyperpigmentation), large nuclei with prominent nucleoli and mitotic figures are present within all levels **(2pt)** (dysplastic) **(1pt)** – this change extends downward along the outer root sheath of follicles. The dysplastic epithelium is multifocally eroded with a serocellular and hemorrhagic crust, subjacent to this, there is prominent intercellular edema. **(1pt)** The superficial dermis is expanded by varying combinations and concentrations of lymphocytes, plasma cells, neutrophils, and macrophages, numerous mast cells, edema, hemorrhage, and prominent fibroblasts. **(1pt)**

**MICROSCOPIC DIAGNOSIS:** 1. Haired skin: Squamous cell carcinoma. **(3pt)**

2. Haired skin: Bowenoid in situ carcinoma (Bowen's disease, in situ SCC, marked epithelial dysplasia all ok). **(3pt)**

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

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Case 2. Tissue from a cat.

MORPHOLOGIC DESCRIPTION: Ear pinna **(1pt)**. Adjacent to the pinnal cartilage **(1pt)**, there is abundant granulation tissue **(1pt)**, containing large numbers of neutrophils **(2pt)** admixed with lesser numbers of macrophages **(1pt)**, lymphocytes **(1pt)** and plasma cells **(1pt)**, cellular debris, and multifocal hemorrhage. Multifocally, the perichondrium and rarely the outermost edges of the pinnal cartilage is infiltrated by low numbers of neutrophils **(2pt)**. The pinnal cartilage is curled, multifocally thickened, and diffusely eosinophilic. **(2pt)** There is multifocal disorganization of chondrocytes at the border of the pinnal cartilage in areas of heavy inflammation, and rare necrotic chondrocytes. **(1pt)**

MICROSCOPIC DIAGNOSIS: Ear, pinna: Cellulitis, chronic-active, diffuse, moderate, with mild neutrophilic chondritis. **(3pt)**

Name the condition: Auricular chondritis **(2pt)**

Name another affected species: Rats, humans, dog. **(1pt)**

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

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Case 3. Tissue from a cat.

(NOTE: Not really a good descriptive slide – note the changes, and move on.)

MORPHOLOGIC DESCRIPTION: Haired skin: Diffusely, the upper third (**2pt**) of hair follicles are markedly abnormal and are devoid of hair shafts (**3pt**). Many follicles contain broken or poorly formed hair shafts (**3pt**), and ostia are occasionally dilated. Adnexa and hair bulbs are normal (**3pt**). There is mild parakeratotic hyperkeratosis of the overlying epidermis (**2pt**), and there are rare neutrophils, lymphocytes, and plasma cells in the superficial dermis (**2pt**).

MICROSCOPIC DIAGNOSIS: Haired skin, follicles: Trichodysplasia and trichomalacia, diffuse, severe. (**4pt**)

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

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Case 4. Tissue from a puppy.

**MORPHOLOGIC DESCRIPTION:** Haired skin: Within the multifocally moderately hyperplastic (acanthotic) **(1pt)** epidermis, there are shrunken, round, eosinophilic (necrotic) **(1pt)** keratinocytes within all layers of the epidermis **(2pt)**, often with one to several lymphocytes and/or neutrophils in close association **(1pt)**. Within the basal epithelium, there is moderate intercellular edema, necrotic cells, an increased mitotic rate, **(1pt)** and occasional epithelial cells contain enlarged hyperchromatic nuclei which occasionally contain rectangular to rhomboidal viral inclusions that peripheralize chromatin **(2pt)**. Similar degenerating cells with viral inclusions are also present with hair follicle epithelium **(1pt)**. There are large numbers of neutrophils within the superficial epidermis **(1pt)** which often infiltrate the overlying epithelium, forming clusters **(1pt)**, often in association with necrotic keratinocytes. There is moderate inter- and intracellular edema primarily within the stratum spongiosum, and there is marked overlying orthokeratotic hyperkeratosis **(1pt)**. Within the overlying crust, there are numerous degenerate neutrophils and cellular debris, often forming small pustules **(1pt)**. The superficial epidermis contains numerous neutrophils with lesser histiocytes, lymphocytes, and plasma cells, abundant mast cells, and vessels are lined by reactive endothelium **(1pt)**.

**MICROSCOPIC DIAGNOSIS:** Haired skin, epidermis and follicles: Keratinocyte necrosis, multifocal, moderate, with marked neutrophilic dermatitis and epidermitis, parakeratotic hyperkeratosis, pustule formation, and intranuclear viral inclusions. **(3pt)**

**CAUSE:** Canine parvovirus-2 **(2pt)**

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