Beginning slide analysis and Intro to Pattern Diagnosis

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Patterns

- Summary of features characteristic of a group or individual disease process.
- Can be applied to neoplastic and inflammatory disorders
- Most diagnoses recognized at 1X or 2X
- Developed by Ackermann in Histologic Diagnosis of Inflammatory Skin Disease
 - Enable MD dermatologists to recognize lesions with 2X scanning lens





Infundibular papilloma- benion silhouette



What is Other??

- Some diseases just do not fall into the patterns of neoplastic or inflammatory
 - e.g. Lamellar ichthyosis
 - -e.g. Color dilution alopecia
 - e.g. Feline paraneoplastic pancreatic alopecia
 - -e.g. Sebaceous gland dysplasia

How to examine skin biopsies

#1 View the slide grossly— Don't read submission form!

#2 Low mag (2X and 4X) Look for normal structures

#3 ID Species +

#4 ID Site sampled

#5 ID Pattern (inflammatory, neoplastic other)

#6 ID Lesions on higher magnification

#7 Visualize appearance of the animal

#8 Compare with clinical description and historical information- Now read the submission form information.

#1 ID Species

- When in doubt, choose dog.
- In veterinary medicine, skin bx more likely to be from dog than any other species.



Normal haired skin from Standard poodle



Normal skin from horse; note the third layer of connective tissue below the reticular dermis "horse mirror"



Normal horse skin: primary follicles; apocrine glands lined by plump epithelial cells



equine







Feline: Normal skin from the dorsal neck region



Normal skin from a 2-day old puppy



Normal feline: note the small evenly- spaced vacuoles in sebocytes

Sebaceous Glands





Feline

Canine

Bovine- apocrine glands have attenuated epithelial cells



Equine

Sheep follicle with root sheath invaginations



R. Dunstan photo

#1 Know Your Species

- Horses and ruminants have simple hair follicles.
- Cats have regularly spaced vacuoles in sebocytes of sebaceous glands
- Dogs have irregular vacuoles within sebacytes.
- Horses have epithelial plump cells which line apocrine glands
- Cattle have flattened cells which line apocrine glands



Skeletal m. in dermis = face

#2 Predict the site of the lesion

- Face- dermal skeletal muscle
- Dorsal- prominent arrector pili muscles
- Ventrum- be careful
 - Relatively thin epidermis; fewer hair follicles; dermis also thinner; adipose tissue
- Extremities
 - Little to no subcutis; prominent blood vessels
- Nasal planum, footpad, eyelid, chin

Patterns in Dermatopathology

- **1.** Perivascular Dermatitis
- 2. Interface Dermatitis
- 3. Intraepidermal Vesicular and Pustular Dermatitis
- 4. Subepidermal Vesicular and Pustular Dermatiti
- 5. Nodular and Diffuse Dermatitis
- 6. Folliculitis/ perifolliculitis and furunculosis
- 7. Vasculitis
- 8. Panniculitis
- 9. Atrophic Dermatoses
- **10. Fibrosing dermatitis**

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Atrophic

cells in Vasalites





perivascular

Interface



subspidermal vesicular/ subtulas dermatitis



intraepidermal



Folliculitis/Furunculosis



Intraepidermal pustular



Atrophic derm



Nodular to diffuse



High mag- intraepidermal pustular-pemphigus foliaceus





Subepidermal vesicular



Perivascular – sarcoptic mange



Vasculitis





Acute perivascular

Spongiotic perivascular





Interface

Folliculitis



Intraepidermal vesicular/pustular



Supepidermal vesicular/pustular



Intraepidermal vesicular/pustular



Nodular/diffuse



Folliculitis



Vasculitis



Atrophy



Fibrosis