Cutaneous Manifestations of Internal Disease

Cutaneous Manifestations of Internal Disease

- Presented for skin disease only
- Silent or absent systemic signs
- “Normal” physical examination
- Respond poorly to empirical treatments

Severe Staphylococcal Infections

- Rare
- Disproportionate clinical response
- Due to
  - Virulent organism
  - Immune deficiency
  - Underlying endocrine/metabolic disease

Papillomavirus Infections

- Resurgence in the United States
- Multiple different stains with differing presentation
  - Dog: 17
  - Cat: 3
- Variable clinical presentations
  - Classical
  - Fibropapilloma
  - Inverted papilloma
  - Digital “warts”
  - Oral/nasal squamous cell carcinoma
  - Pigmented plaques
  - Sarcoids

Canine Papilloma Stains

- CPV-1: “classic”, inverted, “immuno-suppression”, squamous cell carcinoma
- CPV-2: inverted, digits, pads, “immuno-suppressive”, squamous cell carcinoma
- CPV-3: plaques, squamous cell carcinoma
- CPV-4: plaques
- CPV-5: plaques
- CPV-6: inverted
- CPV-7: exophytic, squamous cell carcinoma in situ
- CPV-8: plaques
- Many “novels” and “unclassified”

Feline Papilloma Stains

- FPV-1: exophytic, plaques
- FPV-2: plaques, squamous cell carcinoma
- FPV-3: plaques, squamous cell carcinoma
- HPV-9: exophytic
- HPV-38, HPV-80: squamous cell carcinoma
- Many “novels” and “close to’s” (dog, human)
Feline Immunodeficiency Virus
- Immunosuppressive disorder
- Specific skin manifestation
  - Otic demodicosis
  - FIV Miliary dermatitis

Feline Rhinotracheitis
- Common upper respiratory infection
- Mild oral & cutaneous disease common
- Severe ulcerative & necrotizing possible

Generalized Dermatophytosis
- Rare
- Result of
  - Decreased epidermal turnover time
  - Abnormal immune system
  - Systemic treatments required

Yeast Dermatitis
- Malassezia dermatitis
- Candidiasis

Candidiasis
- Disease of ecological alteration or immunosuppression
- Invades epithelium

Intermediate Fungal Infections
- Environmental saprophytic fungus overwhelms local immune system
- Extensive or multifocal involvement with immunoincompetence
**Adult-onset Demodicosis**

- Uncommon to rare
- "True" onset of signs in an adult (>4 years old) animal
- Poor response to treatment if underlying condition goes untreated.

**Adult-onset Demodicosis – Treatment**

- Incurable without resolution of underlying trigger event.
- Oral ivermectin – 0.3-0.6 mg/kg q24-48 hours
  - Monitor carefully for CNS disease!!
- Topical Advantage multi – q7, 14, 21, or 28 days
  - Bravecto, NexGard, Simparica

**Feline *D.gatoi* Demodicosis**

- Surface parasite
- Contagious mite
- Variable symptomatology

**Feline Demodicosis - Treatment**

- Topicals
  - Lime sulfur: 2-4%
  - Amitraz: 125-250 ppm
- Ivermectin: 0.3 mg/kg PO q24h
- Advantage-multi: q7days
- Doramectin: 0.6 mg/kg SQ q7days
- Bravecto?

**Acromegaly**

- Growth hormone excess
- Produced by
  - Pituitary
  - Mammary tissue via progestational stimulation
    - Ovarian cysts/tumors
    - Pharmaceuticals
- Overgrowth of hair and dermal tissues
- Predisposed to diabetes mellitus

**Testicular Neoplasia**

- Most tumors are non-secretory and benign
- Estrogens produced by
  - Sertoli cell tumors
  - Seminomas
- Testosterone produced by interstitial cell tumors
Canine Hyperadrenocorticism - Adrenal Hyperplasia
- Constitutional signs precede hair loss
- Glucocorticoids predominate
- Cutaneous signs predictable

Canine Hyperadrenocorticism - Adrenal Neoplasia
- Constitutional signs develop close to hair loss
- Glucocorticoids +/- sex hormones
- Cutaneous signs variable

Feline Hyperfragility Syndrome
- Life threatening disorder
- Many causes
  - Cushing's syndrome
  - Progestational treatments
  - Liver or pancreatic disorders

Necrolytic Migratory Erythema
- Rare disorder
- Hepatopathy-induced (cirrhosis): 90%
  - Drug-induced
  - Aflotoxin-induced
  - Idiopathic
- Glucagonoma-induced: 10%
- Skin lesions due to hypoproteinemic delayed wound repair
- Silent clinical signs
- Poor prognosis

Necrolytic Migratory Erythema
- Diagnostic histopathology
- Characteristic clinicopathology
  - Anemia
  - Marked hypoalbuminemia
  - Decreased BUN, cholesterol
  - Variable liver enzyme elevations
  - Elevated bile acids
    - Hepatopathy: Yes
    - Glucagonoma: No

Necrolytic Migratory Erythema - Treatment
- Anti-infectives
- Resolve liver disease or remove tumor
- Nutritional supplements
  - Zinc, essential fatty acids, protein
  - Hyperalimentation
- Somatostatin
Lethal Acrodermatitis
- Intestinal absorptive defect: Zn and Cu
- Bull terriers predominately
- Autosomal recessive trait
  - Breakthrough in carriers?
- Skin lesions plus susceptibility to infections
- Lethal condition

Nonlethal Acrodermatitis
- Partial intestinal absorption blockade?
- Bull terriers
- Increased susceptibility to skin infections and digital hyperkeratosis

Xanthomatosis
- Uncommon lesion
- Pressure point localization initially
- Underlying lipid abnormality

Feline Bronchogenic Carcinoma
- Old cats
- Present initially for an antibiotic-responsive paronychia
- Initial response short-lived

Feline Exfoliative Dermatoses
- FeLV dermatosis
- Thymoma: ± thymoma
- Sebaceous adenitis
- Drug reaction
- Cutaneous lymphoma

Feline Leukemia Virus
- Immunosuppressive disease
- Specific skin manifestations
  - Cutaneous horns
  - Exfoliative dermatitis
Feline Thymoma
- Middle-age to old cats
- No systemic signs initially
- Variable pruritus
- Variable hair loss

Paraneoplastic Alopecia
- Old cats
- Systemic signs precede hair loss
- Hair loss in frictional areas first
- Exposed skins often glistens
- *Malassezia* dermatitis common

Collagenous Nevi
- Singular or multiple
- Development of multiple lesions in adulthood associated with:
  - Renal cyst or tumors
  - Uterine leiomyomas
  - Intestinal polyps

Cutaneous Flushing
- Persistent or paroxysmal vasodilatation
- Unknown frequency in animals

Persistent Cutaneous Flushing
- Drug reaction
- Mast cell disease
  - Mastocytosis
  - Mast cell tumor

Feline Seborrhea
- Cutaneous reaction pattern
- Multiple external and internal causalities
**Vasculitis**

- Demonstrated by diascopy
- Pressure point predisposition
- Severity varies with vessel size
- Slow healing with deep vessel involvement
- Scarring expected

**Treatment**

- Diagnose and resolve trigger event
- Caution with topicals
- Systemic agents
  - Glucocorticoids
  - Tetracycline group/Niacinamide
  - Pentoxifylline: 25 mg/kg q12h