CASE 12

11-1105

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**SIGNALMENT**

- 14 year old female spayed Shih tzu
  - “Ginger”
HISTORY

• Groomer noticed a skin condition two weeks previously

• Developed:
  • bleeding skin wounds
  • respiratory distress
  • lethargy
DERMATOLOGIC EXAMINATION

- Bilateral mucopurulent nasal discharge
- Ulcerated foot pads
- Multiple crusts over the body, within the ear canals, nares
- Swollen and ulcerated skin around vulva and anus
- Impression smears revealed large numbers of cocci
PHYSICAL EXAM FINDINGS

- **Ophthalmic findings:**
  - decreased tear production
  - corneal ulcer
  - anterior lens luxation
  - immature cataracts

- **Dental examination:**
  - severe gingival hyperplasia
  - ulcerative gingivitis
  - dental calculus
GROSS NECROPSY EXAMINATION

- Multifocal oral plaques and ulcers
- Multiple skin crusts
- Splenic mass
ULCERATIVE STOMATITIS
EAR PINNA – SUPRABASILAR CLEFTING, CRUST
EAR PINNA– SUPRABASILAR CLEFTING
SKIN – NEUTROPHILIC CRUST WITH ACANTHOLYTIC CELLS AND BACTERIA
TONGUE – EROSION WITH FIBRIN AND EPITHELIAL REGENERATION
MORPHOLOGIC DIAGNOSES

Oral mucosa/tongue:
- Suprabasilar clefting with erosions and ulceration

Skin:
- Suprabasilar clefting with erosion and crusts
- Ulceration with early granulation tissue
- Moderate epidermal hyperplasia
- Lymphoplasmacytic dermatitis
NAME THE CONDITION

Pemphigus Vulgaris
Pemphigus vulgaris is a rare vesicobullous and ulcerative autoimmune disease

- **Desmoglein 3**, a trans-membrane desmosomal cadherin of keratinocytes, is the targeted antigen in the oral cavity
- **Desmoglein 1** may be the target in the skin

- Binding of antibody alone does not lead to suprabasilar acantholysis
  - **Plakoglobin**, a sub-membranous plaque protein
  - Up-regulation of P Cadherin
PEMPHIGUS VULGARIS

- Males outnumber females
- Median age = 6 years

- Suprabasilar acantholysis creates:
  - transient vesicles
  - erosions and ulcers
  - crusting of non-mucosal lesions
  - +/- dermatitis
  - +/- pigmentary incontinence
DISCUSSION

• Primarily begins with mucosal targets
• Progresses to mucocutaneous involvement

• Common sites in order of frequency include: oral cavity, pinnae, nasal planum, lip margins, genitalia, anus, peri-ocular skin

• Pawpads affected in the minority of cases
• Rarely corneal ulceration seen
DISCUSSION

- **Differentials include:**
  - Drug induced pemphigus
    - Confined to oral mucosa
    - Resolves following removal of drug
  - Paraneoplastic pemphigus
    - Suprabasilar acantholysis, variable intra-epidermal pustules and keratinocyte apoptosis
    - In association with a neoplastic process (spleenic sarcoma, thymic lymphoma, thymoma)
    - Mimics pemphigus vulgaris, erythema multiforme, pemphigus foliaceus combined
PARANEOPlastic
Pemphigus

• Apoptotic keratinocytes at all levels
• Pan-epidermal pustules
• Pigmentary incontinence
SPLENIC MALIGNANT FIBROUS HISTIOCYTOMA

Paraneoplastic pemphigus in a dog with splenic sarcoma Vet pathol 42: 88-91, 2005
CONCLUSIONS

- Pemphigus vulgaris
- Extensive oral, ocular, foot pad and skin involvement
- Keratinocytes apoptosis and pan-epidermal pustules
- Older dog
- Concurrent splenic neoplasia

- Possible paraneoplastic variant of PV
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QUESTIONS?