Peripheral Lymphadenopathy in a Young Dog

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Signalment/History

- 18 month old, female spayed Labrador retriever
  - Previously healthy
  - Vaccination Status: UTD

- 1 Month History of:
  - Mild Anorexia
  - Mild Weight loss
  - Ventral dermatitis refractory to Tx

- 3 Day History of:
  - Dull Mentation
  - Muscle Fasciculations
  - Seizure activity
  - Diarrhea
Physical Exam

• Temperature- 105.1 F

• Severe Myoclonus

• Generalized muscle atrophy

• Generalized lymphadenopathy

• Crusting dermatitis in inguinal region

• Severe diarrhea with frank blood
Diagnostics

- **CBC:**
  - Normocytic/Hypochromic Anemia
  - Mild lymphopenia

- **Biochemistry Profile:**
  - Metabolic acidosis
  - Mildly increased BUN
  - Mildly increased Phosphorus
  - Mild Hypoalbuminemia
  - Hypocalcemia
    - Normocalcemic with correction

- **Cytology**
  - FNA of Popliteal and Superficial inguinal lymph nodes
FNA Lymph Node

Permission granted only for viewing on SEVPAC website
Impression Smear
Liver

50X
Impression Smear
Lung
• **Special Stains:**
  – Acid Fast

• **PCR:**
  – Tissue - Spleen
    • *Mycobacterium avium*
    • Subspecies testing: Pending
Skin
Skin
Cerebrum
Cerebrum
Cerebrum
FNA Lymph Node
Acid Fast Stain
• **Systemic mycobacteriosis with granulomatous inflammation:**
  - Liver
  - Spleen
  - Lymph nodes
  - Intestine
  - Lung
  - Kidney
  - Brain

• **Epidermal and follicular dermatophytosis, lymphoplasmacytic**
Mycobacteria spp.

- Aerobic, nonmotile, pleomorphic, non-spore forming bacterial rods
  - Order- Actinomycetales
  - Family Mycobacteriaceae

- Acid-fast
  - High lipid content of mycolic acid in cell wall

- Variable host affinity and pathogenic potential
M. avium Epidemiology

- **Opportunistic Infection**
  - Ubiquitous saprophytic organisms
    - Animals and humans are commonly exposed
    - Dogs and cats appear to be innately resistant to infection
  - Most reported cases in small animals are <5yrs
    - Immunosuppressed

- **Breed Predisposition**
  - Dogs: Basset Hounds, Miniature Schnauzers
  - Cats: Siamese and Abyssinian
Discussion

• Overwhelming infection in a previously healthy 18 month old dog

• Complete lack of granulocytic inflammation
  • Peripheral leukocyte count and differential normal
    – Leukocyte adhesion deficiency unlikely

• Other thoughts on possible pathogenesis?
Questions

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