

MYOFASCIITIS IN THE DOMESTIC FERRET, AN EMERGING FATAL DISEASE

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SYNONYMS

- POLYMYOSITIS
- SUPPURATIVE MYOSITIS
- DISSEMINATED IDIOPATHIC MYOSITIS (DIM)
- MYOFASCIITIS
 - Veterinary Pathology, 2006 (in press)

Prevalence

- >2000 ferret submissions at NZP
- MF not recognized prior to 2003
- 13 cases between 2003-2005 (2%)
 - 18 more 3/15-12/1/05 (10%)
- Criteria: inflammation in esophagus, heart and at least one other skeletal muscle

Signalment

- Cosmopolitan, different breeders
- 5 – 24 mo
- Average age 10 mo
- No sex predilection
 - 10.8.0

Clinical Signs

- High fever
- Recumbent, ataxic, weak, pain, posterior paresis, bite
- Inappetance or anorexia
- Abnormal stools.

Laboratory Values

- Marked leukocytosis, mature neutrophilia
- Nonregenerative anemia
- Elevated ALT
- Hyperglycemia
- hypoalbuminemia
- AST and renal usually OK
 - not necrotizing

No Effective Treatment?

- antibiotics
- antiinflammatories
- glucocorticoids
- antipyretics
- pain killers
- interferon
- cyclophosphamide
- All dead
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Gross Pathology

- Red and white mottling of esophagus
- White streaks in diaphragm, lumbar and leg muscles
- Marked atrophy of diaphragm and skeletal muscle in advanced cases
- Lymphadenomegaly, Splenomegaly
- Reddened friable adipose tissue in the subcutis and mediastinum

Histopathology

- Suppurative to pyogranulomatous inflammation.
- Multifocal, muscle, fascia and surrounding adipose.
- Esophagus, heart, legs and lumbar muscles.
- Atrophy, fibrosis in advanced cases.

Electron Microscopy

- Mitochondrial swelling
- Edema between myofibrils
- Myofibril and Z band disruption
- No infectious agents

No Pathogens Cultured

- Aerobic, anerobic bacterial cultures
 - Lung, liver, muscle
- Viral cultures
 - Lung, liver, muscle

Immunohistochemistry

(all negative)

- FIP
- ECE
- Toxoplasma
- Sarcocystis
- Neospora

PCR

- From paraffin tissues
- Three ferrets positive for Toxoplasma

- Lesions not typical
- Subclinical ?
- False positive?

Myofasciitis in Conclusion

- Idiopathic inflammatory disease of young adult ferrets
- Histopathologic diagnosis
- Laboratory values, clinical signs, lack of response to treatment are strongly suggestive of the disease
- No treatment, fatal.

Addendum

- Myofasciitis reproduced in entire group of ferrets during experimental trial using a castration vaccine.
- One vaccine from one manufacturer is only known commonality, no longer available
- Future cases?
- What tissues go in the bottle?
 - Esophagus
 - Skeletal muscle
 - Heart
 - Other viscera