

What's Your Diagnosis?

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Signalment:

1 year old, Female intact, Ferret

Presenting Complaint/History:

The patient was presented for a two week history of lethargy and weight loss. The owner reported that the patient had been pruritic at home and suffered a rectal prolapse about one month ago, with no treatment. The patient received a distemper and rabies vaccination about one year ago. The owner was unsure if the patient had been eating normally.

Physical Exam:

The physical exam revealed that the patient was 5% dehydrated, had scratches at the base of her tail, and discoloration on her left iris and sclera without discharge. The patient's heart rate was recorded as 290 beats/minute, but the temperature and respiratory rate were not available.

Blood Work Abnormalities:

A CBC & serum chemistry analysis revealed azotemia, increased phosphorous, decreased protein, anemia, prominent rouleux, occasional polychromasia, trace lipemia in plasma, and atypical lymphocytes on blood film.

Diagnostic Plan:

The diagnostic plan for this patient included whole body radiographs and abdominal ultrasound.

Radiographs



Figure A:
Right Lateral Radiograph of Whole Body



Figure B:
Ventrodorsal
Radiograph of
Whole Body

Radiograph Interpretation:

The thoracic cavity contains 3 radiographically appreciable circular shaped and radiopaque structures, consistent with a structured interstitial pulmonary pattern. One of the structures appears to be in the right cranial lung lobe, one in the right caudal lung lobe, and another in the caudal sub-segment of the left cranial lung lobe. The abdominal cavity shows poor serosal detail, a pendulous contour, and some border effacement between soft tissue opacity structures. Both kidneys appear enlarged. The mid abdominal area shows a circular to oval shaped soft tissue and fat opacity structure.

Ultrasound Interpretation:

The right and left kidneys each show a focal, large, circular, and hypoechoic lesion in the renal cortex and appear enlarged. Ultrasonographic evaluation of the lymph nodes in ferrets is often subjective in nature as there is a lack of established data on what constitutes normal lymph node size in this species. Given the concurrent diagnostics in this case it is believed that the lymph nodes reviewed on ultrasound were likely enlarged.

Outcome:

The patient was eventually euthanized and subsequent to this a necropsy evaluation was completed and a histopathology sample was submitted.

Necropsy Results:

Eyes: The cornea of the left eye contained a 2mm focal opacity.

Lungs: Multiple lung lobes contained focal, firm, and nodular to slightly raised plaque-like white to greyish areas up to 1 cm in diameter. The nodules extended into the parenchyma.

Kidneys: Bilaterally enlarged and pale. The kidneys contained multifocal to coalescing firm whitish nodules that extended into the renal cortex.

Spleen: The spleen contained multifocal to coalescing pinpoint to 0.4cm in diameter flat whitish foci, which extended into the parenchyma. The spleen was also found to be congested.

Mesenteric LNs: Mild to moderately enlarged. The mid-abdomen contained an enlarged (2 X 1.2 cm), pale, and whitish to tan lymph node that was 1.6 cm caudal to the left adrenal gland. The tissue between the left adrenal gland and lymph node was thickened and dark brown.

Necropsy Discussion: The necropsy findings show a diffuse and multifocal distribution of granulomatous and nodular disease affecting multiple organ systems in the thorax and abdomen, with a severe granulomatous lymphadenitis. The left eye was found to have pyogranulomatous anterior uveitis with keratitis, retinitis, and posterior synechia.

Conclusion/Diagnosis:

The findings in this case are suggestive of multicentric neoplastic or reactive disease. A histopathology sample was submitted which suggested that the likely etiology of this patient's illness was ferret systemic coronavirus-associated disease (FRSCV). FRSCV in ferrets is similar to the dry form of feline infectious peritonitis and is characterized by a systemic and multifocal distribution of purulent to granulomatous nodular lesions. Treatment is primarily supportive and the median survival time of affected ferrets is about 2 months.

Works Cited:

1. Suran, Jantra, and Nicole Wyre. "Imaging Findings in 14 Domestic Ferrets (Mustela Putorius Furo) With Lymphoma. *Veterinary Radiology & Ultrasound*, 2013. Web. 20 June 2014.
<<http://onlinelibrary.wiley.com/doi/10.1111/vru.12068/pdf>>.
2. Non-endocrine Neoplastic Disease in Ferrets. Lecture: KSU CVM.
Dr. David Eshar Dipl. ABVP & ECZM
3. Morrisey, James. "Infectious Diseases of Ferrets." *The Merck Veterinary Manual*, 1 July 2013. Web. 4 July 2014.
<http://www.merckmanuals.com/vet/exotic_and_laboratory_animals/ferrets/infectious_diseases_of_ferrets.html>.