2016.050

Figure 8-G

MEXICAN WOLF NECROPSY PROTOCOL

INSTITUTION/OWNER Wolf Conservation Center
ADDRESS Po Box 421 / 7 Buck Run
South Salem NY 10590

CANID SPECIES Mexican Wolf ANIMAL ISIS ID # F613
STUD BOOK # F613 SEX F
BIRTH DATE/AGE 5/8/99 WEIGHT
16 years old

REPRODUCTIVE HISTORY:
SHOWN BEHAVIORAL ESTRUS? Yes
EVER BRED? Yes
PRODUCED PUPS? Yes
EVER HOUSED WITH OPPOSITE SEX? Yes

DATE OF DEATH 3/2/16 DATE OF NECROPSY 3/2/16

HISTORY: (Briefly summarize clinical signs, circumstances of death.)
Old age. Back legs losing function.
Euthanasia recomended.

Please have your pathologist perform a histopathology on the tissues. Then send the gross examination worksheets and pathologists report to Dr. Linda Munson, Mexican Wolf SSP© Pathology Advisor; University of California; Department VM-PMI; 1126 Haring Hall, 1 Shields Ave.; Davis, CA 95616; PH: 916-754-7567; Fax: 916-752-3329. Copies of the completed necropsy reports should be faxed to the SSP© Veterinary Advisor Dr. Randi Meyerson at The Toledo Zoo; P.O. Box 140130; Toledo, Ohio, U.S.A., 43609; PH: 419-385-5721, ext. 2052; FX: 419-385-6935; Email: randi@toledozoo.org.

Figure 8-G cont.

3/2/16

Animal ISIS ID# F613

GROSS EXAMINATION WORKSHEET

PROSECTOR: Dr. Charles Dotty VMD

GENERAL CONDITION: (Nutritional condition. physical condition)
NEONATES: Examine for malformations (cleft palate. deformed limbs. etc.)

SKIN: (Including pinna, feet) ~~normal~~ normal

MUSCULOSKELETAL SYSTEM: (Bones, joints, muscles)
Slightly thin normal for age joints all normal

BODY CAVITIES: (Fat stores, abnormal fluids)
NEONATES: Assess hydration (tissue moistness)
minimal fat stores. Dehydrated no ascites or pleural fluid

HEMOLYMPHATIC: (Spleen, lymph nodes. thymus)
all normal Thymus not evaluated

RESPIRATORY SYSTEM: (Nasal cavity. larynx, trachea, lungs, regional lymph nodes)
NEONATES: Determine if breathing occurred (Do the lungs float in formalin?)
all normal

CARDIOVASCULAR SYSTEM: (Heart. pericardium. great vessels)
Normal aye vessels normal no pericardial fluid.

DIGESTIVE SYSTEM: (Mouth, teeth, esophagus, stomach, intestines, liver, pancreas, mesenteric lymph nodes)

NEONATES: Is milk present in stomach?

all normal stomach empty

URINARY SYSTEM: (Kidneys, ureters, urinary bladder, urethra)

Normal bladder very irregular kidneys left kidney irregular shape almost nodular on cut surface some areas of hemorrhage

REPRODUCTIVE SYSTEM: (Testis/ovary, uterus, vagina, penis, prepuce, prostate, mammary glands, placenta)

No ovaries / uterus - previously spayed

ENDOCRINE SYSTEM: (Adrenals, thyroid, parathyroids, pituitary)

Normal - pituitary not evaluated

NERVOUS SYSTEM: (Brain, spinal cord, peripheral nerves)

Brain not evaluated

SENSORY ORGANS: (Eyes, ears)

Normal

PRELIMINARY DIAGNOSES:

Renal failure

ANTECH DIAGNOSTICS
800-872-1001

Pound Ridge Veterinary Center
ANTECH Acct No. 4315

Accession No. **NYBB06974673**
Received 03/03/2016
Reported 03/08/2016 01:21 PM

Doctor NOT STATED

Owner	Pet Name	Species	Breed	Sex	Pet Age	Chart#
WOLFCENTER	F613	Canine		SF	16Y	N

Test Requested	Results	Reference Range	Units

HISTOPATHOLOGY, FULL WRITTEN REPORT

History:

Necropsy (old age)
1. Bladder
2. Thyroid/parathyroid
3. Small intestine
4. Lymph node
5. Lung
6. Muscle
7. Large intestine
8. Stomach
9. Spleen
10. Adrenal
11. Liver
12. Bone marrow
13. Pancreas
14. Kidney
15. Skin
16. Trachea
17. Heart

Received:
A) (1) Necropsy tissue.
B) (2) Necropsy tissue.
C) (3) Necropsy tissue.
D) (4) Necropsy tissue.
E) (5) Necropsy tissue.
F) (6) Necropsy tissue.
G) (7) Necropsy tissue.
H) (8) Necropsy tissue.
I) (9) Necropsy tissue.
J) (10) Necropsy tissue.
K) (11) Necropsy tissue.
L) (12) Necropsy tissue.
M) (13) Necropsy tissue.
N) (14) Necropsy tissue.
O) (15) Necropsy tissue.
P) (16) Necropsy tissue.
Q) (17) Necropsy tissue.

Biopsy

SOURCE No. 1:
Adrenal gland, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: Atrial gland is expanded by large focal nodule composed of cells from the zona fasiculata and reticularis. Cells are arranged in packets to sheets and have ample vacuolated cytoplasm and a small round nucleus with clumped chromatin and 0-1 small nucleolus.

Test Requested	Results	Reference Range	Units

MICROSCOPIC FINDINGS: Adrenocortical nodular hyperplasia

COMMENT: Adrenal cortical hyperplasia is a not uncommon change in older canine with chronic physiologic stress, or other chronic disease. Occasionally these tumors of the cause of hyperadrenocorticism, however those masses to be much larger.

SOURCE No. 2:
Liver, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The parenchyma is diffusely congested, and Glisson's capsule undulates mildly (parenchymal loss). Multifocally, small localized areas of hepatocytes are distended by clear colorless vacuoles which displace the nucleus (lipid, presumptive). A well-defined, unencapsulated, nodular area of marked sinusoidal congestion is present.

MICROSCOPIC FINDINGS: Moderate to marked diffuse congestion and multifocal random lipidosis

COMMENT: The histologic changes suggest subacute to chronic passive congestion, as is seen in the setting of heart failure, especially right-sided failure.

SOURCE No. 3:
Pancreas, 2 sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The sections are composed of multiple lobules of pancreas, including a large duct and islets of Langerhans. No significant abnormalities are noted.

MICROSCOPIC FINDINGS: Pancreas: Within normal limits

SOURCE No. 4:
Kidney, 2 sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The renal capsule is focally depressed, and there is multifocal mild decrease in tubular number, and a concomitant increase in interstitial connective tissue. Multifocally within the cortical interstitium are small to medium-sized aggregates of lymphocytes and plasma cells. Cortical tubules are multifocally dilated with slightly flattened epithelium. Occasional glomeruli are sclerotic, with thickened mesangial matrix, and bowmen's capsule dilated with pale eosinophilic fluid. The medulla and renal pelvis are unremarkable.

MICROSCOPIC FINDINGS: Mild multifocal chronic cortical tubular loss, lymphoplasmacytic initial nephritis, and multifocal global membranous glomerulonephritis

COMMENT: Histologic changes in the kidney are common in older canines,

Test Requested	Results	Reference Range	Units

and non-specific. It is difficult to determine from histologic sections from one kidney if this was added effect on renal function and resulted in azotemia, but because the changes are mild, atrial most likely clinically silent, although mild proteinuria may have been noted.

SOURCE No. 5:
Haired skin, location unspecified, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The section of skin is histologically unremarkable.

MICROSCOPIC FINDINGS: Skin: Within normal limits

SOURCE No. 6:
Heart, left ventricle and interventricular septum, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: Frequently cardia myocytes contain moderate amounts of tan yellow pigment (lipofuscin). A section of papillary muscle and endocardium are unremarkable.

MICROSCOPIC FINDINGS: Heart, left ventricle and interventricular septum: Within normal limits

COMMENT: Lipofuscin accumulation is a common finding in cells in a variety of organs in older to geriatric animals. Lipofuscin is otherwise known as the "wear and tear pigment."

SOURCE No. 7:
Urinary bladder, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The urinary bladder epithelium, submucosa, and muscular tunics are within normal limits.

MICROSCOPIC FINDINGS: Urinary bladder: Within normal limits

SOURCE No. 8:
Thyroid and parathyroid, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The thyroid gland contains normal follicles surrounding moderate amount of colloid. The absolute size of the parathyroid glands appears within normal limits (approximately 2 mm diameter).

MICROSCOPIC FINDINGS: Thyroid and parathyroid glands: Within normal limits

SOURCE No. 9:
Small intestine, 2 circumferential sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: . The epithelium and its brush border are intact with no ulceration. The villi are of normal length with no evidence of blunting or fusion. Throughout the lamina propria are low (normal) numbers of lymphocytes, and plasma cells. Lymphocytes occasionally exocytose individually into the mucosal epithelium. Lacteal width is less than 25% of the width of the villi (normal).

MICROSCOPIC FINDINGS: Small intestine: Within normal limits

SOURCE No. 10:
Lymph node, site not specified, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The node is composed of radially arranged primary and secondary follicles at its periphery, and is surrounded by fibroadipose tissue. Moderate numbers of macrophages containing brown pigment granules (hemosiderin or melanin) are found in the sinuses (draining minor hemorrhage).

MICROSCOPIC FINDINGS: Lymph node: Draining inflammation

COMMENT: The presence of macrophages with either melanin or hemosiderin indicates that this node was draining ear an area of mild chronic hemorrhage or dermatitis.

SOURCE No. 11:
Lung, 2 sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The section of lung includes bronchioles and medium-sized pulmonary arteries and extends up to the pleura. Multifocally scattered within the parenchyma are loose aggregates of macrophages containing fine stippled gray to brown material (anthracosis).

MICROSCOPIC FINDINGS: Lung: Mild multifocal anthracosis

COMMENT: Anthracosis (soot within macrophages) is a common finding in aged animals that have width in or near cities, and has no known clinical significance.

SOURCE No. 12:
Skeletal muscle, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The sections are composed of multiple fascicles of histologically unremarkable skeletal muscle.

MICROSCOPIC FINDINGS: Skeletal muscle: Within normal limits

SOURCE No. 13:
Large intestine, 2 sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The epithelium is intact with no ulceration. Low numbers of lymphocytes and plasma cells are within the lamina propria.

MICROSCOPIC FINDINGS: Large intestine: Within normal limits

SOURCE No. 14:
Stomach: 2 sections.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: The epithelium is intact with no evidence of ulceration. The glands are evenly spaced and have consistent diameters. Throughout the lamina propria are low (normal) numbers of lymphocytes, and plasma cells. There is no evidence of fibrosis. Spiral-shaped bacteria are occasionally seen.

MICROSCOPIC FINDINGS: Stomach: Within normal limits

COMMENT: Helicobacter-like organisms (HLOs) were seen in the gastric mucosa. With the exception of H. felis in cats, the clinical significance, if any, of HLOs in dogs is not well-established. The paucity of inflammation in the sections of stomach indicate that the bacteria are unlikely to have been a clinical significance.

SOURCE No. 15:
Spleen, 1 section.

DESCRIPTION/MICROSCOPIC FINDINGS/COMMENTS:

MICROSCOPIC DESCRIPTION: Surrounding a large vessel within the parenchyma are multifocal to coalescing aggregates of bright yellow (hemosiderin) and golden brown (hematoidin) pigment laden macrophages interspersed with amorphous deeply basophilic roughly linear material (mineralization).

MICROSCOPIC FINDINGS: Spleen: Gamma-Gandy nodule

COMMENT: Gamma Gandy nodules are incidental findings, also known as splenic siderotic nodules or fibrosiderotic nodules. They are small focal deposits of hemoglobin breakdown products and calcium within the fibrous and elastic tissue in the spleen. They are of no known clinical significance.

PATHOLOGIST:

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Note: With our Antech OnLine viewer, you can access the pathologist`s Snippet image of the histopathologic lesions of this accession. Open the accession on Antech OnLine, and click the large DigiPath icon. You will see Antech Diagnostic`s exclusive interactive Snippet, complete with a magnifier.

Addendum:
********** ADDENDUM COMMENTS - 03/08/2016 **********
TRACHEA, 2 sections.

Test Requested	Results	Reference Range	Units

MICROSCOPIC DESCRIPTION: Tracheal epithelium is intact with no evidence of ulceration or inflammation.

MICROSCOPIC FINDINGS: Trachea: Within normal limits

BONE MARROW, 1 section.

MICROSCOPIC DESCRIPTION: Hematopoietic elements, adipose tissue and connective tissue appear in appropriate proportions within the bone marrow. The associated skeletal muscle and adipose tissue are within normal limits.

MICROSCOPIC FINDINGS: Bone marrow: Within normal limits

PATHOLOGIST:

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