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FINAL RESULTS
Case #: 07-34502

AMY WIEDEMANN DVM
ARBORETUM VIEW ANML HOSP
2551 WARRENVILLE RD
DOWNERS GROVE IL 60515

Case #: 07-34502
Owner: Debra Zafiratos
Addr:
City:

Species: Canine (dog)
Breed: German Shepherd
Age: 8.5 Years Sex: M Neut: Y
Id/Name: Buddy Zafiratos
Login Date: 11/30/07

Case Coordinator: VALLI/AKARE
Print Date/Time: 01/07/08 1:15 PM

*** Case History ***

C: Judy Huston
White Shepherd Genetics Project
Fax (517) 546-3048

PATHOLOGY

* Necropsy, Gross Report *
Verified: 12/04/07

0734502 VEV/SA
REF VET: Dr. Weidemann

GROSS DESCRIPTION:

A 50.45 kg (111 lb), 8 year old (per history) male castrated German Shepherd (Animal ID: "Buddy" Zafiratos) is submitted for necropsy in good post mortem condition. He is in good nutritional condition as noted by adequate amounts of subcutaneous and visceral adipose tissue. The left distal antebrachium and bilateral distal crura are shaved. There is a numerical tattoo on the internal surface of the right pinna. The oral mucous membranes are a pale light pink.

There is 250 ml of deep red serous fluid in the peritoneal cavity. The liver is dark red and oozes on cut surface. There is a small amount of red to brown mucoid exudate in the proximal esophagus. The stomach is filled with ingesta (food material and large pieces of rawhide bones). The mucosa of the stomach has linear black striping (congestion) following the pattern of the rugal folds. The gastric serosal vessels are engorged and 2-3 mm in diameter. The small intestines are as distended and are diffusely dark pink to red (hemoglobin imbibition and portal congestion). The proximal duodenum near the site of the biliary and pancreatic papilla is a dark red
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* Necropsy, Gross Report *
Performed: 12/04/07

to purple. The pancreas is meaty and diffusely dark red. The tail of the spleen has a cystic area containing free blood and gas. The mesenteric vessels are markedly dilated and congested.

The parathyroid glands are enlarged bilaterally (6mm diameter). There is a moderate amount of red serous fluid in the trachea but the tracheal mucosa appears normal. The left lung lobes are dark red to purple and ooze on cut surface (dependent congestion). Endocardiosis is present on the mitral and tricuspid valves.

Cardiac measurements: Heart weight- 283.93 g, Right AV valve circumference- 13.5 cm, Pulmonic valve circumference- 5.1 cm, Left AV valve circumference- 10.5 cm, Aortic valve circumference- 6.0 cm, Right Ventricle weight- 44.03 g, Right Ventricle wall thickness- 0.6 cm, Left Ventricle weight- 180.73 g, Left Ventricle wall thickness- 1.25 cm, Interventricular Septum thickness- 1.7 cm.

Evaluation of the bone marrow by longitudinal section of the femur reveals fatty bone marrow and multifocal fine subendosteal reddening, presumptive hemorrhage. The bone marrow floats in formalin. Bilaterally there is flattening of the femoral heads and cartilage degradation with locally extensive eburnation. The stifle joints have bilateral periarticular osteophyte proliferation with roughening and focal cartilage thinning of the trochlear grooves. The elbows have bilateral bone remodeling and cartilage degradation of the medial coronoid and anconeal processes. The ribs are pliable with mild digital compression just proximal to the costochondral junctions (osteoporosis). The intervertebral discs have uniform widths of 3 to 3.5 mm.

MORPHOLOGIC DIAGNOSIS:

1. MODERATE PERITONEAL HEMORRHAGE AND EFFUSION.
2. SEVERE HEMORRHAGIC PANCREATITIS.
3. MESENTERIC GASTRIC AND PANCREATIC VENOUS CONGESTION.
4. BILATERAL PARATHYROID ENLARGEMENT.
5. MILD BILATERAL COXOFEMORAL DEGENERATIVE JOINT DISEASE.
6. MODERATE TO SEVERE BILATERAL STIFLE AND BILATERAL ELBOW DEGENERATIVE JOINT DISEASE.
7. OSTEOPOROSIS: RIBS.
8. ENDOCARDIOSIS: MITRAL AND TRICUSPID VALVES.

COMMENTS:

Buddy has a history of lymphoma. No notable lymph node abnormalities are found on gross examination. Multiple lymph nodes are harvested and will be examined by histologically. The cause of the demise of this dog is still unclear at this time. The congestion noted in the abdominal contents could be due to a possible gastric distension with or without volvulus that resolved itself post mortem (hence no clear evidence).

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* Necropsy, Gross Report *

Verified: 12/04/07

Severe gastric compromise could be the cause of death. Buddy was treated with Adriamycin that may cause acute cardiac failure or have an additive affect over time with multiple doses of the drug. Degenerative joint disease is a result of a chronic change from conformation abnormalities or injury. Histopathology is pending.

* Necropsy, Histopath Report *

Verified: 01/03/08

0734502 VEV/SA

REF VET: Dr. Wiedemann

HISTOPATHOLOGY REPORT:

SLIDE 1-2, Lung (4 sections): The alveolar spaces are flood with pale eosinophilic homogenous material (proteinaceous fluid) intermixed with a few alveolar macrophages (edema) and the pulmonary vasculature is markedly congested.

SLIDE 3, Liver (2 sections): Diffusely the hepatocytes are swollen and have diffuse cytoplasmic clearing without peripheral displacement of the nucleus. A moderate numbers of scattered Kupffer cells have golden brown globular pigment (hemosiderin).

Spleen: The periarteriolar lymphoid sheaths and the white pulp are completely depleted and the white pulp lacks lymphoid follicles. The sinus areas have moderately to markedly increased numbers of macrophages laden with golden brown cytoplasmic pigment (hemosiderin).

SLIDE 4, Pancreas (2 sections): The veins and capillaries are congested. No necrosis or hemorrhage is present.

SLIDE 5-6, Heart (3 sections): The myocardiocyte bundles are moderately separated by clear spaces.

Spleen (2 sections): Changes are similar to those described in SLIDE 3.

SLIDE 7, Stomach and intestine (4 sections): NSL.

SLIDE 8, Kidney (2 sections): The epithelial cells lining the proximal convoluted cells are swollen, frequently fragmented with loss of nuclear details and staining, and contain cytoplasmic golden brown pigment. The distal tubules are spared. Multifocally, the Bowman's membranes are moderately to markedly thickened and lined by plump parietal cells. The glomerular tufts have increased mesangial matrix with reduced capillary loops and a few glomeruli are runken. The interstitial capillaries are markedly congested. The medullary interstitium is moderately expanded by pale homogenous eosinophilic material (edema) and a rare

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* Necropsy, Histopath Report *
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medullary tubule has intranephronic hyperbasophilic material (mineral).

SLIDE 8, Adrenal glands (2 sections): NSL.

Thyroid and parathyroid glands (2 sections): The parathyroid glands are bilaterally hyperplastic with increased cytoplasmic contents of the chief cells.

SLIDES 10-13, Brain (4 sections): The neuropil has mild satellitosis and multifocally the neurons have pale yellow brown cytoplasmic pigment (lipofuscinosis).

SLIDES 14-18, Spinal cord (14: C1, C4 and C7; 15: T1 and T4; 16: T7 and T11; 17: L1 and L3; 18: L4 and L6): Rare axon sheaths in the dorsal, ventral and lateral funiculi are swollen and a rare axon is swollen and eosinophilic (spheroid). No changes are noted in the dorsal and ventral gray horns neurons.

SLIDE 19: Sciatic nerve (multiple sections): NSL.

MICROSCOPIC DIAGNOSES:

1. ACUTE SEVERE DIFFUSE PROXIMAL CONVOLUTED TUBULAR NECROSIS WITH CYTOPLASMIC GOLDEN BROWN PIGMENT, KIDNEYS.
2. CHRONIC MODERATE MEMBRANOUS GLOMERULONEPHRITIS.
3. SEVERE LYMPHOID DEPLETION AND MODERATE TO MARKED HEMOSIDEROSIS, SPLEEN.
4. MILD TO MODERATE DIFFUSE HEPATOCELLULAR DEGENERATION, LIKELY STEROID HEPATOPATHY.
5. BILATERAL PARATHYROID HYPERPLASIA.
6. ACUTE MODERATE TO SEVERE PULMONARY EDEMA AND CONGESTION.

COMMENTS:

The definitive cause of death could not be determined on histological evaluation; however acute renal toxicity and/or hemolysis should be considered and differentials in this case include raisin/grape toxicity induced acute renal failure and onion toxicity induced hemolysis. The pigment within the proximal convoluted tubules is being stained with Prussian blue to confirm or rule out presence of iron. Histologically, the examined tissues lack evidence of an infectious process or neoplastic mass (lymphosarcoma). The myelopathy could not be confirmed histologically. The neuronal lipofuscinosis is generally an age associated incidental finding.

* Addendum 1 Report *
Verified: 01/07/08

0734502 VEV/SA
EF VET: Dr. Wiedemann

ADDENDUM: PRUSSIAN BLUE STAIN

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* Addendum 1 Report *
revised: 01/07/08

SLIDE 8, Kidney (2 sections): The golden brown pigment within the epithelial cells lining the proximal convoluted cells is negative for iron.

COMMENTS:

The result of Prussian blue stain is compatible with raisin/grape toxicity and rules out hemolysis in this case.

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