

**ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT**

Field ID: MRB20101218-LA001
Additional Identifier: LA 439
ZPP Accession Number: 11-11Tt
Species: *Tursiops truncatus*
Strand Date: 12/18/2010
Strand Location: Grand Isle Beach, LA
Sex: Female
Age Class: Adult
Necropsy Date: 12/20/2010
Condition code: 2
Total Length: 271 cm
Weight:
Blubber Depth: 1.4 cm ventral
Body Condition: 2 out of 7

Gross Necropsy: Report on file

Select necropsy findings (from gross report):

Severely thin and emaciated w/ribs & spine visible.
Stingray barb (~3.5 cm) lodged in sub-lumbar muscle below dorsal fin.

Right pec- scapulo-humeral joint completely fused- no motion possible

Lungs: severely congested bilaterally. Numerous, multifocal parasite nodules throughout, parenchyma w/ visible lungworms. Bloody foam in trachea. Fluid and foam and lungworms distal bronchioles

Stomach: Attached/ adhered to fore & main stomach & adjoining GI (duodenum) is a very large, irregular mass, approximately grapefruit size (~15x20x20 cm). On cut section some parts are very purulent while others are granulomatous, with walled off sections.

Liver:

Small 1x1x0.5 deep cm granulomas ventral surface where meets/ lies against GI tract.
Granuloma does not appear deep, but has scar tissue ~1 cm deep associated w/ it.

Pancreas:

Surrounded by abscess/ granulomas material but parenchyma seems WNL.

Kidneys: Each kidney capsule has ~1x1 cm diameter granulomas on surface; kidneys WNL

Adrenals: enlarged, reactive

Spleen:

Small, very soft w/ granulomas/abscess attached to capsule but not invading.

Lymph Nodes:

Very reactive-cervical LN, & several (cervical, sublumbar) full of purulent material.

Slides/Tissues Received: 27 regular slides, 1 large slide

Microscopic Findings:Slide 1:

Left ventricle: Multifocally, blood vessels and myocytes are surrounded by small to moderate amounts of loose wispy fibrous connective tissue. Moderate numbers of myocytes throughout the section have rowed nuclei. Epicardium lacks adipose tissue.

Slide 2:

Atrium: Epicardium lacks adipose tissue.

Diaphragm: No significant findings (NSF).

Slide 3:

Adrenal gland: The cortex is mildly hypertrophied.

Lymph node: Cortices are very thin (atrophy). The lymph node capsule is moderate thickened by fibrous connective tissue. Sinuses contain pale eosinophilic smudgy, connective tissue.

Slide 4:

Kidney: Multifocally there are a few small accumulations of lymphocytes and plasma cells in the cortex. Multifocally glomerular capillary basement membranes are mildly thickened.

Soft tissue (presumed lymph node or abscess capsule): Tissue is comprised of a segment of thick fibrous connective tissue bordering a large accumulation of necrotic debris and necrotic and viable neutrophils. Within the necrotic debris are many colonies of bacteria.

Slide 5:

Lung: Regionally in one section, bronchioles and adjacent alveolar spaces contain moderate to large numbers of neutrophils, fewer macrophages, and necrotic debris that often obscure bronchiolar epithelium and alveolar septae. Adjacent and subpleural interstitium is moderately thickened by fibrous connective tissue often containing increased numbers of blood vessel profiles. There are scattered small to moderate aggregates of lymphocytes within the fibrous connective tissue. In another section, interstitium is diffusely mild to moderately thickened by fibrous connective tissue and contains small numbers of scattered lymphocytes and plasma cells.

Slide 6:

Pancreas: Acinar cells are small and there is marked zymogen depletion. Ducts are surrounded by increased amounts of fibrous connective tissue.

Cervical lymph node: Sinuses contain moderate numbers of histiocytes and hemosiderin laden macrophages, and are mildly congested. There is moderate plasmacytosis.

Slide 7:

Liver: Focally the capsule contains an abscess with a thick fibrous connective tissue capsule. The abscess center contains large amounts of necrotic debris, necrotic and viable neutrophils, and many colonies of bacterial rods and coccobacilli. Diffusely hepatocytes are small, atrophied and contain small to moderate amounts of hemosiderin. Sinusoids contain many small clusters of immature appearing leukocytes (presumed extramedullary hematopoiesis). Portal triads are surrounded by moderate amounts of fibrous connective tissue that bridges between portal areas.

Slide 8:

Tongue: There are a few small clusters of neutrophils and lymphocytes within the superficial dermis between rete pegs.

Slide 9:

Gland: NSF

Lymph node: NSF

Slide 10:

Adrenal gland: See slide 3.

Lymph node: There are several small areas of necrosis, centered on smudgy blood vessels and surrounded by small numbers of neutrophils.

Slide 11:

Larynx/pharynx: NSF

Slide 12:

Fundus: NSF

Gastric lymph node: There is a moderate amount of fibrous connective tissue within medullary spaces.

Slide 13:

Lymph node: There is a moderate amount of fibrous connective tissue within medullary spaces. There is moderate plasmacytosis. Adjacent to the lymph node is a separate piece of tissue composed entirely of necrotic material, necrotic neutrophils and bacteria (abscess material).

Pylorus: Superficial to middle portions of the mucosa contain small to moderate numbers of lymphocytes and plasma cells.

Slide 14:

Esophagus: NSF

Small intestine: NSF

Colon: NSF

Slide 15:

Small intestine: NSF

Stomach, squamous portion: Epithelium is mildly thickened and has increased layers of flattened superficial epithelium colonized by small numbers of bacteria.

Slide 16:

Colon: One submucosal blood vessel is mineralized and mineral is surrounded by few macrophages, multinucleated giant cells, and lymphocytes.

Soft tissue: Tissue is comprised of a thick band of fibrous connective tissue bordering a thin accumulation of large numbers of macrophages and fewer lymphocytes and neutrophils. The fibrous connective tissue segmentally contains many reactive fibroblasts (abscess wall, presumed).

Slide 17:

Colon: Serosal collagen fibers are separated by small amounts of clear space and reactive fibroblasts. There are small numbers of lymphocytes, plasma cells, and macrophages scattered within the serosa. Serosal blood vessels are lined by reactive fibroblasts. Small numbers of lymphocytes surround a few mural blood vessels.

Spleen: Segmentally within the splenic capsule, collagen fibers are separated by clear space and reactive fibroblasts. The capsule contains many congested blood vessels lined by reactive endothelium and small to moderate numbers of scattered lymphocytes, macrophages, and plasma cells. Focally a small accumulation of eosinophilic fibrillar material (fibrin) is adhered to the capsule. Lymphoid follicles are small. The red pulp contains large numbers of plasma cells and moderate numbers of myeloid precursors and megakaryocytes.

Slide 18:

Ovary: NSF. Two CAs

Thyroid gland: There is moderate to large amounts of fibrous connective tissue separating thyroid follicles into lobules. Small numbers of scattered follicles are moderately dilated.

Slide 19:

Skin/blubber: Blubber is markedly depleted and often replaced by wispy basophilic material (atrophy).

Slide 20:

Skeletal muscle: NSF

Slides 21-23:

Cerebrum: NSF

Slide 24:

Pons: NSF

Slide 25:

Cerebellum: NSF

Slide 26:

Brain stem: NSF

Spinal cord: NSF

Slide 27:

Bone: There is an increased myeloid to erythroid ratio in the bone marrow.

Slide 28:

Eye: NSF

Final Diagnoses:

1. Stomach, liver, pancreas, spleen, lymph node, and kidney: Multiple chronic serosal abscesses with intralosomal bacteria (gross and histologic diagnoses)
2. Colon and spleen: Moderate chronic serositis
3. Lung: Marked, regionally extensive, subacute, suppurative bronchopneumonia
4. Lung: Multiple parasitic granulomas (gross diagnosis) and moderate, multifocal to regionally extensive fibrosis with vascular proliferation
5. Lymph node (site unspecified): Mild multifocal necrosis
6. Body as a whole: Emaciation and fat atrophy (gross and histologic diagnosis)
7. Pancreas: Marked zymogen depletion and moderate periductular fibrosis
8. Stomach, squamous portion: Retention of superficial epithelium
9. Liver: Moderate hepatocellular atrophy, mild hemosiderosis, moderate portal fibrosis and marked extramedullary hematopoiesis
10. Bone marrow: Increased myeloid: erythroid ratio
11. Left ventricle: Mild multifocal interstitial fibrosis
12. Adrenal glands: Mild cortical hyperplasia
13. Spleen: Moderate lymphoid depletion, marked plasmacytosis, and mild extramedullary hematopoiesis
14. Kidney: Minimal multifocal lymphocytic interstitial fibrosis and segmental membranous glomerulonephritis
15. Lymph nodes (multiple including cervical and gastric lymph nodes): Moderate fibrosis, plasmacytosis, histiocytosis, and mild hemosiderosis
16. Thyroid gland: Moderate fibrosis
17. Sublumbar muscle: Focal stingray barb (gross diagnosis)

Ancillary Test Results: None available at time of report.

Comments:

Death was due to a combination of emaciation and chronic sepsis. Multiple chronic abscesses were noted along serosal surfaces of abdominal organs on gross examination and histologically these abscesses contained necrotic debris and bacteria. Multiple bacterial species were likely present, however, due to autolysis and possible bacterial overgrowth, culture would be needed to determine the exact bacterial species present in the lesions. Additionally, the bronchopneumonia was consistent with bacterial infection. The source of the bacterial infection was not determined, however, a stingray barb was noted within the sublumbar musculature on gross examination.

Pancreatic zymogen depletion, retention of gastric squamous epithelium, and hepatocellular atrophy are all consistent with decreased food intake and correlate to the emaciation and fat atrophy noted grossly and histologically.

The parasitic granulomas described in the lung on gross exam were not present on sections examined histologically. Pulmonary interstitial fibrosis with vascular proliferation may be related to previous pneumonia, lungworm infection, or may be a manifestation of angiomasia.

The extramedullary hematopoiesis in the liver and changes in the spleen, lymph nodes, and bone marrow are all consistent with chronic infection. Adrenal cortical hyperplasia may be secondary to the stress of chronic disease. The lesions in the heart, thyroid gland, and the kidney were considered incidental age related findings.

Reported By:

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