

**ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT**

Field ID: GW2010008A
Additional Identifier:
ZPP Accession Number: 11-45SI
Species: *Stenella longirostris*
Strand Date: 06/05/10
Strand Location: Panama City, Florida
Sex: M
Age Class: Yearling
Necropsy Date: 06/06/10
Condition code: 2
Total Length: 166 cm
Weight:
Blubber Depth:
Body Condition:

Gross Necropsy:

Slides/Tissues Received: 21 regular slides

Microscopic Findings:

Slide 1:

Aorta: No significant findings (NSF).

Small intestine: NSF

Lymph node: Focally within the cortex is a very small accumulation of bright eosinophilic necrotic material surrounded by a few macrophages

Slide 2:

Testes: NSF – immature.

Diaphragm: Multifocally small numbers of myocytes are slightly rounded, dark eosinophilic and sometimes have decreased cross striations.

Slide 3:

Spleen: There are numerous lymphoid follicles.

Pancreas: NSF

Lymph node: Within the cortex are a few, small, nodular accumulations of bright eosinophilic necrotic material surrounded by small numbers of macrophages and a few multinucleated giant cells and neutrophils. There are moderate numbers of lymphoid follicles.

Slide 4:

Urinary bladder: NSF

Lymph node: There are moderate numbers of moderate to large lymphoid follicles.

Lymph node: There are moderate numbers of moderate to large lymphoid follicles. Sinuses contain small to moderate numbers of macrophages.

Slide 5:

Lymph node: Lymph node: There are moderate numbers of moderate to large lymphoid follicles. Sinuses contain small to moderate numbers of macrophages and red blood cells.

Slide 6:

Kidney: NSF

Stomach: NSF

Slide 7:

Kidney: One renal pelvis contains a small accumulation of mineral. Adjacent transitional epithelial cells are mildly piled (hyperplasia).

Lymph node: Within the cortex is a focal moderately sized accumulation of necrotic debris and viable and necrotic neutrophils surrounded by moderate numbers of macrophages. There are moderate numbers of lymphoid follicles.

Slide 8:

Adrenal glands: NSF

Lung: Focally a single bronchiole contains small numbers of macrophages and is surrounded by small numbers of macrophages and moderate numbers of lymphocytes often aggregated in follicle-like accumulations. Throughout the remainder of the lung, alveolar spaces contain small amounts of wispy eosinophilic material and a few macrophages, some of which are foamy and/or contain a single light yellow, distinct, globule.

Slide 9:

Brain stem: NSF

Colon: NSF

Slide 10:

Pancreas: Focally a cluster of ductules is surrounded by fibrous connective tissue and lymphoid follicles. Centrally in the fibrous connective tissue is a single, approximately 25 micron, triangular trematode egg with a yellow shell.

Slide 11:

Heart, left ventricle: There are a few multifocal areas of hemorrhage in the subendocardial myocardium. In these areas, are small numbers of neutrophils and karyorhectic debris. A few myocytes are slightly shrunken and smudgy or bright eosinophilic. Small blood vessels smudgy with indistinct eosinophilic walls (fibrinoid necrosis). Focally the adjacent endocardium is thickened and contains small numbers of neutrophils, macrophages and hemosiderin laden macrophages. More centrally within the myocardium is a focal area in which there is very mild loss of myocytes with few macrophages, hemosiderin laden macrophages, rare neutrophils and increased numbers of spindle cells. In a few other areas, there are clusters of myocytes with moderate variation in cells size, presumed myocyte lose and increased numbers of reactive satellite cells.

Skin: NSF

Slide 12:

Thymus: NSF – partial involution

Heart, atrium: NSF

Slide 13:

Skeletal muscle: NSF

Trachea: NSF

Slide 14:

Brain: There are rare scattered lymphocytes in the meninges. A single blood vessel is surrounded by rare lymphocytes.

Slide 15:

Brain, cerebrum: Within the white matter adjacent to a ventricle there are multifocal small aggregates of macrophages, lymphocytes, and multinucleated giant cells that surround a few, up to 35 micron, triangular trematode eggs with a yellow shell. Blood vessels adjacent to the ventricle and occasionally in the remaining parenchyma are surrounded by small numbers of lymphocytes. There a few scattered lymphocytes in the meninges and one cluster of lymphocytes surrounding a blood vessel.

Brain, cerebellum: Focally in the white matter, a small cluster of small caliber blood vessels are surrounded by moderate numbers of hemosiderin laden macrophages. Directly adjacent parenchyma is slightly pale staining and contains increased numbers of reactive astrocytes.

Slide 16:

Brain, cerebellum: In a few areas in the white matter, clusters of small caliber blood vessels are surrounded by moderate numbers of hemosiderin laden macrophages, reactive astrocytes, and focally a small amount of hematoidin.

Slides 17, 18 and 19:

Brain, cerebrum: There are a few scattered lymphocytes in the meninges.

Slide 20:

Brain, cerebrum: A few small blood vessels are surrounded by small numbers of lymphocytes. Focally at the edge of the section grey matter contains moderate numbers of macrophages and lymphocytes and small blood vessels are surrounded by lymphocytes. Parenchyma is mildly vacuolated.

Slide 21:

Eye: NSF

Final Diagnoses:

1. Brain, cerebrum: Mild focal granulomatous and lymphocytic encephalitis with few trematode eggs (consistent with *Nasitrema* sp.) and mild perivascular cuffing
2. Brain, cerebellum: Mild perivascular encephalitis with hemosiderin laden macrophages
3. Heart: Mild multifocal hemorrhage, neutrophilic myocarditis and endocarditis, and fibrinoid vascular necrosis
4. Lung: Mild focal histiocytic and lymphocytic bronchitis
5. Lung: Mild diffuse edema with few alveolar lipid laden macrophages
6. Lymph nodes, multiple unspecified sites: Few granulomas and moderate lymphoid hyperplasia
7. Pancreas; Focal periductular fibrosis and lymphocytic peridochitis with focal trematode egg
8. Kidney: Minimal focal pelvic mineralization

Ancillary Test Results: None available at the time of analysis.

Comments:

The most significant finding and cause of stranding in this dolphin was the encephalitis associated with trematode eggs indicating trematode migration through the brain. The eggs are most consistent with *Nasitrema* sp.. The lesions in the cerebellum are also indicative of trematode migration.

Heart lesions were most consistent with acute sepsis. Though there were no other histologic lesions consistent with sepsis, acute sepsis may have been a peri-terminal event.

The bronchitis was consistent with lungworm infection, though no lungworms were present in the section examined. The edema and lipid laden macrophages noted elsewhere in the lung may be associated with aspiration.

Lesions in noted in the pancreas and lymph nodes are parasite related and were considered mild incidental lesions.

Reported By:

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