

**ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT**

Field ID: 63IMMS031711
Additional Identifier:
ZPP Accession Number: 11-37Tt
Species: *Tursiops truncatus*
Strand Date: 3/17/2011
Strand Location: Petit Bois Island, Mississippi
Sex: F
Age Class: sub adult
Necropsy Date: 3/17/2011
Condition code: 2
Total Length: 172 cm
Weight: 89.5 kg estimated
Blubber Depth:
Body Condition: 3.5 out of 5

Gross Necropsy: Gross necropsy report on file.

Gross findings include (from gross report):

EXTERNAL EXAM: Ulcer lesion on left dorsal fluke. Ventral dorsal fin 3 cm x 1.2 cm irregular slightly indented dark skin lesion. 5 dead Xenos on dorsal fin, broken off. Right fluke, dorsal aspect, 9 dead Xenos, broken off. Left fluke 4 dead Xenos. Left dorsal flipper 3 xeno attachment lesions. Blood coming from mouth. Brownish discoloration on right lateral ventral neck- 4 cm x 0.6 cm. 2 Xenos on right lateral flipper, dead and broken off. 3 Xeno attachment scars. Body condition- 3.5 out of 5 with 5 being obese.

INTERNAL EXAM: Slight edema on ventral jaw. Prescapular ln appear normal. Submandibular ln slightly green, necrotic. Serosanguineous fluid in abdominal cavity.

MUSCULOSKELETON

Axial Muscle: Edema, hemorrhaging in prescapular area. Edema dorsal to pharynx.

Axial Skeleton: No fractures found. Left shoulder joint grossly normal.

Lungs: Serosanguineous fluid in thoracic cavity. Serosanguineous fluid in trachea and right lung. Lungs serosa was pinkish with generalized irregular dark red mottling. Lungs floated in water. Few parasites in left lung- long, linear, white. Right lung serosa was mottled with whitish, greenish, circular irregular discoloration. Right lung had multiple blackish red circular lesions (0.5 to 1 cm diameter) in the parenchyma.

DIGESTIVE SYSTEM

Tongue: Ulcerative lesion on left lateral tongue 1 cm long x 0.4 cm deep..

Lymph Nodes: Prescapular Ln appeared normal. Colonic Ln had irregular tan and dark tan discoloration. Submandibular Ln slight greenish and necrotic. Mesenteric Ln- irregular dark and light colored tan colored. Lung associated Ln- dark red. Hilar Ln- irregular pink and pale discoloration. Tonsils appeared small.

CENTRAL NERVOUS SYSTEM

Brain: Congested blood vessels in the left hemisphere of the brain. 1 cm granulomatous lesion found in frontal section of left hemisphere.

Slides/Tissues Received: 16 regular slides, 1 large slide

Microscopic Findings:

Slide 1:

Tongue: No significant findings (NSF).

Submandibular lymph node: There are small numbers of multinucleated cells within sinuses.

Slide 2:

Aorta: NSF

Spleen: Lymphoid follicles are irregular and small, with depletion of cells within the periarteriolar lymphoid sheaths. Throughout the red pulp are numerous plasma cells and small numbers of histiocytes.

Slide 3:

Prescapular lymph node: The cortex and sinuses contain moderate numbers of scattered to clustered multinucleated cells. Surrounding parenchyma near one cluster of multinucleated cells is pale eosinophilic and slightly smudgy (necrosis). There are increased numbers of plasma cells in the paracortex.

Heart: NSF

Lung: Focally alveolar spaces are filled with and septae obscured by an accumulation of large numbers of neutrophils, fewer macrophages, and necrotic cellular debris. In the region surrounding this focus, alveolar spaces and bronchioles contain small numbers of macrophages, fewer neutrophils, occasional multinucleated giant cells with foamy cytoplasm, eosinophilic debris, and fragments of smudgy eosinophilic foreign material and skeletal muscle. Alveolar septae in this area also contain small to moderate numbers of macrophages

Slide 4:

Heart (left ventricle): NSF

Heart (right ventricle): Focally the myocardium adjacent to an arteriole contains a small number of lymphocytes and fewer plasma cells and macrophages. In this area there is increased separation of myocytes.

Slide 5:

Skeletal muscle: NSF

Slide 6:

Diaphragm: NSF

Trachea: NSF

Slide 7:

Colonic lymph node: There are rare multinucleated cells within the cortex and sinuses. The cortex and paracortex are moderately expanded by lymphocytes.

Pharynx: NSF

Intestine: NSF

Slide 8:

Uterus: NSF

Tonsil: There is a small cluster of eosinophils adjacent to a lymphoid follicle and crypt.

Mesenteric lymph node: There are several small nodular areas of necrosis in the cortex. Small numbers of multinucleated cells are scattered in sinuses or clustered in the cortex. There is mild reactive hyperplasia.

Slide 9:

Urinary bladder: NSF

Intestine: NSF

Slide 10:

Blubber: NSF

Skeletal muscle: NSF

Thymus: NSF

Slide 11:

Skin: NSF

Slide 12:

Adrenal gland: NSF

Urinary bladder: NSF

Unknown tissue: Severe autolysis

Pancreas: NSF – Severe autolysis

Slide 13:

Cerebrum: NSF

Brain: White matter is highly vacuolated and contains numerous moderately to markedly dilated axon sheaths with degenerate axons.

Slide 14:

Cerebrum: NSF

Mid brain: White matter tracks contain small to moderate numbers of dilated axon sheaths.

Slide 15:

Cerebrum: Focally within the cerebral grey matter is a large cavitory space containing fragments of mineral that completely obliterates normal brain parenchyma. The cavitory space and mineral is surrounded by a rim of macrophages, lymphocytes, and necrotic macrophages and parenchyma. The adjacent intact grey matter contains moderate numbers of scattered macrophages, lymphocytes, and reactive glial cells. Blood vessels are lined by reactive endothelium and are surrounded by moderate numbers of lymphocytes. Within adjacent white matter, a few blood vessels are mineralized and white matter contains many dilated axons.

Slide 16:

Eye: NSF – autolyzed

Slide 17:

Bone and joint: NSF

Final Diagnoses:

1. Cerebrum: Focal chronic mineralized granuloma with extensive regional white matter degeneration
2. Lung: Focal acute moderate neutrophilic and histiocytic bronchopneumonia with aspirated foreign material
3. Prescapular, submandibular, colonic and mesenteric lymph nodes: Few to moderate multinucleated cells (possible syncytial cells)
4. Mesenteric lymph node: Mild multifocal necrosis
5. Mesenteric and colonic lymph nodes: Mild reactive hyperplasia
6. Spleen: Lymphoid depletion and marked plasmacytosis
7. Heart: Mild focal lymphocytic and histiocytic myocarditis

Ancillary Test Results: Microbiology report on file.

Comments:

The most significant finding in this subadult dolphin was the chronic mineralized granuloma noted in the frontal region of the cerebrum. No etiologic agents were noted, however, previous fungal or parasite infections are the top differentials. Though this lesion was chronic and resolving there was extensive associated regional white matter degeneration that may have had significant adverse effects for this dolphin. Bronchopneumonia was focal, acute, and associated with aspirated foreign and food material (fish muscle).

An intriguing finding was the multinucleated cells noted in the prescapular, submandibular, colonic, and mesenteric lymph nodes. Given the scattered distribution of these cells within the node and the multiple distant nodes affected, syncytial cells are a more likely differential than multinucleated giant cells associated with an inflammatory reaction. Syncytial cells can be seen in certain viral infections, most notably morbilliviral infections. PCR for morbillivirus is recommended on this individual for further analysis. Splenic lymphoid depletion can be also be related to morbilliviral infection. There was no other evidence of viral infection in this animal and no viral inclusions were found.

Necrotic foci in the mesenteric lymph node may be related to parasite migration and are most common in younger animals. A cause of the myocarditis was not found, however, it was a very small, minimal lesion.

Reported By:

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