

**ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT**

Field ID: SDD – 20101120-LA001
Additional Identifier: LA 434
ZPP Accession Number: 11-12Tt
Species: *Tursiops truncatus*
Strand Date: 11/20/2010
Strand Location: East Grand Terre, LA
Sex: Male
Age Class: Subadult
Necropsy Date: 11/22/10
Condition code: 2
Total Length: 185 cm
Weight:
Blubber Depth: 1.7 cm ventral
Body Condition: 4 out of 7

Gross Necropsy: Report on file.

Gross findings include (from report):

All teeth present; juvenile animal

BD Dorsal-1.7cm, Lateral-1.4 cm, Ventral- 1.7 cm

Skin-Many rakemarks over dorsum on both sides, dorsal fin and tail, head

Lesion on right side, 10 cm distal to dorsal fin, 3.5 cm x 1.5 cm, in connective tissue

Right lung is more congested than left- both inflated

Liver: possible parasite- 3 cysts observed in small piece of tissue/parenchyma

Multiple parasite nodules in 2nd stomach, more between the 2nd and 3rd stomach (cysts)

Observed tonsils small; tongue edges have papillae

Lungs: multifocal nodular lesions bilaterally throughout parenchyma- firm on palpation; cut surface=tan/yellow; no visible parasite but slightly caseous appearance. Nodules 2-6mm diameter.

Liver- several small (-5mm) diameter nodules assoc w/assumed parasite cysts.

Slides/Tissues Received: 26 regular slides, 1 large slide

Microscopic Findings:

Slide 1:

Heart, ventricle: No significant findings (NSF). Epicardial adipose tissue is abundant.

Slide 2:

Heart: NSF

Diaphragm: NSF

Lymph node: NSF

Slide 3:

Lymph node: Sinuses are regionally mildly congested and contain small numbers of histiocytes and hemosiderin laden macrophages.

Lymph node: NSF

Slide 4:

Esophagus: NSF

Trachea: NSF

Cervical lymph node: NSF

Slide 5:

Spleen: Red pulp contains small numbers of histiocytes, erythroid and myeloid precursors and megakaryocytes.

Kidney: There is a single small cluster of lymphocytes in the cortex.

Slide 6:

Lung: Regionally, several adjacent bronchioles are filled with eosinophilic necrotic debris, and large numbers of viable and degenerate neutrophils surrounded by moderate numbers of macrophages and fewer eosinophils and lymphocytes. Bronchiolar epithelium is obliterated by the inflammation. Inflammatory cells extend into adjacent alveolar spaces, obscure alveolar septae, and in some areas are mixed or boarded by small to moderate amounts of fibrous connective tissue. Peribronchiolar connective tissue and alveolar septae in this region often contains small loose aggregates of lymphocytes. In one area, alveolar spaces contain moderate amounts of pale basophilic fluid, moderate numbers of eosinophils and foamy macrophages. Subpleural connective tissue adjacent to this region contains moderate amounts of fibrous connective tissue and small nodular aggregates of lymphocytes. There are several separate bronchioles that are filled with mineralized debris surrounded by moderate numbers of macrophages. Peribronchiolar connective tissue contains moderately sized nodular aggregates of lymphocytes. Throughout the sections several alveolar spaces and bronchioles contain large bacilli, large coccobacilli, few squamous cells, debris, and small amounts of pale basophilic material (terminal aspiration and bacterial overgrowth).

Slide 7:

Lymph node: NSF

Testes: NSF

Slide 8:

Liver: Portal triads are surrounded by small amounts of fibrous connective tissue. Hepatocytes multifocally contain few small distinct clear cytoplasmic vacuoles (lipid, presumptive).

Slide 9:

Thyroid gland: NSF

Thymus: NSF

Slide 10:

Thymus: NSF

Lymph node (2): There are small numbers of eosinophils within sinuses.

Slide 11:

Adrenal glands: Cortices are slightly thin compared to the medulla.

Slide 12:

Colon: NSF

Colonic lymph node: NSF

Slide 13:

Tongue x2: NSF

Slide 14:

Colon: NSF

Small intestine: NSF

Slide 15:

Intestine: NSF

Stomach, squamous portion: NSF

Pylorus: Focally within the lumen is a 4-5 mm diameter section of a dorsoventrally flattened trematode. The trematode has loose eosinophilic parenchyma, lacks a coelom, and contains vitellaria, testes, and fragments of eggs with a yellow shell.

Slide 16:

Fundus: Focally within the lumen is a 5 mm diameter section of a dorsoventrally flattened trematode. The trematode has loose eosinophilic parenchyma, lacks a coelom, and contains vitellaria, testes, and fragments of eggs with a yellow shell.

Small intestine: NSF

Slide 17:

Skin: Multifocally there are perpendicular divots in the epidermis extending to the mid to deep epidermis. The epidermis surrounding these divots or depressions has a thickened stratum corneum and stratum granulosum. The adjacent epidermis and dermis contains small numbers of neutrophils (consistent with rake marks).

Slide 18:

Skin/blubber: NSF

Slide 19:

Skeletal muscle: NSF

Skeletal muscle/lesion: Within the skeletal muscle and connective tissue are multifocal, moderately sized, nodular accumulations of eosinophilic necrotic debris and necrotic neutrophils surrounded by moderate numbers of macrophages and multinucleated giant cells. Within the necrotic debris are few individual necrotic skeletal myocytes, small amounts of mineral, and in one area a small cluster of basophilic coccobacilli. In several nodules, necrotic material and macrophages surround few, up to approximately 40 micron diameter, round to oval, embryonated nematode eggs with a thick eosinophilic shell (*Crassicauda* sp. presumptive). Inflammatory nodules are surrounded by thick bands of fibrous connective tissue. Along one edge of the section necrotic, material and fibrin are adhered to the fibrous connective tissue.

Slide 20:

Penis: NSF

Urethra: NSF

Slides 21-23:

Cerebrum: NSF

Slide 24:

Cerebellum: NSF

Slide 25:

Pons, medulla: NSF

Slide 26:

Eye: Centrally the cornea is approximately ½ normal thickness. Adjacent corneal stroma contains moderate numbers of neutrophils, few red blood cells, increased numbers of reactive

fibrocyte nuclei, and increased numbers of small blood vessels. Overlying corneal epithelium is moderately hyperplastic and adjacent to the hyperplastic area, segmentally thin.

Slide 27:

Bone/bone marrow: NSF

Final Diagnoses:

1. Dorsal skeletal muscle and connective tissue: Regionally extensive, chronic granulomatous and necrotizing myositis and cellulitis with intralesional nematode eggs (consistent with *Crassicauda* sp.) and few bacteria
2. Eye: Moderate subacute to chronic neutrophilic keratitis and corneal epithelial hyperplasia (consistent with previous ulceration)
3. Lung: Mild regional granulomatous, necrotizing and eosinophilic bronchopneumonia and few mineralized granulomas
4. Pylorus and fundus: Mild trematodiasis (consistent with *Braunia* sp.)
5. Adrenal glands: Mild cortical atrophy
6. Spleen: Mild histiocytosis and extramedullary hematopoiesis
7. Lymph nodes (sites unspecified): Mild eosinophilia
8. Lymph node (site unspecified): Mild congestion and sinus histiocytosis
9. Liver: Mild portal fibrosis
10. Liver: Multiple parasitic cysts (gross diagnosis)
11. Skin: Minimal multifocal erosions (rake marks)

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

Comments:

Cause of death was not evident in the tissues examined histologically. Described lesions were not considered severe enough to have caused significant debilitation. As was described grossly, this animal was in good body condition with ample blubber and parenchymal adipose tissue. Lymphoid organs were within normal limits for a younger free ranging animal.

The lesion described in the connective tissue along the dorsal right side of the body was consistent with chronic parasitic granulomas. Parasite eggs were most consistent with *Crassicauda* sp. Also there were a small number of bacteria within one area of the lesion. The pulmonary lesions were also consistent with parasite infection, though no intact lungworms were noted histologically. Although parasitic cysts were described in the liver on gross examination, none were noted histologically. Parasite load throughout the body was considered within acceptable limits for a subadult free-ranging dolphin.

The morphology of the corneal lesions was most consistent with a healing corneal ulcer. A cause was not noted.

The significance of the adrenal cortical atrophy is unknown. Other lesions were regarded as incidental findings.

Reported By:

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