

## ZOOLOGICAL PATHOLOGY PROGRAM STRANDED CETACEAN NECROPSY REPORT

**Field ID:** GW2011003D  
**Additional Identifier:**  
**ZPP Accession Number:** 13-03Tt  
**Species:** *Tursiops truncatus*  
**Strand Date:** 1/30/11  
**Strand Location:** Tyndall AFB, Florida  
**Sex:** Female  
**Age Class:** Adult  
**Necropsy Date:**  
**Condition code:** 2  
**Total Length:** 226 cm  
**Weight:**  
**Blubber Depth:**  
**Body Condition:**

**Gross Necropsy:** Report on file. Findings include (from report): The skin is covered in raised, open, 0.5 – 2 inches in size. Teeth are worn and missing. The liver is severely mottled and lumpy in texture.

**Slides/Tissues Received:** 30 regular slides.

### **Microscopic Findings:**

#### Slide 1:

Kidney: Multifocally the cortex has several very small accumulations of lymphocytes and plasma cells. Small numbers of medullary tubules are mineralized.

#### Slide 2:

Lung: Multifocally interstitium is moderately thickened by increased amounts of pale, fibrous connective tissue. Within these some of these areas are increased numbers of small caliber blood vessels (angiomatosis). Multifocally within the interstitium are small numbers of scattered lymphocytes, lesser numbers of plasma cells, and rare macrophages containing brown pigment. There are a few small areas of mineralization. Subplural connective tissue is moderately thickened by fibrous connective tissue containing many blood vessels (angiomatosis).

Spleen: Lymphoid follicles are small and mildly depleted of lymphocytes. The red pulp contains increased numbers of macrophages and eosinophils and small numbers of myeloid and erythroid precursors and megakaryocytes.

#### Slide 3:

Lung: In addition to changes described in slide 2, focally alveolar spaces contain moderate numbers of macrophages and eosinophils.

Spleen: See slide 2.

Liver: Portal triads are surrounded by moderate amounts of fibrous connective tissue that sometimes bridges between portal areas or between portal areas and the capsule. Portal regions have small numbers of lymphocytes, plasma cells, and macrophages and small amounts of trematode pigment. There are small clusters of plasma cells and myeloid precursors in sinusoids. Centrilobular hepatocytes contain small amounts of hemosiderin. The capsule is thickened by fibrous connective tissue.

Slide 4:

Liver: see slide 3

Lymph node: Focally the cortex contains a discrete, nodular neoplastic mass. The mass is comprised of multiple blood filled vascular channels separated by thin to occasionally mildly thick fibrous tissue septae. Vascular channels are lined by a single layer of well differentiated endothelial cells. Occasional vascular channels contain accumulations of fibrin that are adhered to endothelium (fibrin thrombi). In the remainder of the lymph node, sinuses contain moderate numbers of eosinophils and small clusters of macrophages filled with dark brown-black pigment.

Slide 5:

Lymph nodes (2): No significant findings (NSF).

Adrenal gland: NSF

Slide 6:

Heart (ventricles, septum): In a few small areas, myocardial blood vessels are surrounded by small amounts of fibrous connective tissue that extends into the adjacent parenchyma replacing myocytes. Multifocally moderate numbers of myocytes contain moderate amounts of lipofuscin. Epicardial adipose tissue is depleted.

Slide 7:

Heart (atria): NSF

Slide 8:

Heart (atria): NSF

Slide 9:

Mammary gland: NSF – inactive

Diaphragm: NSF

Slide 10:

Mammary gland: NSF - inactive

Diaphragm: NSF

Skeletal muscle: NSF

Slide 11:

Small intestine: NSF

Lymph node: NSF

Slide 12:

Intestine (possible duodenum): The mucosa contains moderate numbers of eosinophils.

Squamous mucosa: NSF

Slide 13:

Colon: NSF

Tongue: NSF

Slide 14:

Colon: NSF

Stomach: NSF

Slide 15:

Squamous stomach: NSF

Slide 16:

Pancreas: Diffusely there is moderate zymogen depletion. Pancreatic ducts are surrounded by small amounts of fibrous connective tissue.

Lymph node: Sinuses contain moderate numbers of histiocytes and small numbers of eosinophils.

Slide 17:

Brain stem/spinal cord: There is a fragmented mat of partially clotted blood adjacent to the sections. Neurons contain moderate amounts of lipofuscin.

Slide 18:

Trachea: There are small numbers of scattered lymphocytes and plasma cells in the submucosa.

Slide 19:

Skin: NSF

Slide 20:

Skin: Within the mid portion of the dermis are two, coalescing, nodular, moderately sized accumulations of large numbers of neutrophils and fewer macrophages. Inflammatory cells obscure and separate collagen fibers and adipocytes. Overlying epidermis is moderately

hyperplastic with broad rete pegs. There are increased numbers of pigmented cells in the epidermis. The superficial dermis contains small numbers of scattered lymphocytes and macrophages.

Slide 21:

Skin: Similar to slide 20, the mid dermis contains a large nodular accumulation of viable and degenerate neutrophils, macrophages, red blood cells, and pale eosinophilic fluid that obscures and separates collagen fibers. In the center of the inflammation are several small accumulations of eosinophilic small coccobacilli, several flattened, squamous cells, and several up to 40 micron diameter pale basophilic, round to undulating protozoa (presumed degenerate ciliates). Overlying epidermis is moderately hyperplastic.

Slides 22 and 23:

Skin: Centrally there are rents in the epidermis and underlying superficial dermis contains large numbers of viable and degenerate neutrophils. The epidermis is moderately hyperplastic with widened rete pegs. At the rent areas the surface of the epidermis is irregular and fragmented. Multifocally in the superficial and mid dermis near the rents are areas in which keratinocytes are irregularly separated by pale eosinophilic fluid (edema). Keratinocytes in these areas are pale eosinophilic. There are accumulations of red blood cells and neutrophils in the epidermis and in one area neutrophils surround small coccobacilli. Superficial keratinocytes are colonized by bacteria.

Slides 24-30:

Cerebrum: Neurons contain small amounts of lipofuscin.

**Final Diagnoses:**

1. Skin: Moderate chronic ulcerative dermatitis with abscess formation, intralesional bacteria and few ciliates
2. Cardiac adipose tissue: Moderate depletion
3. Pancreas: Moderate zymogen depletion
4. Lung: Mild multifocal chronic interstitial fibrosis, angiomatosis, and focal granulomatous and eosinophilic pneumonia
5. Liver: Moderate periportal fibrosis, mild lymphocytic periportal hepatitis, and mild extramedullary hematopoiesis
6. Lymph node (site unspecified): Hemangioma
7. Spleen: Mild lymphoid depletion, histiocytosis and extramedullary hematopoiesis
8. Trachea: Mild chronic lymphocytic tracheitis
9. Heart: Minimal multifocal interstitial fibrosis
10. Heart and Brain: Mild to moderate myocyte and neuronal lipofuscinosis
11. Kidney: Minimal multifocal lymphocytic nephritis

**Ancillary Test Results:** None available

**Comments:**

Though the exact cause of death was not identified histologically, this older female dolphin had evidence of fat atrophy and pancreatic zymogen depletion, suggesting recent inanition and poor body condition. The skin lesions were the most significant finding histologic

finding. Lesions were most consistent with an ulcerative dermatitis with underlying abscess formation, though the exact point of epidermal ulceration was not present on examined slides. Bacteria and a few ciliated protozoal organisms were noted within deeper areas of inflammation in one section.

All of the other findings including the pulmonary and hepatic fibrosis, pulmonary angiomatosis, hemangioma, and the lipofuscinosis were considered mostly mild and age related changes. There was no evidence of significant underlying infectious disease. A small accumulation of partially clotted blood was present near sections of brain stem. It is unclear whether this was the possible hemorrhage noted on the gross necropsy report. This blood may have been introduced into the calvarium upon opening the skull.

Reported By:

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