

**ZOOLOGICAL PATHOLOGY PROGRAM  
STRANDED CETACEAN NECROPSY REPORT**

**Field ID:** 90IMMS042311  
**Additional Identifier:**  
**ZPP Accession Number:** 11-079Tt  
**Species:** *Tursiops truncatus*  
**Strand Date:** 04-23-11  
**Strand Location:** Long Beach, MS  
**Sex:** female  
**Age Class:** Sub-adult  
**Necropsy Date:** 04-23-11  
**Condition code:** 2  
**Total Length:** 184 cm  
**Weight:**  
**Blubber Depth:**  
**Body Condition:**

**Gross Necropsy:** Gross necropsy notes available at time of histologic evaluation.

**Slides/Tissues Received:** 23 regular slides and one oversized slide.

**Microscopic Findings:** Autolysis is severe, impeding interpretation; also widespread colonization by large numbers of postmortem bacteria.

Slide 1:

Mesenteric lymph node: Sinuses contain abundant colorless space and or dense eosinophilic homogeneous material (edema). Subcapsular sinuses contain large numbers of neutrophils. Cortical follicles are small, with small, hypocellular germinal centers; most containing hyaline material centrally. Mantle zones are small, containing low numbers of small lymphocytes. Paracortex and medullary cords similarly have low numbers of lymphocytes.

Lymph node: There is similar, though lesser lymphoid depletion. Sinuses throughout contain moderately increased numbers of macrophages and low numbers of eosinophils.

Slide 2:

Prescapular lymph node: Sinuses contain few scattered neutrophils and erythrocytes and a mild increase in macrophages; some macrophages contain phagocytosed erythrocytes.

Slide 3:

Thoracic lymph node: Subcapsular sinuses contain large numbers of neutrophils, moderate numbers of erythrocytes and a mild increase in macrophages with evident erythrophagocytosis and few hemosiderin-laden cells. Additionally there are scattered low numbers of eosinophils. Medullary sinuses contain lesser numbers of the above cells.

Slide 4:

Lung-associated lymph node: Cortical follicles are moderately hypocellular with exhausted germinal centers as for the mesenteric node. Sinuses contain large numbers of erythrocytes, moderate eosinophils and few neutrophils. Regionally the capsule contains low numbers of immature granulocytes.

Slide 5:

Left Ovary: No Significant Findings (NSF)

Slide 6:

Right Ovary: NSF

Slide 7:

Spleen: White pulp follicles are moderately to markedly hypocellular with exhausted germinal centers as for the mesenteric node.

Liver: Portal triads throughout the liver contain small to rarely moderate accumulations of lymphocytes, plasma cells and eosinophils with few to rare neutrophils and macrophages. There are low numbers of large round cells with large nuclei admixed (presumed extramedullary hematopoiesis). There are numerous minimal to small clusters of similar cells scattered throughout the parenchyma.

Lung: Few bronchi and bronchioles contain one or more adult nematodes (*Metastrongyles*, *Halocercus spp.*, presumptive), often with low numbers of surrounding eosinophils, macrophages and neutrophils. Few eosinophils, lymphocytes and plasma cells are scattered about the bronchial submucosa and immediately surrounding interstitium. Regionally around the affected conducting airways, alveoli are partially filled with edema fluid and few to occasionally many, macrophages with vacuolated to foamy cytoplasm; some macrophages contain a single, discrete, colorless to pale yellow vacuole. Diffusely the lung is moderately congested.

Slide 8:

Lung: The lung is similarly affected as for Slide 7. Few affected airways have loss of normal architecture, with abundant mural dense mature fibrous tissue which extends into the surrounding interstitium. Fibrous tissue contains low numbers of lymphocytes and plasma cells. Luminal remnants contain low numbers of neutrophils, eosinophils and macrophages.

Adrenal: NSF

Kidney: NSF

Heart: NSF

Slide 9:

Vascular plexus (thoracic, presumptive): NSF

Lymph node (unknown location): Similar to the mesenteric lymph node with lesser sinus inflammatory cells.  
Skeletal Muscle: NSF

Slide 10:

Urinary Bladder: NSF

Pancreas: NSF

Oviduct: NSF

Slide 11:

Spinal cord: NSF

Slide 12:

Heart (3 sections): Adipose tissue at the heart base contains small angular adipocytes with no or scant lipid stores and cells are widely spaced in a lacy basophilic matrix (serous atrophy).

Slide 13:

Tongue: NSF

Great vessel (pulmonary artery, presumptive): NSF

Slide 14:

Esophagus: NSF

Large intestine: GALT aggregates are similar to the mesenteric node and spleen. Focally, GALT contains several deeply invaginated (herniated) crypts. Enterocytes and basement membrane are multifocally discontinuous/absent, and moderate numbers of neutrophils surround the remaining crypt/gland epithelium.

Slide 15:

Intestine (2 sections): The lamina propria contains scattered low numbers of eosinophils.

Uterus: NSF

Slide 16:

Aorta: There is a small, focal, somewhat nodular, subintimal and medial region of collagen fibers and cells aligned perpendicular to the intimal surface.

Intestine: NSF

Slide 17:

Trachea: NSF

Slide 18:

Skin (3 sections): In 2 sections, blubber layer has severe serous atrophy of fat as for the heart base. In one section, throughout the dermis there are multifocal, mild to moderate perivascular accumulations of eosinophils and plasma cells with lesser lymphocytes. Few superficial dermal vessels contain large numbers of luminal neutrophils and eosinophils, some aligned along the endothelial surface (pavementing). One section (no contiguous blubber layer): NSF

Slide 19:  
Eye: NSF

Slide 20:  
Brain: NSF

Slide 21:  
Brain: NSF

Slide 22:  
Brain: NSF

Slide 23:  
Brain: NSF

**Final Diagnoses:**

1. Emaciation (gross diagnosis) with multicentric serous atrophy of fat
2. Moderate lymphoid depletion; Spleen, lymph nodes and GALT
3. Mild, multifocal, portal and random, lymphoplasmacytic hepatitis
4. Moderate, multifocal, eosinophilic and plasmacytic, perivascular dermatitis
5. Mild to moderate, multifocal, chronic eosinophilic and granulomatous bronchitis and bronchiolitis with intralesional nematodes
6. Mild, focal, colonic GALT abscess

**Comments:**

Emaciation/poor body condition noted grossly and related histologic lesion of multicentric serous atrophy of fat were the most significant lesions and the most important factor in demise. Hepatitis was considered a contributing factor but of much less importance. Hepatitis could lead to inappetence and thus contribute more directly to emaciation. Hepatitis was most consistent with enterohepatic processes.

Multicentric lymphoid depletion was evident. Given poor body condition and absence of other significant disease, depletion as a component of generalized debilitation and poor nutritional plane was most plausible, though the existence of lymphoid depletion prior to decline in body condition could not be definitively ruled out histologically.

Lungworm infection was mild in the reviewed sections and if representative of the lung as a whole would have been of minimal to no clinical significance.

Reported By:

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