

**ZOOLOGICAL PATHOLOGY PROGRAM  
STRANDED CETACEAN NECROPSY REPORT**

**Field ID:** 70IMMS070810  
**Additional Identifier:** D-0021 (Alternate field ID); 10-263C (slide accession number)  
**ZPP Accession Number:** 11-046Tt  
**Species:** *Tursiops truncatus*  
**Strand Date:** 07-08-10  
**Strand Location:** Ocean Springs, MS  
**Sex:** male  
**Age Class:** Adult  
**Necropsy Date:** 07-08-10  
**Condition code:** 3  
**Total Length:** 226 cm  
**Weight:**  
**Blubber Depth:**  
**Body Condition:**

**Gross Necropsy:** Gross report not available at time of histologic evaluation.

**Slides/Tissues Received:** 18 regular slides.

**Microscopic Findings:** Autolysis is moderate in most tissues, severe in few. There is widespread colonization by moderate numbers of postmortem bacilli.

Slide 1:

Brain: No Significant Findings (NSF)

Slide 2:

Brain: NSF

Slide 3:

Brain: NSF

Slide 4:

Testis (active): NSF

Lymph node: Diffusely there is moderate to marked fibrosis and the capsule is markedly thickened by abundant dense collagenous fibrous tissue. Cortex contains scant, collapsed follicles and very few paracortical lymphocytes. Medullary cords contain only rare to few lymphocytes, but few plasma cells and macropahges.

Lung: In approximately 40% of the parenchyma, bronchi, bronchioles and alveoli contain few to many neutrophils and lesser macrophages, scant to moderate quantities of eosinophilic proteinic material and in some, large aggregates of cocci and or plump coccobacilli. Frequent

macrophages and lesser neutrophils contain phagocytosed debris and cocci. Lesser numbers of alveoli contain small quantities of proteinic material, few bacteria and scant to no inflammation.

Slide 5:

Lymph node: subcapsular and cortical sinuses contain low to multifocally moderate numbers of neutrophils, mildly increased numbers of macrophages, and scattered cocci. There are occasional large, randomly distributed colorless vacuoles (postmortem gas production).

2<sup>nd</sup> lymph node: There are similar postmortem changes. Sinuses contain moderately increased numbers of macrophages, occasionally in clusters and frequently containing abundant granular brown pigment (hemosiderin, presumptive). Additionally there are frequent sinus plasma cells.

(Presumptive) tongue absent mucosa: NSF

Epididymis: NSF

Skin: Rete ridges are broad and short. At the mid-level of the epidermis is a relatively discrete zone of epithelial cells with moderate intracellular edema. Apical dermal papilla lymphatics are mildly dilated.

Slide 6:

Heart: The myocardium contains several, small, randomly distributed perivascular accumulations of dense collagenous fibrous tissue that replaces and entraps few myocytes.

Ampulla or pyloric stomach (severe autolysis): The lamina propria and submucosa contain few small aggregates of neutrophils and or inflammatory cell debris; few are encircled by small numbers of macrophages and or fibrocytes (granulomas). Rarely there are thin, linear, dense eosinophilic structures centrally within inflammatory foci (possible metazoan remnant).

Lymph node: There are minimally to mildly increased numbers of plasma cells.

Slide 7:

Lung: Approximately 30% of the lung has inflammation and bacteria as for slide 1. There are few areas with predominantly foamy macrophages and a rare macrophage containing a single, large, discrete colorless (presumptive lipid) vacuole. In one region few affected bronchioles contain rare squamous epithelial cells and or trematode ova. Another 30% of the section and impinging upon the large bronchus is a discrete region composed of dense collagenous fibrous tissue containing large numbers of thick-walled vessels (angiomatosis).

Aorta: NSF

Trachea: NSF

Liver: The capsular surface is undulant and portal triads and central veins are frequently closely apposed (lobular collapse). There are scattered postmortem gas bubbles.

Slide 8:

Prostate: NSF

Urinary bladder: NSF

Adrenal: NSF (postmortem gas bubbles)

Ampulla or pyloric stomach (marked autolysis): NSF

Slide 9:

Kidney: Frequent tubular epithelial cells contain abundant granular red-brown cytoplasmic pigment. Scattered thin-walled vessels contain low numbers of cocci.

Adrenal: There is a single large cortical aggregate of cocci (besides widespread large postmortem bacilli as referenced above).

Slide 10:

Pancreas: NSF

Large intestine: NSF

Non-glandular stomach (presumptive): Large portions of the mucosa are absent and the exposed submucosa is heavily colonized by mixed bacteria. There is no visible inflammation.

Slide 11:

Kidney: Several vessels contain mixed bacilli, large (postmortem) bacilli and cocci.

Spinal cord: Vessels are similar to kidney, with scattered bacteria also in the parenchyma.

Slide 12:

Testis: Few vessels contain mixed bacteria as for slide 11.

Lymph node: NSF

Intestine: NSF

Slide 13:

Section of skeletal muscle and adjacent (presumptive) lymph node (location unknown): Skeletal muscle is diffusely necrotic and edematous with few neutrophils scattered throughout. On one margin the skeletal muscle is delimited by a thin layer of dense collagenous fibrous stroma which is heavily populated on surface by cocci and or plump coccobacilli, with few erythrocytes and rare neutrophils. On another margin are similar bacteria and moderate numbers of neutrophils. Along the capsule of the adjacent lymph node is a large adherent aggregate of fibrin with low numbers of bacteria on surface and admixed low numbers of neutrophils deeper. The node contains low numbers of neutrophils. The stroma is mildly edematous and also contains few mature adipocytes.

Pyloric stomach or ampulla (marked autolysis): NSF

Lung: Approximately 50% of the section is composed of large regions of dense collagenous fibrous tissue and thick walled vessels including a large subpleural region and multiple smaller perivascular regions, some which also surround and partially efface conducting airways.

Slide 14:  
Heart: NSF

Colon (presumptive): There are multiple crypts with small mineral concretions.

Non-glandular stomach (presumptive): Regionally the mucosa is absent and exposed submucosa is heavily populated by mixed bacteria. Deeper the submucosa is severely edematous and contains frequent strands and irregular aggregates of fibrin with few neutrophils throughout.

Slide 15:  
Penis: NSF

Lymph node: NSF

Ampulla or pyloric stomach (autolyzed): NSF

Slide 16:  
Trachea: The mucosa is diffusely absent. The exposed submucosa is moderately edematous and on surface contains large numbers of mixed bacteria including frequent cocci. The submucosa diffusely contains low numbers of neutrophils and extravasated erythrocytes. Deeper, the interstitium surrounding cartilage rings is moderately edematous, and occasional vessels contain large numbers of neutrophils, some aligned along the vessel wall (pavementing).

Skeletal muscle (fragmented): NSF

Slide 17:  
Urinary bladder: NSF

Skin with blubber: NSF

Slide 18:  
Eye: NSF

**Final Diagnoses:**

1. Moderate, multifocal, suppurative pneumonia with intralesional cocci
2. Moderate, multifocal pulmonary angiomatosis
3. Locally extensive necrotizing and suppurative myositis and lymph node fibrinous capsulitis
4. Severe, regional, ulcerative and fibrinous gastritis with edema

5. Regionally extensive ulcerative tracheitis with edema and hemorrhage
6. Mild drainage reaction, few lymph nodes

**Comments:**

The most significant finding was suppurative pneumonia. Given frequent intralesional cocci and coccobacilli this was bacterial in origin. Rare trematode ova and squamous epithelial cells suggested aspiration. Given ulcerative gastritis, gastric upset regurgitation and aspiration was a differential. Necrotizing myositis also had an adjacent lymph node with fibrinous capsulitis and apparent cocci similar to the lung: bacterial septicemia is a differential as is local extension of ulcerative gastritis.

Renal and adrenal intravascular cocci also supported the differential of bacterial septicemia, even though numbers of bacteria were undoubtedly increased in the postmortem period.

Tracheitis may have been related to pneumonia.

Moderate angiomatosis was considered of little or no significance.

Reported By:

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