ZOOLOGICAL PATHOLOGY PROGRAM
STRANDED CETACEAN NECROPSY REPORT

Field ID: MET20110522-LA001
Additional Identifier: LA549
ZPP Accession Number: 12-03Tt
Species: *Tursiops truncatus*
Strand Date: 05-22-11
Strand Location: Grand Isle, LA
Sex: male
Age Class: Neonate
Necropsy Date: 05-23-11
Condition code: 2
Total Length: 121 cm
Weight:
Blubber Depth:
Body Condition:

Gross Necropsy: Gross report available at time of histologic evaluation.

Slides/Tissues Received: 22 regular slides.

Microscopic Findings: Autolysis is moderate to occasionally advanced. Postmortem bacilli are variably scant to abundant.

Slide 1:
Tracheobronchial lymph node: Diffusely sinuses contain few neutrophils.

Slide 2:
Mesenteric lymph node: No Significant Findings (NSF)

Slide 3:
Sublumbar lymph node: NSF

Slide 4:
Prescapular lymph node: Medullary sinuses contain mildly increased numbers of macrophages.

Slide 5:
Right lung: A large bronchus and two adjacent branches are lined by multiple pseudostratified layers of elongate, polygonal epithelial cells aligned perpendicular to the basement membrane, with frequent surface layer cells aligned haphazardly. Cells have abundant eosinophilic cytoplasm and large round to fusiform nuclei with vesicular chromatin. The submucosa contains diffuse low numbers of lymphocytes and plasma cells. The mucosa is heavily fragmented and partially sloughed (autolysis) and it and the submucosa contain large numbers of postmortem bacilli, both of which impede interpretation. Airway lumens contain low numbers of

metastrongyle nematodes (Halocercus spp., presumptive). Regionally surrounding the affected airways, small caliber bronchioles and alveoli contain large numbers of neutrophils, lesser macrophages, and a very rare multinucleated giant cell. Most macrophages have abundant foamy cytoplasm while few contain a discrete, colorless to pale yellow, slightly refractile, cytoplasmic vacuole. A rare alveolus contains a nematode larva. A rare macrophage contains 1-2 small apparent bacilli. In one terminal bronchiole macrophages contain small round vacuoles with several 1 micron, irregular, dense basophilic internal structures (presumed phagocytozed and degenerate/necrotic bacteria). The interstitium multifocally contains low numbers of macrophages, neutrophils and lymphocytes. Bronchiolar submucosa contains fewer, similar cells. Throughout the remainder of the section, bronchioles and alveoli contain variably scant to small quantities of lacy proteinic material, and rare to moderate numbers of foamy macrophages. Bronchi and bronchioles are generally devoid of, or contain small rafts of sloughed, epithelium and there are low numbers of postmortem bacilli throughout.

Lung-associated lymph node: Diffusely sinuses contain moderate numbers of neutrophils, macrophages and lymphocytes (drainage reaction).

Slide 6:
Lung: One medium caliber bronchiole and several contiguous branches contain one or more luminal nematodes, and low numbers of neutrophils, rare macrophages, scant proteinic material, and few mixed cocci and bacilli (some postmortem). Airway epithelium is severely attenuated to absent. The submucosa contains low numbers of neutrophils, macrophages, lymphocytes and or plasma cells. Surrounding alveoli contain low to moderate numbers of foamy macrophages, few neutrophils, lacy proteinic material, and rare nematode larva. Rare alveoli contain globular basophilic material and slightly greater numbers of neutrophils. Throughout the remainder of the section, alveoli and small bronchioles contain lacy proteinic material, few foamy macrophages and a rare amniotic squame. The lung is diffusely moderately congested.

Kidney: NSF

Slide 7:
Lung: There are minimal to mild alveolar changes as for Slide 6. No lungworms in this section.

Spleen: Moderate, diffuse congestion.

Thyroid: NSF

Adrenal: NSF

Thymus: Many lobules contain rare to small numbers of scattered eosinophils and lesser neutrophils. Few lobules contain relatively discrete small central medulla clusters of neutrophils. An adjacent small mediastinal lymph node has few cortical follicles with hypocellular germinal centers, however overall lymphocyte numbers are adequate. Sinuses are similar to the lung-associated lymph node (Slide 5; drainage reaction).

Slide 8:

Liver: Most portal triads contain rare to few lymphocytes, plasma cells, neutrophils and eosinophils, sometimes clustered adjacent to bile ducts. There are few widely scattered megakaryocytes (extramedullary hematopoiesis).

Heart: NSF

Skeletal muscle: NSF

Slide 9:
Diaphragm: NSF

Esophagus: NSF

Pharynx with salivary gland: NSF

Duodenum and pancreas: NSF

Aorta: NSF

Slide 10:
Tongue: NSF

Urinary bladder: NSF

Great vessel: NSF

Trachea (essentially devoid of epithelium – autolysis): NSF

Slide 11:
Colon: GALT is mildly hyperplastic.

Colonic lymph node: Moderate reactive lymphoid hyperplasia. Sinuses contain few neutrophils, eosinophils and mildly increase foamy macrophages.

Intestine: NSF

Slide 12:
Heart: NSF

Slide 13:
Heart base/great vessel/pericardial-pleural reflection: NSF

Slide 14:
Skin with blubber: NSF

Slide 15:

Bone/marrow: NSF

Slide 16:
Spinal cord: NSF

Penis: NSF

Testis: NSF

Epididymis: NSF

Lymph node: Moderate reactive lymphoid hyperplasia and mild drainage reaction.

Slide 17:
Cerebrum: NSF

Slide 18:
Cerebrum: NSF

Slide 19:
Cerebellum and brainstem: NSF

Slide 20:
Cerebrum: NSF

Slide 21:
Cerebrum: The deep grey matter contains few small relatively discrete clusters of small glial cells.

Slide 22:
Eye: NSF

Final Diagnoses:

1. Mild to moderate, multifocal, erosive, suppurative and granulomatous bronchitis with intralesional nematodes (Halocercus spp., presumptive) and with regional alveolar histiocytosis
2. Mild, focal, suppurative and histiocytic pneumonia
3. Drainage reaction, lung-associated and multiple other lymph nodes

Comments:

Per the gross necropsy report, this animal had significant pulmonary and thoracic hemorrhage which may have been the proximate cause of death. In the absence of other potential causes, and given rake marks and puncture wounds, traumatic insult was the most likely rule out. The single section of known right lung reviewed had no evidence of a cavitary area of

hemorrhage as described grossly, and only one section was congested, but again had no hemorrhage.

Numbers of lungworms were described as large and primarily located in trachea and mainstem bronchi. Location was consistent with postmortem migration of the parasites. In two sections of lung typical early lungworm lesions of bronchial erosions and early inflammation and surrounding alveolar histiocytosis were noted yet this was of limited distribution. Few larger airways had epithelial hypertrophy and hyperplasia also attributed to lungworm infection.

The small region of suppurative pneumonia could have been secondary to lungworm infection, as secondary bacterial pneumonia can occasionally occur, and putative intralesional bacteria support this conclusion; however, special stains should be employed to further confirm intracellular intralesional bacteria given confounding number of postmortem bacteria noted. Even with secondary bacterial infection, lungworm would have been of mild significance at time of death.

Reported By:

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