School of Veterinary Science

Pathology Report

Submitter Ref.:	Date Sent: 21/03/2022	Accession No.: **60531**

To: [redacted]
Department of Conservation
Christchurch
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Report Sent: 02/05/2022
Copy To: [redacted]

Species: Cetacean		Breed: Hector's Dolphin	
Age: Adult		Sex: Male	
Owner: Department of Conservation			Type: Post Mortem
ID: H302			Prev. Accn.:
Submitted:	At Risk:	Affected:	Dead:

History

Found dead/beachcast by member of public. South Shore, New Brighton.
Dolphin was flown to Massey (not frozen).

Gross Findings

Standard length = 1.250
summed testicular weight = 263g
This dolphin was presented chilled. The body was in good post mortem condition (code 2) with no scavenging and only very minor skin sloughing. The dolphin was in moderate/poor body condition, with a slight 'neck' (slightly concave (atrophied) dorsal musculature at the level of the cervical vertebrae) and decreased blubber (blubber depths: dorsal = 15mm; lateral = 14mm; ventral = 12mm). There were numerous linear to slightly curved, irregularly oriented superficial (shallow) marks over both sides of the body. There were no lacerations on the leading edges of flippers or the dorsal fin, and no evidence of net or linear impressions on the skin. The vasculature of the fluke was unusually prominent (?dehydration).
The teeth were minimally worn, but there were mulitple teeth missing from the right maxillary arcade.
The lungs were well inflated. There was a small amount of fluid in the airways, but no froth.
The stomach contained watery tan fluid and a moderate amount of fine sand. This material was also present in the proximal small intestine. There were no identifiable prey remnants in the stomach compartments, and only low numbers of nematodes were present. A few areas of mild mucosal proliferation/thickening were present in the glandular mucosa. The distal intestine was empty aside from scant watery brown fluid.
The bladder contained approximately 50mL of urine.

Histopathology

Histology summary:
1. Lung: Pulmonary oedema, acute to subacute; mild anthracosis, chronic; perimortem bacteria proliferation (possibly aspiration)
2. Adrenal hyperplasia, moderate, chronic
3. Liver. Hepatic lipidosis, severe, subacute to chronic
4. Kidney. Chronic interstitial nephritis, moderate, with glomerulosclerosis
5. Heart. Age-associated changes (inclusion bodies and pigment) with possible mild interstitial myocarditis
6. Intestine. Mild/moderate neutrophilic and eosinophilic enteritis
7. Skeletal muscle. Mild, acute, multifocal myocytolysis
8. Sand ingestion

Diagnosis

Multiple contributing causes - weakness with terminal aspiration of water/sand

Comments

This dolphin was in less than optimal body condition and had a range of conditions that might have contributed to his death. The changes in his heart indicate that he was an older animal, although this would need to be confirmed with tooth aging. The accumulation of fat in his liver shows that he had not been eating properly for at least a few

weeks, and was mobilising his fat stores (hence the depleted blubber layers). He had inflammation in his intestinal tract (enteritis), which may also have contributed to his poor body condition. The adrenal changes are consistent with age, or with a period of stress.
Some of the changes present were recent, and probably occurred close to the time of death, including ingestion of sand, damage to some skeletal muscle fibres, a buildup of fluid in the lungs (pulmonary oedema) and the presence of bacteria in the lungs. One possible scenario that would fit this range of changes is that this dolphin live-stranded or died in shallow water, due to illness/weakness, and ingested and aspirated sandy water as a terminal event.

Date: 02/05/2022	Pathologists: [redacted]
Students:	