



Oregon State University Veterinary Diagnostic Laboratory

PO Box 429
Corvallis, OR 97339-0429
Phone(541) 737-3261
FAX (541) 737-6817

Addendum Version 2

*This report supersedes all
previous reports for this case*

VDL Accession #: 12V10771
Referral #:
VTHCase #:
Date Collected:
Date Received: 04/04/2012
Case Coordinator: Rob Bildfell, DVM,
Diplomate ACVP
**Electronically Signed and Authorized
By:** Chantelle Onderko on behalf of Rob
Bildfell, DVM, Diplomate ACVP on 6/6/2012
3:29:12PM

Email To:
C101638 Prescott Grant NA229A
jim.rice@oregonstate.edu

Collection Site:
Hatfield Marine Science Center
NEWPORT, OR 97365
Phone: 5418670446

Specimens Received: 24 blocks; 1 Tissue - Fixed;

Case Contacts

Submitter	Prescott Grant	NA229A	5418670446	Hatfield Marine Science Center, 2030 SE Marine Science Drive, Newport, OR 97365-5296
-----------	----------------	--------	------------	---

Specimen Details

ID	ID Type	Other IDs	Taxonomy	Gender	Age/DOB
PSU 12-02-11 Oo	Facility ID		Whale	Female	Adolescent

Diagnosis

Parasitic cellulitis and sinusitis, right bullae tissues.

Case Summary

These comments pasted from 12-10511, an earlier tissue submission from same animal so overall case picture is retained. That case # will be finalized once more gastric sections are cut.

As you anticipated, these tissues are frequently too decomposed for useful analysis. It sounds like a traumatic event is suspected but I cannot positively confirm that at the histologic level. At this point in tissue decomposition process the erythrocytes have generally lysed, so even identifying hemorrhage is difficult. Fluid leaks freely from decomposing blood vessels and this effect is magnified on the down-side of the animal (hypostatic congestion). In order to be certain that the fluid was accumulating as a "bruise" antemortem I need to see some leukocytes (especially macrophages) coming into the tissue. This is not seen here; one interpretation is that the trauma resulted in rapid death - no time for a cellular response. The other is that the fluid is merely post mortem change. The extensive emphysema in these tissues can also be better interpreted as a post mortem change vs antemortem bacterial infection due to the lack of a cellular response.

In terms of potentially useful findings, subtle changes in various key tissues such as liver and kidney would be masked by autolysis, so we can't completely discount underlying illness. There is clearly a **suppurative lymphadenitis** in a solitary node - overall significance is unclear; could be a hint of bacterial sepsis but could also merely be a localized and controlled problem of no life-threatening significance.

The nematode infection in area of bullae (suspect *Stenurus sp.*) is not surprising and is so common in cetaceans that it is difficult to ascribe any clinical significance, but there is inflammation here as well (these findings under submission 12-10771).

Finally I find the inclusions in gastric epithelium to be pretty convincing, even though the tissue orientation is suboptimal. There is a gross description of an roughened area of forestomach so perhaps pathology was associated with this infection. It looks like a papillomavirus to me and these have been reported as a cause of cutaneous lesions in killer whales, and of gastric lesions in belugas. I will try check wet tissue and see if I can obtain

a better section before finalizing case. If this viral infection resulted in a site of bleeding then it could be a potential cause for anemia/weakness, as well as a portal of entry for bacteria.

Histopathology

Slides 1 - 6 = Jar 1

1: Skeletal muscle - myocytes lack nuclei but generally retain striations. There is extensive emphysema. Pockets of loose connective tissue appear hypercellular and bacterial numbers are high in these areas - interpreted as decomposing vascular elements.

Skeletal muscle with dermal interface - interfacing dermal pegs on outer aspect include intravascular eosinophilic densities interpreted as intravenous fibrin thrombi.

2: Dense regular connective tissue - more emphysema.

3: Dense regular connective tissue plus skeletal muscle - more emphysema.

4: Adipose tissue with skeletal muscle - some protein rich fluid accumulation in fascia but no cellular response.

Mild emphysema present.

5: Skeletal muscle and associated connective tissue - no new findings

6: Skin - includes some lobular gland formations in deep dermis but cells too autolytic to identify type.

Slides 7 -10 = Jar 2

7: Adipose tissue - No Significant ILsions

8: Adipose tissue - NSL

9: Skin - NSL

10: Skin - NSL

11: Brain - severe autolysis

12 - Choroid plexus - odd crystalline, hypereosinophilic character to portions of adipose tissue - post mortem autolysis change or consequence of hemorrhage in the area?

13, 14 - Left bullae - autolytic tissue with abundant bacteria, some fluid in interstitial planes, emphysema but no cellular infiltrates. A few nerve profiles are seen and these appear normal.

15-17 - Right bullae - Tissue is edematous and includes dilated vascular/sinusoidal spaces that are occupied by several collapsed profiles of nematodes and very large numbers of thick-shelled nematode eggs containing partially developed larvae. Although epithelium has been sloughed from cavity surfaces the stroma contains moderate numbers of round cell "ghosts" interpreted as infiltrating leukocytes. Some of the parasites in lumina are also bathed in exudate. The odd hypereosinophilic foci of saponified fat are again seen in this section.

Slide 17 contains good quality section of a nerve - no changes seen in nerve fibers

18,19 Left -eye - fluid and emphysema in fascial planes of skeletal muscle. No cellular component. Periocular skin normal.

23: Left eye, globe - poor quality section but NSL. Lens fragmentation is interpreted as post-mortem artifact.

20-22: Right eye - larger amounts of interstitial fluid than seen on left side but still no convincing evidence of a cellular response. Myocytes tend to be more fragmented but usually retain striations.

Fluid filled cleft forming along dermoepidermal junction of skin (20) - post mortem change. Emphysema evident in deep dermis.

There is irregular spongiosis of epidermal cells in #22 and a few of the capillaries in dermal papillae here appear to be blocked by fibrin thrombi. No exudation of leukocytes identified.

24: Right globe - poor quality section with NSL

HISTOPATHOLOGY REPORT

Animal/Source	Specimen	Specimen Type	Date Resulted	Results
PSU 12-02-11 Oo		Tissue - Fixed	22-Apr-2012	Report Completed

Administration

6/6/12 Charges re-accessioned to case #12V13146 per request of Jim Rice and Kathy Minta. CO