

Final Report AHC Case: 09-1617

Last Updated: 05/01/09 2:15 PM

Pathologist: Gary D. Marty

Received Date: 04/29/09

Collected Date: 04/28/09

Client Ref No: 7228

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Animal Data

Species: Atlantic Salmon

Breed:

Sex:

Age:

Premise ID:

Case History

Submitted 2 fresh tissue for PCR (IHN and VHS) and one formalized tissue for histopathology.

Saltwater entry - 07 S1. 2 fresh morts sampled. Fish #1 (histo) was septicemic, also thick white lining on liver and kidney.

Final Diagnosis

1a. Liver: basophilic hepatocellular cytoplasm, diffuse, mild

1b. Liver: hepatocellular fatty change (lipidosis), diffuse, moderate

1c. Liver: sinusoidal congestion, multifocal, mild

2. Heart, compact cortical layer: congestion and hemorrhage, multifocal, moderate

Final Comment: This fish has several lesions that provide clues to the cause of morbidity, but none of the lesions are of sufficient severity for me to assign a cause of death. Comments on specific lesions follow:

Basophilic cytoplasm in hepatocytes is an indication of active protein synthesis. It is normal in mature females producing protein for deposition in their eggs. In other fish it might be related to increased protein needed as part of an inflammatory response. It is common in juvenile fish with ulcers.

Hepatocellular fatty change (lipidosis) often occurs when fish are not feeding; it also occurs in cases of inadequate nutrition.

Sinusoidal congestion in the liver is evidence of circulating vasodilators; sometimes it occurs as a postmortem artifact. Differentials include substances released from inflammatory cells or bacteria, and infection with VHSV. Sinusoidal congestion is one of the classic lesions associated with ISAV infection, but ISAV has never been identified in British Columbia. Consider bacteriology and PCR for VHSV and IHN.

Congestion and hemorrhage in the stratum compactum of the heart (i.e., the peripheral layer of dense cardiac muscle) is a distinctive lesion that I started seeing in 2008 in clinical submissions from both Atlantic and Pacific salmon; however, I have not seen this change in any of the

2154 hearts I have examined since 2006 from the BC Audit and Surveillance Program. This might be a congenital malformation. Alternatively, it might be a result of endothelial damage, with bacterial and viral infections as possible differentials.

Histopathology

Formalin-fixed tissues were submitted in 1 cassette for histopathology.

Slide 1 (7228-1) - heart, spleen, liver, head kidney, trunk kidney, skin/skeletal muscle, mesenteric adipose tissue

All organs were examined. Organs not listed elsewhere have no significant lesions.

Quality control: Liver autolysis: mild. Organs have no postfixation dehydration and no acid hematin deposits.

Molecular Diagnostics

PCR - IHN Resulted by: Ken Sojony Verified by: Dr. J. Robinson on 05/01/09 @ 10:05 AM

Specimen	ID	Test	Result
Tissue	A)7228-1	PCR - IHN	Negative
Tissue	B)7228-2	PCR - IHN	Negative

PCR - VHSV Resulted by: Ken Sojony Verified by: Dr. J. Robinson on 05/01/09 @ 10:04 AM

Specimen	ID	Test	Result
Tissue	A)7228-1	PCR - VHSV	Negative
Tissue	B)7228-2	PCR - VHSV	Negative

History of Communication

Date	To	Description
05/01/09 2:17 PM	Marine Harvest Canada - fax	bc report generated
05/07/09 1:36 PM	Marine Harvest Canada - fax	Case Invoiced



Gary D. Marty
D.V.M., Ph.D., Diplomate A.C.V.P.

These results relate only to the animals or items tested.

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