



CMHD Pathology Report

CMHD Pathology Core

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ReportID: MSH13010 Report Date: January 25, 2013
Pathologist: H. Adissu

CMHD LabID: N12-1509

History:

Phenotype:
preweaning lethality
vertebral fusion
decreased lumbar vertebrae number
increased sacral vertebrae number
vertebral transformation
preweaning lethality
vitreous body deposition
increased bone strength

AnimalID: M00261766

Histopathology Findings:

eye (MA:0000261)

Histopath Description:

Within the vitreous and attached to the posterior margin of the lens is a 100x75 um globular material composed of proteinaceous globules (interpreted as Morgagnian globules)

Morphological Diagnosis:

Distribution: focal; **Severity:** mild; **MPATH Diagnosis:** cataract MPATH:29

Definitive Diagnosis:

Degenerate lens protein

Histopathology Comments:

The material is most consistent with denatured lens protein.

brain (MA:0000168)

Histopath Description:

hydrocephalus

Morphological Diagnosis:

Distribution: bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639

Definitive Diagnosis:

Mild hydrocephalus

mesenteric lymph node (MA:0002829)

Histopath Description:

The paracortex and the medullary sinuses contain large numbers of plasma cells. Some of the plasma cells are large and contain multiple protein inclusions (Mott Cells). The cortex and subcapsular sinuses are expanded by numerous monomorphic lymphocytes.

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate;

Definitive Diagnosis:

Lymphoid hyperplasia with marked plasmacytosis

Histopathology Comments:

Lymphoid hyperplasia with sinus plasmacytosis suggests antigenic stimulation. However, no inflammatory change was observed on the gut or elsewhere to support this.

liver (MA:0000358)

Histopath Description:

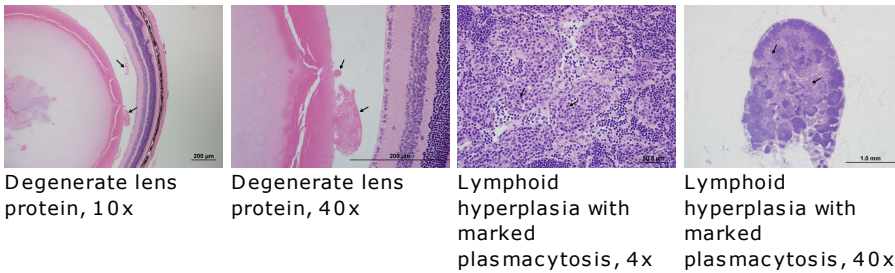
There is diffuse microvesicular lipidosis

Morphological Diagnosis:

Distribution: diffuse; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:

Hepatic lipidosis



Histopathology examination included the following organs and tissues: Calvarium, brain, eyes, ears, tongue, Harderian gland, zymbal gland, salivary glands, nasal sinuses, teeth, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, gall bladder, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, lymph nodes, spinal cord, bone marrow, skeletal muscles, brown fat, and skin. Histopathology examination included the following organs and tissues: Calvarium, brain, eyes, ears, tongue, Harderian gland, zymbal gland, salivary glands, nasal sinuses, teeth, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, gall bladder, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, lymph nodes, spinal cord, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M00261767

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

There is diffuse microvesicular lipidosis

Morphological Diagnosis:

Distribution: diffuse; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:

Hepatic lipidosis

brain (MA:0000168)

Histopath Description:

hydrocephalus

Morphological Diagnosis:

Distribution: bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639

mesenteric lymph node (MA:0002829)

Histopath Description:

The paracortex and the medullary sinuses contain large numbers of plasma cells. Some of the plasma cells are large and contain multiple protein inclusions (Mott Cells). The cortex and subcapsular sinuses are expanded by numerous monomorphic lymphocytes.

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate;

Definitive Diagnosis:

Lymphoid hyperplasia with marked plasmacytosis

Histopathology Comments:

see comment for M00261766

spleen (MA:0000141)

Histopath Description:

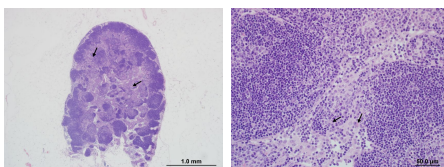
There are multiple germinal centers within the lymphoid follicles. Numerous plasma cells are present within the marginal zones.

Morphological Diagnosis:

Distribution: multifocal to coalescing;

Definitive Diagnosis:

Lymphoid hyperplasia with marginal plasmacytosis; extramedullary hemmatopoiesis (erythroid)



Lymphoid hyperplasia with marked plasmacytosis, 4x

Lymphoid hyperplasia with marked plasmacytosis, 40x

Histopathology examination included the following organs and tissues: Calvarium, brain, eyes, ears,

tongue, Harderian gland, zymbal gland, salivary glands, nasal sinuses, teeth, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, gall bladder, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, lymph nodes, spinal cord, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M00256946

Histopathology Findings:

liver (MA:0000358)

Morphological Diagnosis:

Distribution: multifocal; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:

Moderate lipidosis

Histopathology examination included the following organs and tissues: Calvarium, brain, eyes, ears, tongue, Harderian gland, zymbal gland, salivary glands, nasal sinuses, teeth, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, gall bladder, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, lymph nodes, spinal cord, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M00256949

Histopathology Findings:

eye (MA:0000261)

Histopath Description:

Within the vitreous and attached to the posterior margin of the lens is a 100x75 um globular material composed of proteinaceous globules (interpreted as Morgagnian globules)

Morphological Diagnosis:

Distribution: focal; **Severity:** mild; **MPATH Diagnosis:** cataract MPATH:29

Definitive Diagnosis:

Degenerate lens protein

Histopathology Comments:

The material is most consistent with denatured lens protein.

spleen (MA:0000141)

Histopath Description:

There are multiple germinal centers within the lymphoid follicles. Numerous plasma cells are present within the marginal zones. There is moderate erythropoiesis and moderate megakaryopoiesis in the red pulp

Morphological Diagnosis:

Distribution: multifocal to coalescing;

Definitive Diagnosis:

Lymphoid hyperplasia with marginal plasmacytosis; extramedullary hemmatopoiesis (erythroid)

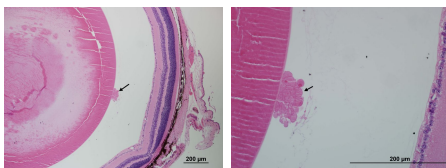
liver (MA:0000358)

Morphological Diagnosis:

Distribution: multifocal; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:

Moderate lipidosis



Degenerate lens protein

Degenerate lens protein

Histopathology examination included the following organs and tissues: Calvarium, brain, eyes, ears, tongue, Harderian gland, zymbal gland, salivary glands, nasal sinuses, teeth, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, gall bladder, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, lymph nodes, spinal cord, bone marrow, skeletal muscles, brown fat, and skin.

Summary and Recommendation:

In two mice (M00261766 and M00256949) there is a proteinaceous material consistent with degenerate lens protein is present within the vitreous chamber. The lesion suggests leakage of lens protein into the vitreous humor, a feature associated with cataract. However, no evidence of cataract was seen within the rest of the

lens. Nonetheless, the lesion may explain the vitreous body deposition observed in this line.

Plasma cell hyperplasia with sinus plasmacytosis was observed in the two male mice (M0061766 and M00617667). The lesion suggests an antigenic stimulation.

The skeletal phenotypes are difficult to ascertain on single skeletal sections.