



CMHD Pathology Report



CMHD Pathology Core

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ReportID: Report Date: February 20,
2014
Pathologist: Dr. H. Adissu

Mouse Genetics Project

Wellcome Trust Sanger
Institute
Wellcome Trust Genome
Campus
Hinxton, Cambridge
CB10 1SA
UK

CMHD LabID: N13-924

Relevant History:

Phenotype
Increased circulating creatinine level
increased susceptibility to bacterial infection
preweaning lethality
preweaning lethality

AnimalID: M00364495 (Male)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

diffuse lipidosis

Morphological Diagnosis:

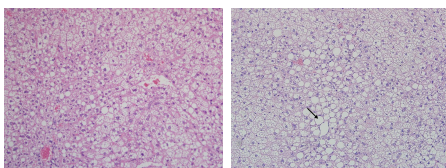
Distribution: diffuse; **Severity:** extreme; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

This is dietary steatosis



Liver, severe
lipidosis, 20x, HE

Liver, Wt, severe
lipidosis, 20x, HE

lymph node (MA:0000139)

Histopath Description:

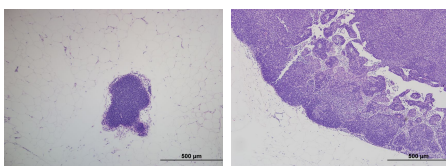
The mesenteric lymph nodes is small.

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Lymphoid hypoplasia



Mesenteric lymph
node, lymphoid

Mesenteric lymph
node, WT, normal,

hypoplasia, 10x, HE 10x, HE

brain (MA:0000168)**Histopath Description:**

There is moderate dilation of the fourth ventricle

Morphological Diagnosis:**Distribution:** diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change
MPATH:14**Definitive Diagnosis:**

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

Organ/Tissue Analyzed:

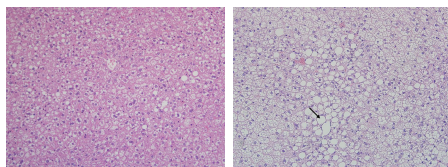
Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, testis, epididymis, seminal vesicle, and prostate.

AnimalID: M00364482 (Male)**Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

Mild lipidosi

Morphological Diagnosis:**Distribution:** multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42**Definitive Diagnosis:**

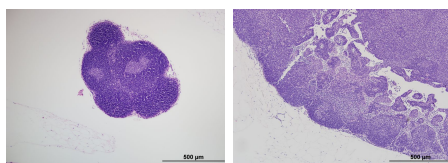
Minimal hepatic lipidosi

Liver, minimal
lipidosi, 20x, HELiver, Wt, severe
lipidosi, 20x, HE**lymph node (MA:0000139)****Histopath Description:**

The mesenteric lymph nodes is small.

Morphological Diagnosis:**Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133**Definitive Diagnosis:**

Lymphoid hypoplasia

Mesenteric lymph
node, lymphoid
hypoplasia, 10x, HEMesenteric lymph
node, WT, normal,
10x, HE**spleen (MA:0000141)****Histopath Description:**

Mild erythropoiesi-

Morphological Diagnosis:**Distribution:** multifocal to coalescing; **Severity:** mild; **MPATH Diagnosis:** extramedullary hemopoiesi MPATH:595; **MPATH Process Term:** hyperplasia MPATH:134**Definitive Diagnosis:**

Mild erythropoiesis-

brain (MA:0000168)

Histopath Description:

There is moderate dilation of the fourth ventricle

Morphological Diagnosis:

Distribution: diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

sternum (MA:0001331)

Histopath Description:

There is a full thickness fissure (fracture) within the sternal cartilage between the 4th and 5th sternabrae. The fractured segments are malaligned and protrude into the thoracic cavity. The fractures is accompanied by necrotic chromatin smear and multifocal degeneration and necrosis of the sternal cartilage. Within the adjacent soft tissue is focally extensive mild infiltration of neutrophils and mononuclear inflammatory cells accompanied by hemorrhage and fibroplasia. There is marked nodular hyperplasia of the cartilage tissue surrounding the fracture

Morphological Diagnosis:

Duration: chronic-active; **Distribution:** focally extensive; **Severity:** extreme; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Sternal osteoarthritis with sternal fracture with fibroplasia

Organ/Tissue Analyzed:

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, testis, epididymis, seminal vesicle, and prostate.

AnimalID: M00506519 (Female)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

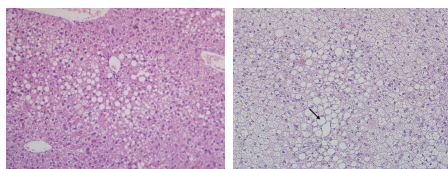
moderate lipidosi

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** steatosis MPATH:622; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosi



Liver, moderate lipidosi, 20x, HE

Liver, Wt, severe lipidosi, 20x, HE

spleen (MA:0000141)

Histopath Description:

Moderate erythropoiesis-

Morphological Diagnosis:

Distribution: multifocal to coalescing; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595; **MPATH Process Term:** hyperplasia MPATH:134

Definitive Diagnosis:

Moderate erythropoiesis

mesenteric lymph node (MA:0002829)**Histopath Description:**

Not found in section

Histopathology Comments:

The mesenteric lymph node was not found in section

Organ/Tissue Analyzed:

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, uterus, oviduct, and ovary, and mammary gland.

AnimalID: M00506518 (Female)**Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

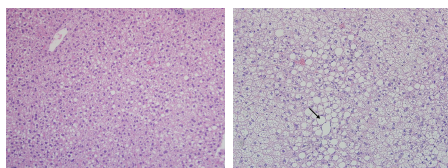
Mild lipodosis

Morphological Diagnosis:

Distribution: multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Minimal hepatic lipodosis



Liver, minimal lipodosis, 20x, HE

Liver, Wt, severe lipodosis, 20x, HE

lymph node (MA:0000139)**Histopath Description:**

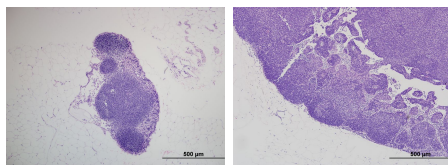
The mesenteric lymph nodes is small.

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hypoplasia MPATH:133; **MPATH Process Term:** hypoplasia MPATH:133

Definitive Diagnosis:

Lymphoid hypoplasia



Mesenteric lymph node, lymphoid hypoplasia, 10x, HE

Mesenteric lymph node, WT, normal, 10x, HE

brain (MA:0000168)**Histopath Description:**

There is moderate dilation of the fourth ventricle

Morphological Diagnosis:

Distribution: diffuse; **Severity:** moderate; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the ventricles is a background condition in mice of C57BL/6N background

Organ/Tissue Analyzed:

Histopathology examination included the following organs and tissues: brain, trigeminal ganglion, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, exocrine and endocrine pancreas, oesophagus, stomach, small intestine, large intestine, liver, gall bladder, spleen, kidneys, adrenal gland, lymph nodes, spinal cord, bone marrow, sternum, femur and tibia with associated skeletal muscles, brown fat, pinna, skin, uterus, oviduct, and ovary, and mammary gland.

Report Summary and Recommendation:

Minimal to moderate hepatic lipidosis is observed in three mice. The mesenteric lymph nodes are small in three of the mice and not found in the fourth. This suggests potential lymphoid hypoplasia. However, this finding should be interpreted with caution as it is based on a single section of a single lymph node (hence may be explained by sampling or sectional variations). If this is a true lymphoid hypoplasia, the lesion correlates with increased susceptibility to bacterial infection in this line. We did not find lesions to predict preweaning and embryonic lethality in homozygotes. Analysis of homozygous preweaning animals and embryonic stages is recommended to determine cause of death. We did not find morphological correlates to increased circulating creatinine level.

Line summary:

Liver: Minimal lipidosis (2/4)

Mesenteric lymph node - lymphoid hypoplasia (3/4)