



CMHD Pathology Report



CMHD Pathology Core

Toronto Centre for
Phenogenomics
25 Orde St. 3rd fl.
Toronto, Ont. M5T 3H7
Tel.(416) 586-8375
Fax (416) 586-5993

contact: Dr. Susan
Newbigging
email:
newbigging@lunenfeld.ca

ReportID: Report Date: February 13,
2014
Pathologist: Dr. H. Adissu

Mouse Genetics Project

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

CMHD LabID: N13-920

Relevant History:

Phenotype:
absent pinna reflex
abnormal brainstem auditory evoked potential

AnimalID: M00705422 (Male)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

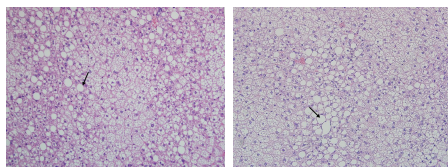
Marked lipodosis

Morphological Diagnosis:

Distribution: diffuse; **Severity:** severe; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipodosis



Liver, marked
lipodosis, 20x, HE

Liver, WT, severe
lipodosis, 20x, HE

brain (MA:0000168)

Histopath Description:

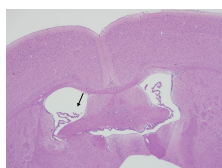
There is moderate dilation of the lateral ventricles. The periventricular neuropil is rarefied.

Morphological Diagnosis:

Duration: Chronic; **Distribution:** Bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Bilateral hydrocephalus of the lateral ventricles, mild



Brain, lateral
ventricles, mild
hydronephrosis, 4x,
HE

lymph node (MA:0000139)

Histopath Description:

Overall, the mesenteric lymph node is distinctly basophilic. Its architecture is disrupted by diffuse sheets of monotypic round cells that distended the subcapsular, medullary and occasional transverse sinuses. The cells have scant or no visible cytoplasm, round nuclei with stippled chromatin and a central distinct nucleolus (interpreted as lymphocytes). Rare apoptotic bodies and mitotic figures are present within occasional germinal centers.

Morphological Diagnosis:

MPATH Diagnosis: Lymphoid neoplasms MPATH:513; **MPATH Process Term:** neoplasia MPATH:218

Definitive Diagnosis:

Lymphoma

Histopathology Comments:

The presence of diffuse sheets of monomorphic lymphocytes within the sinuses is suggestive of lymphoma. Note all mice in this line have mesenteric lymphoma.

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: M00705431 (Male)**Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

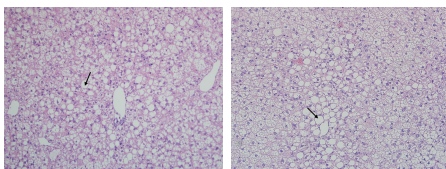
Severe lipodosis

Morphological Diagnosis:

Distribution: diffuse; **Severity:** severe; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipodosis



Liver, marked lipodosis, 20x, HE

Liver, WT, severe lipodosis, 20x, HE

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

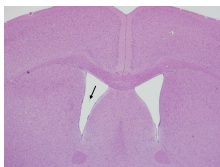
There is moderate dilation of the lateral ventricles. The periventricular neuropil is rarefied.

Morphological Diagnosis:

Duration: Chronic; **Distribution:** Bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Bilateral hydrocephalus of the lateral ventricles, mild



Brain, lateral ventricles, mild hydronephrosis, 4x, HE

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: M00705433 (Female)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

Mild lipidosis

Morphological Diagnosis:

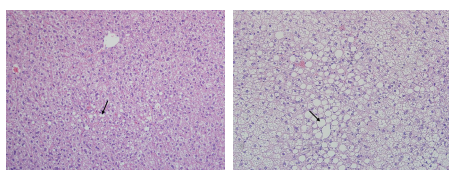
Distribution: multifocal to coalescing; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

The level of lipid deposition is minimal in light of the high fat diet.



Liver, minimal lipidosis, 20x, HE

Liver, WT, severe lipidosis, 20x, HE

brain (MA:0000168)

Histopath Description:

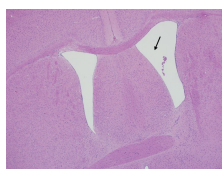
There is moderate dilation of the lateral ventricles. The periventricular neuropil is rarefied.

Morphological Diagnosis:

Duration: Chronic; **Distribution:** Bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Bilateral hydrocephalus of the lateral ventricles, mild



Brain, lateral ventricles, mild hydronephrosis, 4x, HE

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: M00705424 (Female)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:

Mild lipidosis

Morphological Diagnosis:

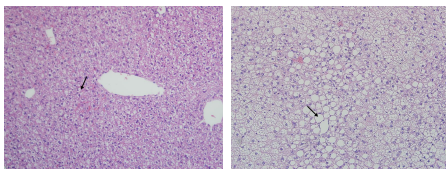
Distribution: multifocal to coalescing; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42; **MPATH Process Term:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

The level of lipid deposition is minimal in light of the high fat diet.



Liver, minimal
lipidosis, 20x, HE

Liver, WT, severe
lipidosis, 20x, HE

brain (MA:0000168)

Histopath Description:

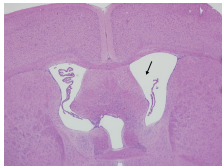
There is moderate dilation of the lateral ventricles. The periventricular neuropil is rarefied.

Morphological Diagnosis:

Duration: Chronic; **Distribution:** Bilateral; **Severity:** mild; **MPATH Diagnosis:** hydrocephalus MPATH:639; **MPATH Process Term:** degenerative change MPATH:14

Definitive Diagnosis:

Bilateral hydrocephalus of the lateral ventricles, mild



Brain, lateral
ventricles, mild
hydronephrosis, 4x,
HE

lymph node (MA:0000139)

Histopath Description:

The mesenteric lymph node is markedly enlarged (greater than four fold). The medulla is particularly expanded by chords and sheets of plasmotoid cells. There are prominent germinal centers within the medulla

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134;
MPATH Process Term: hyperplasia MPATH:134

Definitive Diagnosis:

Lymphoid hyperplasia

Histopathology Comments:

The changes in the mesenteric lymph node are suggestive of draining of a regional inflammatory process. However, such a process was not observed in the tissues examined. Early marginal center lymphoma is suspected.

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 hepatic lipidosis is observed in two mice. There are no lesions in the brain to explain absent pinna reflex and abnormal brainstem auditory evoked potential. The auricular structures were not available to rule out the presence of otitis or other causes of conductive hearing loss. Mild to moderate dilation of the lateral ventricles (mild hydrocephalus) could be a background lesion in C57B6 mice; hence its significance to the auditory phenotype (if any) is not certain.

Line summary:

Liver: Minimal lipidosis (2/4)