



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: June 20, 2013
Pathologist: Dr. H. Adissu

Mouse Genetics Project

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

CMHD LabID: N13-469

Relevant History:

Phenotype
abnormal fertility/fecundity

AnimalID: M00351452 (Male)

Histopathology Findings:

testis (MA:0000411)

Histopath Description:

Numerous seminiferous tubules are vacuolated. Nearly all seminiferous tubules are devoid of maturing spermatids and spermatocytes. The epididymis contains abundant cellular debris and proteinaceous fluid with rare spermatocytes.

Morphological Diagnosis:

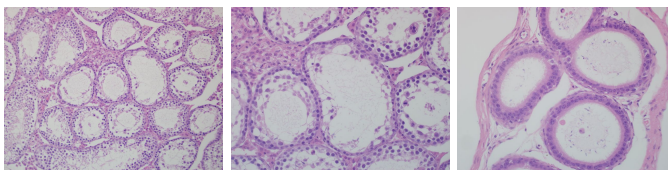
Distribution: generalized; **Severity:** severe; **MPATH Diagnosis:** degenerative change
MPATH:14

Definitive Diagnosis:

Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis

Histopathology Comments:

The lesion is consistent with abnormal fertility.



Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis, 20x, HE
Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis, 20x, HE
Epididymal duct, epididymal aspermia/hypospermia, 40x, HE

liver (MA:0000358)

Histopath Description:

diffuse lipidosis

Morphological Diagnosis:

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

Definitive Diagnosis:

Hepatic lipidosis

brain (MA:0000168)

Histopath Description:

There is mild dilation of the lateral ventricles

Morphological Diagnosis:

Distribution: bilateral; **Severity:** mild;

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

stomach (MA:0000353)**Histopath Description:**

mild neutrophilic gastritis

Morphological Diagnosis:**Distribution:** multifocal to coalescing; **Severity:** mild;**Definitive Diagnosis:**

Gastritis, neutrophilic

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: M00351454 (Male)**Histopathology Findings:****testis (MA:0000411)****Histopath Description:**

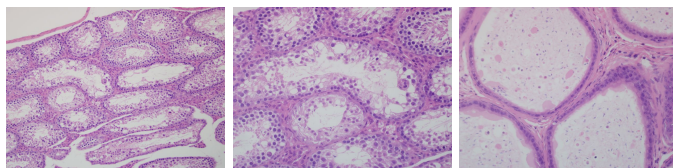
Numerous seminiferous tubules are vacuolated. Nearly all seminiferous tubules are devoid of maturing spermatids and spermatocytes. The epididymis contains abundant cellular debris and proteinaceous fluid with rare spermatocytes.

Morphological Diagnosis:**Distribution:** generalized; **Severity:** severe; **MPATH Diagnosis:** degenerative change MPATH:14**Definitive Diagnosis:**

Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis

Histopathology Comments:

The lesion is consistent with abnormal fertility.



Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis, 20x, HE
 Seminiferous tubule, vacuolation and atrophy - absence of spermatocytogenesis, 40x, HE
 Epididymal duct, epididymal aspermia/hypospermia, 40x, HE

liver (MA:0000358)**Histopath Description:**

diffuse lipidosis

Morphological Diagnosis:**Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622**Definitive Diagnosis:**

Hepatic lipidosis

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

There is mild dilation of the lateral ventricles

Morphological Diagnosis:**Distribution:** bilateral; **Severity:** mild;

Definitive Diagnosis:

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

stomach (MA:0000353)**Histopath Description:**

mild neutrophilic gastritis

Morphological Diagnosis:**Distribution:** multifocal to coalescing; **Severity:** mild;**Definitive Diagnosis:**

Gastritis, neutrophilic

retina (MA:0000276)**Histopath Description:**

Involving one eye, there are clusters of external nuclear structures within the internal plexiform layer.

Morphological Diagnosis:**Distribution:** Focal; **Severity:** mild;**Definitive Diagnosis:**

Retinal dysplasia

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: M00236621 (Female)**Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

diffuse lipidosis

Morphological Diagnosis:**Distribution:** diffuse; **Severity:** severe; **MPATH Diagnosis:** steatosis MPATH:622**Definitive Diagnosis:**

Hepatic lipidosis

parathyroid gland (MA:0000128)**Histopath Description:**

There are large well demarcated clusters of lymphoid cells within the parathyroid gland

Morphological Diagnosis:**Distribution:** multifocal;**Definitive Diagnosis:**

Ectopic thymic tissue

Histopathology Comments:

incidental

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

There is mild dilation of the lateral ventricles

Morphological Diagnosis:**Distribution:** bilateral; **Severity:** mild;**Definitive Diagnosis:**

Dilation of the brain ventricles

Histopathology Comments:

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

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: M00236623 (Female)**Histopathology Findings:****liver (MA:0000358)****Histopath Description:**

minimal lipidosis

Morphological Diagnosis:

Distribution: multifocal; **Severity:** mild;

Definitive Diagnosis:

Hepatic lipidosis, minimal

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

The mesenteric lymph node is enlarged (greater than three-fold). There are multiple follicles with large germinal centers. The sinuses contain large numbers of mature lymphocytes.

Morphological Diagnosis:

Duration: Sub-acute; **Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** 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.

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

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

Morphological Diagnosis:

Distribution: bilateral; **Severity:** mild;

Definitive Diagnosis:

Dilation of the brain ventricles with rarefaction of the periventricular neuropil

Histopathology Comments:

Mild dilation of the lateral ventricles is a background condition in mice of C57BL/6N background (Brayton et al., 2004).

spleen (MA:0000141)**Histopath Description:**

marked erythroid hyperplasia

Morphological Diagnosis:

Distribution: multifocal; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

Definitive Diagnosis:

Splenic erythroid hyperplasia

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:

Testicular atrophy with lack of spermatocytogenesis is evident in both males consistent with infertility documented in this line. Other lesions are attributable to diet or strain background.

Line summary: Testicular degeneration and atrophy; epididymal hypospermia (2/2)