



CMHD Pathology Report



CMHD Pathology Core

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ReportID: Report Date: November 23,
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Pathologist: H. Adissu

Mouse Genetics Project

Wellcome Trust Sanger
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Campus
Hinxton, Cambridge
CB10 1SA
UK

CMHD LabID: N10-1393

Relevant History:

(Viability at postnatal day 14) Partial lethality, increased BMC

AnimalID: M00189460 Adam17 HET

Tissue Preservation and Staining:

The following tissues were not submitted: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

Histopathology Findings:

eye (MA:0000261)

Histopath Description:

There is a diffuse absence of melanin pigmentation in all components of the uvea and that of the retinal epithelium.

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** extreme; **MPATH Diagnosis:** developmental and structural abnormality MPATH:55

Definitive Diagnosis:

Uveal and retinal epithelium amelanosis

Histopathology Comments:

This finding is consistent with B6-albino mice ie.B6(Cg)-Tyrc-2J/J, or B6-albino mice, which are C57BL/6J mice that carry a mutation in the tyrosinase gene. There is complete absence of pigment from skin, hair and eyes in mice homozygous for Tyrc-2J. See reference.



Uvea, amelanosis,
10x, HE

Uvea, amelanosis,
4x, HE

liver (MA:0000358)

Histopath Description:

lipid accumulation similar to M0018944 Adam 17 Het

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTSI, consistent with high fat diet. See a representative image of diffuse hepatocellular lipidosis (Snip1 WT M00383263).

stomach (MA:0000353)

Histopath Description:

There are moderate numbers of neutrophils and few plasma cells within the deep lamina propria and submucosa.

Morphological Diagnosis:

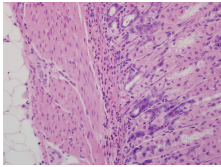
Duration: Chronic-active; **Distribution:** Multifocal; **Severity:** mild; **MPATH Diagnosis:** inflammation MPATH:212

Definitive Diagnosis:

Gastritis, suppurative

Histopathology Comments:

This lesion is most commonly associated with Helicobacter infection. Further investigation is suggested using histochemistry (Silver stain) or colony fecal PCR.



Stomach,
suppurative
gastritis, 40x, HE.

Organ/Tissue Analyzed:

There were no significant findings in the following tissues: Calvarium, brain,, 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, intestines, urinary organs and tract, adrenal gland, reproductive organs, lymph nodes, spinal cord, bones, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M00189473 Adam17 HET**Tissue Preservation and Staining:**

The following tissues were not submitted: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

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

The overall hepatic lobular architecture is normal. Nearly 30% of hepatocytes within the midzonal and periacinar regions contain large (8-12 um in diameter) intracytoplasmic clear vacuoles (macrovesicular lipid).

Morphological Diagnosis:

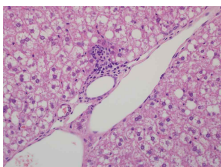
Distribution: Multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WT5I, consistent with high fat diet. The changes in this mouse are less severe.



Liver, periportal
inflammatory cell
aggregate, 40x, HE.

kidney (MA:0000368)**Histopath Description:**

Within the region of the corticomedullary junction and extending from a single glomerulus is present a linear discrete focus (0.5x2 mm) of tubular hyperplasia characterized by numerous small tubules lined by basophilic hypertrophic cuboidal epithelial cells. Occasional mitotic figures and apoptotic cells are present. Protein casts are present within some of these tubules. These proliferative tubules are surrounded by fibroplasia.

Morphological Diagnosis:

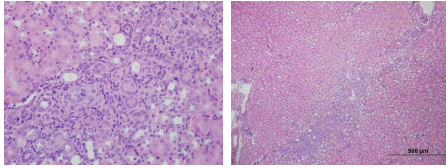
Distribution: Focal; **Severity:** mild; **MPATH Diagnosis:** hyperplasia MPATH:134

Definitive Diagnosis:

Tubular regenerative hyperplasia and interstitial fibroplasia

Histopathology Comments:

The lesion is suggestive of a previous tubular damage restricted to a single nephron. The cause if not obvious at this stage; the glomerulus associated with this nephron is unremarkable.



Kidney, tubular proliferation and interstitial fibrosis, 40x, HE.

Kidney, tubular proliferation and interstitial fibrosis, 10x, HE.

Organ/Tissue Analyzed:

There were no significant findings in the following 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, lower urinary tract, adrenal gland, reproductive organs, lymph nodes, spinal cord, bones, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M00189465 Adam17 HET**Tissue Preservation and Staining:**

Tissue preservation and staining are excellent. The thyroid is not present in section. The following tissues were not submitted: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

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

The overall hepatic lobular architecture is normal. Nearly 30% of hepatocytes within the midzonal and periacinar regions contain large (8-12 um in diameter) intracytoplasmic clear vacuoles (macrovesicular lipid).

Morphological Diagnosis:

Distribution: Multifocal; **Severity:** mild; **MPATH Diagnosis:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTSI, consistent with high fat diet. The changes in this mouse are less severe.

kidney (MA:0000368)**Histopath Description:**

Within the region of the corticomedullary junction and extending from a single glomerulus is present a linear discrete focus (0.5x2 mm) of tubular hyperplasia characterized by numerous small tubules lined by basophilic hypertrophic cuboidal epithelial cells. Occasional mitotic figures and apoptotic cells are present. Protein casts are present within some of these tubules. These proliferative tubules are surrounded by fibroplasia

Morphological Diagnosis:

Distribution: Focal; **Severity:** mild; **MPATH Diagnosis:** hyperplasia MPATH:134

Definitive Diagnosis:

Tubular regenerative hyperplasia and interstitial fibroplasia

Histopathology Comments:

The lesion is suggestive of a previous tubular damage restricted to a single nephron. The cause if not obvious at this stage; the glomerulus associated with this nephron is unremarkable.

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

There is marked extramedullary hematopoiesis involving erythroid and myeloid lineage.

Morphological Diagnosis:

Duration: chronic; **Distribution:** diffuse; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

Definitive Diagnosis:

extramedullary hematopoiesis

thymus (MA:0000142)**Histopath Description:**

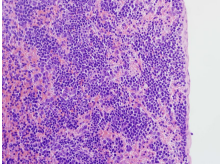
There is marked thymic cortical hyperplasia

Morphological Diagnosis:

Distribution: diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia MPATH:134

Definitive Diagnosis:

Thymic cortical hyperplasia

**Organ/Tissue Analyzed:**

There were no significant findings in the following tissues: Brain, eyes, salivary glands, trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, exocrine and endocrine pancreas, esophagus, stomach, intestines, adrenal gland, reproductive organs, lymph nodes, spinal cord, bones, bone marrow, skeletal muscles, brown fat, and skin.

AnimalID: M0018944 Adam17 HET**Tissue Preservation and Staining:**

Tissue preservation and staining are excellent. The following tissues were not submitted: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

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

The overall hepatic lobular architecture is normal. Diffusely, hepatocytes contain intracytoplasmic clear vacuoles (lipid). The lipid vacuoles within the midzonal and periportal regions are small (2-3 um in diameter) and surround a central nucleus (interpreted as microvesicular lipid). The lipid vacuoles within the portal areas are large (8-12 um in diameter) and displace the nucleus to the margin (macrovesicular lipid).

Morphological Diagnosis:

Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosis

Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosis is present in all mice from WTS1, consistent with high fat diet. See a representative image of diffuse hepatocellular lipidosis (Snip1 WT M00383263).

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

There is a mild dilation of the lateral ventricles.

Morphological Diagnosis:

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

Definitive Diagnosis:

hydrocephalus, lateral ventricle

Histopathology Comments:

Variable degree of hydrocephalus is observed in a proportion of wild type C57Bl/6 strains and substrains. Need to confirm

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

There is marked extramedullary hematopoiesis involving erythroid and myeloid lineage.

Morphological Diagnosis:

Duration: chronic; **Distribution:** diffuse; **Severity:** moderate; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

