



CMHD Pathology Report



CMHD Pathology Core

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2011
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Mouse Genetics Project

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Campus
Hinxton, Cambridge
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UK

CMHD LabID: N11-85

Relevant History:

(Viability at postnatal day 14, Recessive Lethal Study (E14.5)) Embryonic lethality, pre-weaning lethality

AnimalID: M00431715-F730047E07Rik Het

Tissue Preservation and Staining:

Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder.

Histopathology Findings:

eye (MA:0000261)

Histopath Description:

A transverse section of the eye at the anterior portion is present (evidenced by circumferential presence of the lenticular epithelium). Only a small segment of the retina (0.5 mm in length) is present in this section. This segment of the retina has thin layers of external and inner nuclear layers (nearly half normal thickness). The outer plexiform layer is attenuated causing multifocal blending of the nuclear layers. There is a focally extensive retinal detachment at one edge of this retinal segment; few retinal epithelial cells are hypertrophic and cuboidal (tombstone appearance). Ganglion cells are rare within this segment.

Morphological Diagnosis:

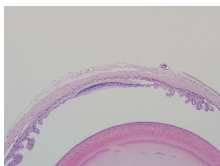
Distribution: Unilateral; **Severity:** moderate;

Definitive Diagnosis:

Segmental retinal dysplasi with focally xtensive retinal detachment.

Histopathology Comments:

This section was not optimal for complete evaluation of all ocular structures.



Eye, transverse
anterior section
10x, HE.

stomach (MA:0000353)

Histopath Description:

There are low numbers of neutrophils within the deep lamina propria

Morphological Diagnosis:

Duration: Sub-acute; **Distribution:** Multifocal; **Severity:** moderate; **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.

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 WTSI, consistent with high lipid diet.

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

The mesenteric lymph node is markedly enlarged. Lymphoid follicles are enlarged and there are numerous germinal centers. Numerous mature lymphocytes are present within the medullary and paracortical sinuses. The marginal sinuses contain numerous mature lymphocytes.

Morphological Diagnosis:

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

Definitive Diagnosis:

Lymphoid hyperplasia

salivary gland (MA:0000346)**Histopath Description:**

Within the mandibular salivary gland, the interstitium (mainly surrounding blood vessels) are expanded by multifocal aggregates of lymphocytes, histiocytes, and low numbers of plasma cells.

Morphological Diagnosis:

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

Definitive Diagnosis:

Interstitial histiocytic and lymphocytic sialadenitis

Histopathology Comments:

This is a common and insignificant incidental finding in mice.

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

There is a mild enlargement of the third ventricle.

Morphological Diagnosis:

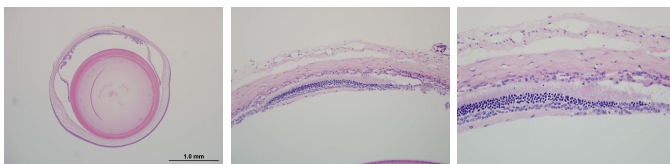
Severity: mild; **MPATH Diagnosis:** hydrocephalus MPATH:639

Definitive Diagnosis:

hydrocephalus, third ventricle

Histopathology Comments:

Variable degree of hydrocephalus is observed in a proportion of wild type C57 Black 6 mice.



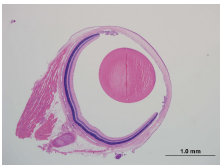
Retina, transverse
anterior section, 4x,
HE.

Retina, detachment
and dysplasia, 20x,
HE

Retina, detachment
and dysplasia, 40x,
HE

Organ/Tissue Analyzed:

There were no significant findings in the following tissues: Trachea, lungs, heart, thymus, thyroid gland, parathyroid gland, spleen, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, reproductive organs, spinal cord, bones, bone marrow, skeletal muscles, brown fat, and skin.



Eye, normal, 4x, HE

Organ/Tissue Analyzed:

There were no significant findings in the following tissues: Eyes, salivary glands, trachea, heart, thymus, thyroid gland, parathyroid gland, spleen, 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: M00370329-F730047E07Rik Het

Tissue Preservation and Staining:

Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder. One of the eyes is obliquely sectioned.

Histopathology Findings:

brain (MA:0000168)

Histopath Description:

There is a mild enlargement of the third ventricle.

Morphological Diagnosis:

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

Definitive Diagnosis:

hydrocephalus, third ventricle

Histopathology Comments:

Variable degree of hydrocephalus is observed in a proportion of wild type C57 Black 6 mice.

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:

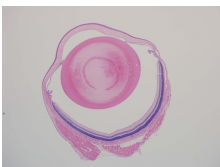
Distribution: Diffuse; **Severity:** moderate; **MPATH Diagnosis:** lipid deposition MPATH:42

Definitive Diagnosis:

Hepatic lipidosi

Histopathology Comments:

Hepatocellular vacuolar change of variable degree suggestive of lipidosi is present in all mice from WTSI, consistent with high lipid diet.



Eye, normal, optic nerve not in view, 4x, HE.

Organ/Tissue Analyzed:

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

AnimalID: M00360999-F730047E07Rik Het

Tissue Preservation and Staining:

Tissues not present in submission: Calvarium, ears, tongue, Harderian gland, zymbal gland, nasal sinuses, teeth, gall bladder. Only a section of the cornea is present for one of the eyes.

Histopathology Findings:

eye (MA:0000261)

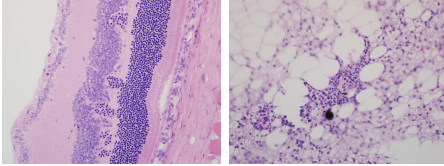
Duration: Chronic; **Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** inflammation
MPATH:212

Definitive Diagnosis:

Perivascular inflammatory aggregates

Histopathology Comments:

This lesion is suggestive of antigenic stimulation of hematogenous origin. It is a common and insignificant incidental finding.



Retina, dysplasia, note clusters of nuclei of rods and cons in outer plexiform layer, 40x, HE.

Fat, steatitis, 40x, HE.

Organ/Tissue Analyzed:

There were no significant findings in the following tissues: Brain, trachea, heart, thymus, thyroid gland, parathyroid gland, spleen, liver, exocrine and endocrine pancreas, esophagus, stomach, intestines, urinary organs and tract, adrenal gland, reproductive organs, lymph nodes, spinal cord, bones, bone marrow, and skeletal muscles.

Summary:

Retinal abnormality is observed in two mice (M00360999 and M00431715).

The dysplastic changes in M00360999 is mild. A more severe of version of this lesion was noted in one of the wild type controls (M00405977-Snip1WT), suggesting that it may be a strain background lesion

Report Summary and Recommendation:

Retinal abnormality is observed in two mice (M00360999 and M00431715).

The dysplastic changes in M00360999 is mild. A more severe of version of this lesion was noted in one of the wild type controls (M00405977-Snip1WT), suggesting that it may be a strain background lesion.

Recently a mutation in Crb1 is confirmed rd8 mutation in the Crb1 gene in C57BL/6N substrain is associated with multiple light-colored spots in the fundus of the eye that correspond histologically to retinal folds, pseudorosettes, and focal retinal dysplasia and degeneration. Hence retinal lesions in this line may be a background lesion.

Retina: dysplasia MPATH:64