



# 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

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UK

CMHD LabID: N11-382

## Relevant History:

(X-ray Imaging) Abnormal vertebral transverse process

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**AnimalID: M00288605**

## Histopathology Findings:

### lymph node (MA:0000139)

#### Histopath Description:

The mesenteric and cervical lymph nodes are respectively enlarged nearly 4x and 2x normal and follicles are respectively prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

#### 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.

### 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 lipodosis

#### Histopathology Comments:

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

### kidney (MA:0000368)

#### Histopath Description:

There is a focal perivascular aggregate of macrophages, lymphocytes and rare plasma cells at the corticomedullary junction of one of the kidneys.

#### Morphological Diagnosis:

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

#### Definitive Diagnosis:

Focal perivascular inflammatory aggregate.

### brain (MA:0000168)

#### Histopath Description:

There is a mild enlargement of the lateral ventricle.

#### Morphological Diagnosis:

**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 C57 Black 6 mice.

### salivary gland (MA:0000346)

#### Histopath Description:

There are multifocal interstitial aggregate of histiocytes and lymphocytes.

#### Morphological Diagnosis:

**Duration:** Chronic; **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.

### aorta (MA:0000062)

#### Histopath Description:

Diffusely the wall of the aorta at the base is markedly thickened and are transmurally disrupted by fibroplasia in which are present low numbers of neutrophils and small amount of nuclear debris. The subendothelial tunica intima is disrupted and markedly expanded by thick band of deeply eosinophilic hyaline to fibrinoid material (fibrinoid necrosis). The tunica media is expanded and replaced by thick band of reactive fibroblasts that extend to the adventitia.

#### Morphological Diagnosis:

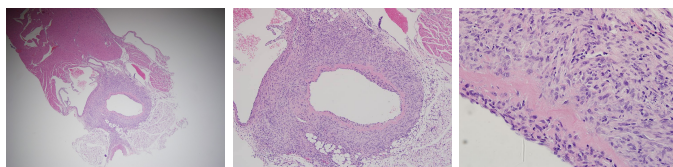
**Severity:** severe; **MPATH Diagnosis:** inflammation MPATH:212

#### Definitive Diagnosis:

Aortitis, proliferative and necrotizing

#### Histopathology Comments:

Inflammatory lesions of small and medium-sized arteries are common in many strains of laboratory mice. The distribution of affected vessels is quite variable and could involve arteries of the heart among others. Lesions may involve multiple vessels, hence termed "polyarteritis." The etiology of polyarteritis is not known, but thought to be immune complex-mediated. It is common in mice that are prone to autoimmune disease, including MRL and NZB mice. Polyarteritis is usually an incidental finding (Percy and Barthold. 2007).



Aorta, vasculitis4x

Aorta 10x

Aorta 40x

### lung (MA:0000415)

#### Histopath Description:

There is a focal perivascular mononuclear inflammatory cell aggregate within the lung.

#### Morphological Diagnosis:

**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.

**eye (MA:0000261)****Histopath Description:**

There is a focal expansion and palor of the corneal stroma; the accompanying Decemet membrane is hyperplastic

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:** hyperplasia  
MPATH:134

**Definitive Diagnosis:**

Focal corneal edema with Decemet hyperplasia

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

The spleen contains multiple follicles with prominent germinal centers. The marginal zones are mildly expanded by histiocytes.

**Morphological Diagnosis:**

**Duration:** Sub-acute; **Distribution:** Diffuse; **Severity:** moderate; **MPATH Diagnosis:** hyperplasia  
MPATH:134

**Definitive Diagnosis:**

Hyperplasia

**Histopathology Comments:**

The changes lymph nodes suggest increased circulating antigens (likely associated with bacterial pneumonia).

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

There are moderate numbers of neutrophils and a 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.

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**AnimalID: M00288606****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 WTSI, consistent with high lipid diet.

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

There is a focal perivascular aggregate of macrophages, lymphocytes and rare plasma cells at the corticomedullary junction of one of the kidneys.

**Morphological Diagnosis:**

**Duration:** Chronic-active; **Distribution:** Focal; **Severity:** mild; **MPATH Diagnosis:**

inflammation MPATH:212

**Definitive Diagnosis:**

Focal perivascular inflammatory aggregate.

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**AnimalID: M00288609**

**Histopathology Findings:**

**lymph node (MA:0000139)**

**Histopath Description:**

The mesenteric and cervical lymph nodes are respectively enlarged nearly 4x and 2x normal and follicles are respectively prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

**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.

**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 periacinar 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.

**lung (MA:0000415)**

**Histopath Description:**

There is a focal perivascular mononuclear inflammatory cell aggregate within the lung.

**Morphological Diagnosis:**

**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.

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**AnimalID: M00288618**

**Histopathology Findings:**

**lymph node (MA:0000139)**

**Histopath Description:**

The mesenteric and cervical lymph nodes are respectively enlarged nearly 4x and 2x normal and follicles are respectively prominent. Subcapsular sinuses contain large numbers of mature lymphocytes. There low numbers of neutrophils within the medullary stroma.

**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.

**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 periacinar 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.

**brain (MA:0000168)**

**Histopath Description:**

There is a mild enlargement of the lateral ventricle.

**Morphological Diagnosis:**

**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 C57 Black 6 mice.

**pancreas (MA:0000120)**

**Histopath Description:**

There are occasional multifocal perivascular mononuclear inflammatory cell aggregates.

**Morphological Diagnosis:**

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

**Definitive Diagnosis:**

Perivascular mononuclear inflammatory cell aggregates.

**Histopathology Comments:**

Aggregates of mononuclear inflammatory cells are infrequently seen within the pancreatic interstitium. This lesion is considered incidental and clinically insignificant.

**Report Summary and Recommendation:**

Inflammation of the aorta was observed in one mouse. This lesion is considered significant but incidental. See comment under the specific histopathology entry. The focal corneal edema and Decemet's membrane hyperplasia was likely secondary to focal traumatic injury. Other lesions are considered incidental and/or attributable to background strain.

**References:**

Percy, DH and Barthold SW. Pathology of Laboratory Rodents and Rabbits, 3 rd edition Wiley - Blackwell Publishing 2007. p105