CMHD Pathology Report

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ReportID: Report Date: June 05, 2013
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Mouse Portal
Europhenome

CMHD LabID: N13-251

Relevant History:
Phenotype

Urolithiasis

AnimalID: M00433447 (Male)

Histopathology Findings:

liver (MA:0000358)

Histopath Description:
severe 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).

lymph node (MA:0000139)

Histopath Description:
Lymphoma

Morphological Diagnosis:
MPATH Diagnosis: lymphoid neoplasms MPATH:513

Definitive Diagnosis:
Lymphoma

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).

salivary gland (MA:0000346)

Histopath Description:
There are multifocal perivascular mononuclear inflammatory cell aggregates.

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

Definitive Diagnosis:
Interstitial inflammatory aggregates

AnimalID: M00433448 (Male)

Histopathology Findings:

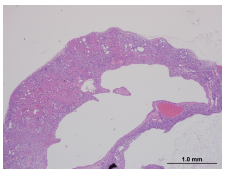
kidney (MA:0000368)

Histopath Description:
Nearly half of the renal parenchyma is replaced by a large cyst; the renal parenchyma surrounding the cyst is mildly compressed. There is prominent tubular hyperplasia and interstitial inflammation. The urinary bladder mucosa is hyperplastic and the submucosa contains large numbers of inflammatory cells.

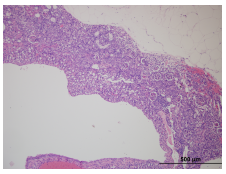
Morphological Diagnosis:
Duration: Chronic; **Distribution:** Unilateral; **Severity:** severe; **MPATH Diagnosis:** hydronephrosis MPATH:635

Definitive Diagnosis:
Hydronephrosis with mild parenchymal atrophy.

Histopathology Comments:
Hydronephrosis is usually caused by an ascending obstructive urinary lesion; this is not evident in the examined sections.



Kidney, hydronephrosis, 4x, HE



Kidney, hydronephrosis, 10x, HE

liver (MA:0000358)

Histopath Description:
minimal lipidosis

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

Definitive Diagnosis:
minimal lipidos

pancreatic islet (MA:0000127)

Histopath Description:
There is moderate enlargement of the pancreatic islets.

Morphological Diagnosis:
Distribution: multifocal; **Severity:** moderate;

Definitive Diagnosis:
Pancreatic islet hypertrophy

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.

AnimalID: M00464696 (Female)

Histopathology Findings:

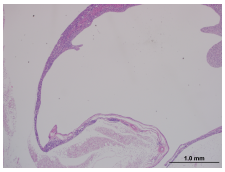
kidney (MA:0000368)

Histopath Description:
Nearly half of the renal parenchyma is replaced by a large cyst; the renal parenchyma surrounding the cyst is mildly compressed. There is prominent tubular hyperplasia and interstitial inflammation. The urinary bladder mucosa is hyperplastic and the submucosa contains large numbers of inflammatory cells. There are rare renal tubular mineralization in the cortex.

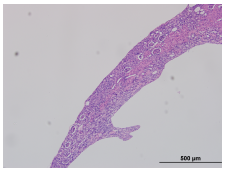
Morphological Diagnosis:
Duration: Chronic; **Distribution:** Unilateral; **Severity:** severe; **MPATH Diagnosis:** hydronephrosis MPATH:635

Definitive Diagnosis:
Hydronephrosis with mild parenchymal atrophy; Tubular mineralization (minimal) (contralateral kidney)

Histopathology Comments:
Hydronephrosis is usually caused by an ascending obstructive urinary lesion; this is not evident in the examined sections.



Kidney, hydronephrosis, 4x, HE



Kidney, hydronephrosis, 10x, HE

liver (MA:0000358)

Histopath Description:
minimal lipidosis

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

Definitive Diagnosis:
minimal lipidos

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.

AnimalID: M00464695 (Female)

Histopathology Findings:

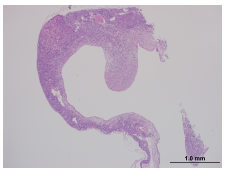
kidney (MA:0000368)

Histopath Description:
Nearly half of the renal parenchyma is replaced by a large cyst; the renal parenchyma surrounding the cyst is mildly compressed. There is prominent tubular hyperplasia and interstitial inflammation. The urinary bladder mucosa is hyperplastic and the submucosa contains large numbers of inflammatory cells. There are small multifocal mineralization within the renal papilla and pelvis in the contalateral (normal) kidney

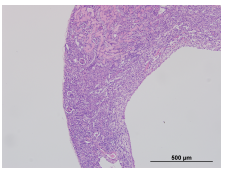
Morphological Diagnosis:
Duration: Chronic; **Distribution:** Unilateral; **Severity:** severe; **MPATH Diagnosis:** hydronephrosis MPATH:635

Definitive Diagnosis:
Hydronephrosis with mild parenchymal atrophy; Papillary and renal pelvis mineralization (contralateral kidney).

Histopathology Comments:
Hydronephrosis is usually caused by an ascending obstructive urinary lesion; this is not evident in the examined sections.



Kidney, hydronephrosis, 4x, HE



Kidney, hydronephrosis, 10x, HE

liver (MA:0000358)

Histopath Description:
minimal lipidosis

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

Definitive Diagnosis:
minimal lipidos

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

Report Summary and Recommendation:

There is minimal hepatic lipidosis in three mice. Unilateral hydronephrosis was observed in three mice. This can not be confirmed in the other mouse as there was only one kidney available for examination. The lesions may be caused by obstructive lcondition in the ureter or distal urinary tract (consistent with urolithiasis observed on clinical phenotyping). We did not see evidence of urolithiasis. Calculi could be washed out during tissue processing. Cldn16 mutation has been associated with familial hypomagnesemia with hypercalciuria and nephrocalcinosis and renal impairment. Note that renal tubular mineralization was noted in the contralateral kidney of two of the three mice with hydronephrosis