CMHD Pathology Report

CMHD Pathology Core
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ReportID: Report Date: February 05, 2013
Pathologist: H. Adissu

Mouse Genetics Project
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Hinxton, Cambridge
CB10 1SA
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Mouse Portal
Europhenome

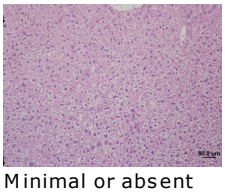
CMHD LabID: N12-1503

Relevant History:
Phenotypes: decreased B cell number
preweaning lethality
embryonic lethality
increased red blood cell distribution width
decreased circulating glucose level
improved glucose tolerance
decreased circulating alanine transaminase level
decreased lactate dehydrogenase level
decreased lactate dehydrogenase level
decreased circulating aspartate transaminase level

AnimalID: M00166730 (Male)
Histopathology Findings:
kidney (MA:0000368)
Morphological Diagnosis:
Duration: chronic; **Distribution:** multifocal;
Definitive Diagnosis:
Perivascular mononuclear inflammatory aggregates

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: M00166686 (Male)
Histopathology Findings:
liver (MA:0000358)
Morphological Diagnosis:
MPATH Diagnosis: steatosis MPATH:622
Definitive Diagnosis:
Minimal or absent hepatic lipidosis


Minimal or absent hepatic lipidosis

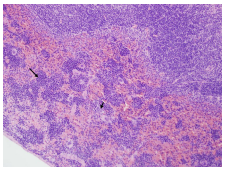
spleen (MA:0000141)

Histopath Description:
There is marked erythropoiesis and moderate megakaryopoiesis in the red pulp

Morphological Diagnosis:
Distribution: multifocal to coalescing; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

Definitive Diagnosis:
extramedullary erythropoiesis, marked

Histopathology Comments:
This change suggests increased RBC production, hence may explains increased red blood cell distribution width (immature RBC have increased size)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Organ/Tissue Analyzed:
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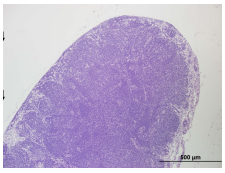
AnimalID: M00166689 (Female)

Histopathology Findings:

mesenteric lymph node (MA:0002829)

Morphological Diagnosis:
MPATH Diagnosis: lymphoid neoplasms MPATH:513

Definitive Diagnosis:
Lymphoma, early

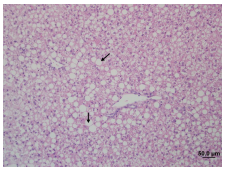

Lymphoma, early

liver (MA:0000358)

Histopath Description:
Periportal and midzonal prominently macrovesicular lipid deposition (some as large as 50 um in diameter)

Morphological Diagnosis:
Distribution: multifocal; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:
Moderate hepatic lipidosis


hepatic lipidosis, moderate

spleen (MA:0000141)

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There is marked erythropoiesis in the red pulp

Morphological Diagnosis:
Distribution: multifocal to coalescing; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

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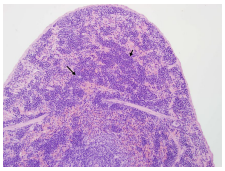
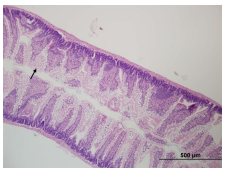

extramedullary erythropoiesis

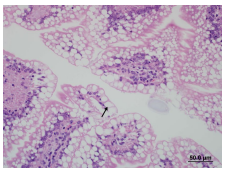
small intestine (MA:0000337)

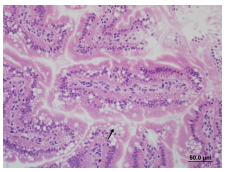
Histopath Description:
There is marked and diffuse macrovesicular lipidosis of the duodnal lamina propria.

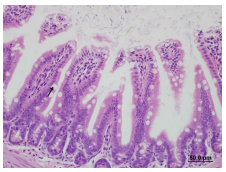
Morphological Diagnosis:
Distribution: multifocal; **MPATH Diagnosis:** steatosis MPATH:622

Definitive Diagnosis:
Intestinal steatosis, extreme


Intestinal steatosis


Intestinal steatosis


Small intestine, normal

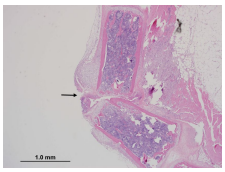

Small intestine, normal

sternal manubrium (MA:0001332)

Histopath Description:
There is a complete sternal fracture. The chondroid tissue along the fracture is markedly degenerate. There is a a nodular cartilagenous proliferation at the perichondrial margins (reactive reparative chondroid hyperplasia)

Morphological Diagnosis:
Duration: chronic; **Distribution:** focally extensive;

Definitive Diagnosis:
Sternal osteochondritis with fracture and reactive and reparative chondroid hyperplasia ('calus')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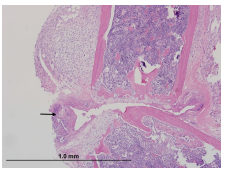
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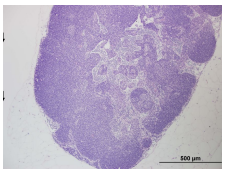
AnimalID: M00166733 (Female)

Histopathology Findings:

mesenteric lymph node (MA:0002829)

Morphological Diagnosis:
Distribution: multifocal to coalescing;

Definitive Diagnosis:
Lymphoid follicular hyperplasia


Lymphoid hyperplasia

liver (MA:0000358)

Histopath Description:
Periportal and midzonal prominently macrovesicular lipid deposition (some as large as 50 um in diameter)

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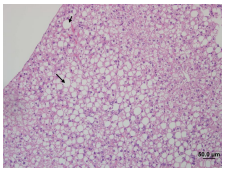
Moderate hepatic lipidosis


Hepatic lipidosis, moderate

spleen (MA:0000141)

Histopath Description:
There is mild erythropoiesis in the red pulp

Morphological Diagnosis:
Distribution: multifocal to coalescing; **MPATH Diagnosis:** extramedullary hemopoiesis MPATH:595

Definitive Diagnosis:
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Histopathology Comments:
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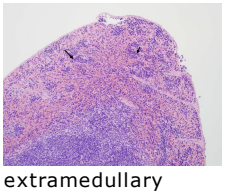
extramedullary erythropoiesis

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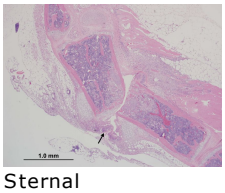
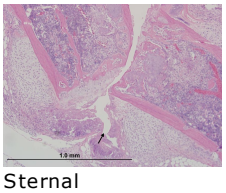

Sternal


Sternal

osteochondritis with fracture and reactive and reparative chondroid hyperplasia	osteochondritis with fracture and reactive and reparative chondroid hyperplasia

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Report Summary and Recommendation:
Three lesions are notable in this line: 1. Sternal fracture in the two female mice (M00166689 and M00166733). 2. marked splenic erythropoiesis (2/4, M00166686 and M00166689). 3. Lymphoid hyperplasia/Lymphoma of mesenteric lymph node in two females (M00166689 and M00166733). Enhanced splenic erythropoiesis explains increased red blood cell distribution width a feature of release of immature red blood cells associated with erythropoiesis.
The presence of remarkably similar sternal fractures with degenerative joint lesion suggests an underlying predisposing factor/s that has weakened the bone (consistent with a pathologic fracture). There is minimal hepatic lipidosis in the two female mice (M00166730; M00166686).