

PATIENT PRESENTING CLINICAL SIGNS

Max Merriman

SPECIES

Canine

BREED

Lab Ret

SEX

Neutered Male

AGE

2/25/2012

WEIGHT

32kg

INTERPRETED BY

Kathleen Sennello DVM,
MS, Diplomate ACVIM
(Small Animal Internal
Medicine)

IMAGING PERFORMED BY

Loetitia Saint-Jacques,
LVT

HOSPITAL NAME

Critter Care Mobile
Veterinary Clinic

REFERRING VET

Dr. Bruce Hartzell

INVOICE

10183

DATE

4/14/2023

History * Recent history of ALT-751 IU/L (12-118), > Alk Phos-1462 IU/L (5-131), > GGT-28 IU/L (1-12) Dog had similar episode, prior to Dx of Cushings in 4/27/2021, although hepatic enzymes were higher, and dog had full anorexia and vomiting at that time. Sonogram performed 04/30/2021 (Sonopath invoice #11343). Dog responded to hepatic diet, Ursodiol + Denamarin and recovered with normal hepatic enzymes. Current treatment includes stopping Trilostane, Novox, Apoquel, restarting hepatic diet + Ursodiol + Denamarin + Prednisolone 5mg SID for possible Iatrogenic Hypoadrenocorticism. Continued Cyclosporine Modified 100mg SID + Neo/Poly/Dex Ophth Susp for chronic Corneal Degeneration/DystrophyOU + Idiopathic Granulomatous Blepharitis OU since late 2017 According to owner dog has improved on diet and medication changes and appears to be acting normal as of 04/14/2023 MEDS: Hill's L/d Diet, Ursodiol 250mg BID, Denamarin 425mg/35mg SID, Prednisolone 5mg SID, Cyclosporine Modified 100mg SID.

Abnormal PE/Chem/CBC/UA Results: Blood work reveals > ALT-751 IU/L (12-118), > Alk Phos-1462 IU/L (5-131), > GGT-28 IU/L (1-12)

ULTRASONOGRAPHIC EXAMINATION OF THE ABDOMEN

Urinary System

The urinary bladder is moderately distended with anechoic urine. The Bladder wall, trigone, ureteral papillae, and visible urethra (to a depth of 2cm) appear normal with no evidence of wall thickening, mucosal irregularities, masses, or cystic calculi.

The prostate is normal in size (1.07 cm) and shape for this neutered male dog. The parenchyma is homogenous, and the external margins are smooth. The prostatic urethra appears normal with no evidence of irregularity, invasion, mass effect or calculi.

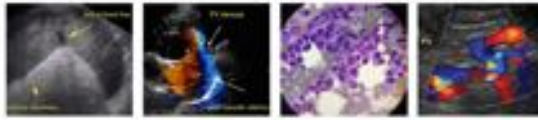
The left kidney has a normal shape and size 6.76 cm with small cortical cysts near the caudal pole at 0.44 cm. Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

The right kidney has a normal shape and size (7.19 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex: medulla ratio. There is no evidence of focal perinephric inflammation or effusion. There is no evidence of pyelectasia, nephroliths, infarcts or hydroureter. Renal vasculature is normal.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.6 cm at the caudal pole. It is observed in its normal position cranial to the left renal artery. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

The right adrenal gland is slightly irregular in shape measuring 1.21 cm at the cranial pole, 0.71 cm at the caudal pole, and 3.15 cm in length. It is visualized in its normal position between the right kidney and the caudal vena cava. It is slightly irregular in shape in that the cranial pole appears slightly rounded. No evidence of vascular invasion is visualized.



PATIENT *Spleen*

Max Merriman The spleen is subjectively normal in size, echotexture is homogenous, and the splenic capsule is smooth with no irregularities. The blood flow through the hilus and splenic parenchyma appears normal. No focal parenchymal abnormalities are visualized.

SPECIES

Canine *Liver*

BREED

Lab Ret The liver is subjectively normal in size and echogenicity with smooth peripheral margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the vasculature and biliary tract appear normal. There is a slightly irregular cystic structure visualized measuring 2.92 cm in diameter.

SEX

Neutered Male The gallbladder lumen is moderately distended. The wall of the gall bladder is not thickened and has a smooth mucosal surface. Luminal contents are mild and primarily anechoic. The cystic and common bile ducts are normal/not visible.

AGE

2/25/2012 *Gastrointestinal*
 The stomach contains minimal luminal contents. It measures at a normal thickness of <0.7cm with some variability due to the presence of rugal folds. The distinction of the gastric wall layers is adequate and there is no impression of reduced peristaltic activity. No masses or focal lesions were observed.

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The visualized areas of duodenum, jejunum and ileum have a relatively uniform diameter with minimal fluid distension. Wall thickness is normal. Bowel loops follow a curvilinear path with distinct wall layering maintaining the typical 1:3 muscularis: mucosa layer ratio. The jejunum measured as normal (0.33 cm.) Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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The ileocecal junction was visualized and exhibited normal intact wall layering and is subjectively of normal thickness. Sections of colon are visualized with formed fecal material and gas shadowing distally. There is no observed focal or generalized colon wall thickening or loss of layering.

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Pancreas

The pancreas is prominent and mottled particularly in the right limb compared to the surrounding isoechoic mesentery. There is no evidence of nodules or cystic lesions. There is no evidence of regional mesenteric inflammation or fluid.

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Free Abdomen

Evaluation of the peritoneal cavity did not reveal any evidence of effusion, or subjective lymphadenomegaly. The Medial iliac nodes appear normal and there was no evidence of a caudal aortic thrombus at the bifurcation. The omentum is of normal uniform echogenicity.

INVOICE

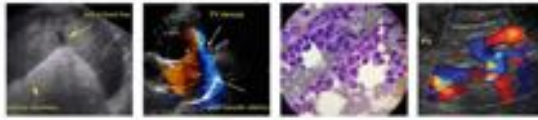
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PRIMARY FINDINGS

- Prominent mottled right limb of the pancreas. The pancreatic changes are most consistent with mild pancreatitis or a recent episode of pancreatic inflammation.
- Heterogenous liver with a cystic structure. The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-



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Max Merriman

mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. This cystic structure is most consistent with a benign hepatic cyst.

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SECONDARY FINDINGS

- Irregular cranial pole of the right adrenal. This could represent normal anatomic variation. Recommend continued monitoring.

BREED

Lab Ret

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

No focal lesions are visualized associated with the liver and the gallbladder and bile duct appear normal. Findings are most consistent with a primary hepatopathy. Consider the following:

SEX

Neutered Male

- Consider close evaluation of history for possible toxic changes examine medications, diet, dietary indiscretion etc...
- Consider PCR on urine/serum for leptospirosis (if not on antibiotics)/serology if recent antibiotic history.
- If not already done, consider pre and post prandial bile acids to evaluate liver function.
- If the ALP is significantly elevated relative to the ALT and symptoms consistent with Cushing's are present, consider adrenal function testing (ACTH stim)
- Consider Fine needle aspirate if round cell neoplasia is on your differentia list (25 g needle, normal coags)
- If no response to supportive care (denamarin, fluids, antibiotics, +/- ursodiol etc....) Consider liver biopsy with samples obtained for histopathology, culture, and copper levels.

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The right limb of the pancreas appears somewhat prominent. Correlate these findings with a quantitative CPLI level. Empirical treatment for mild pancreatic inflammation could be considered.

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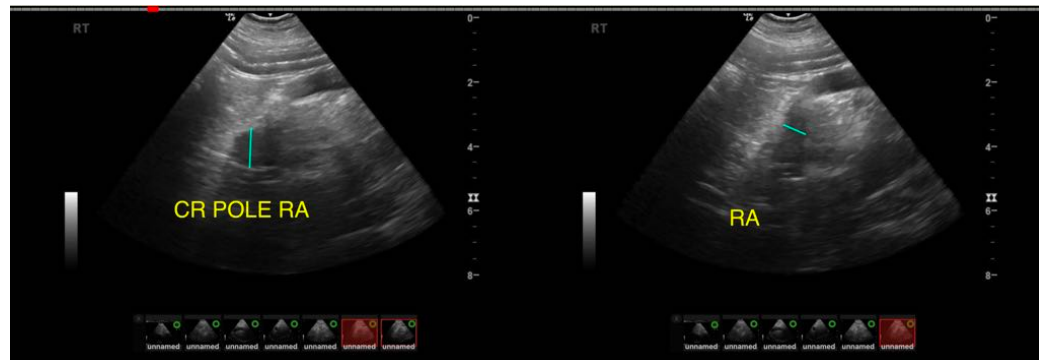
The right adrenal gland is slightly irregular in shape. The previous ultrasound 4/30/2021 reported a hyperechoic nodule in this location which is not clearly evident on today's scan. Recommend continued monitoring.

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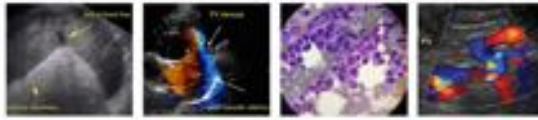


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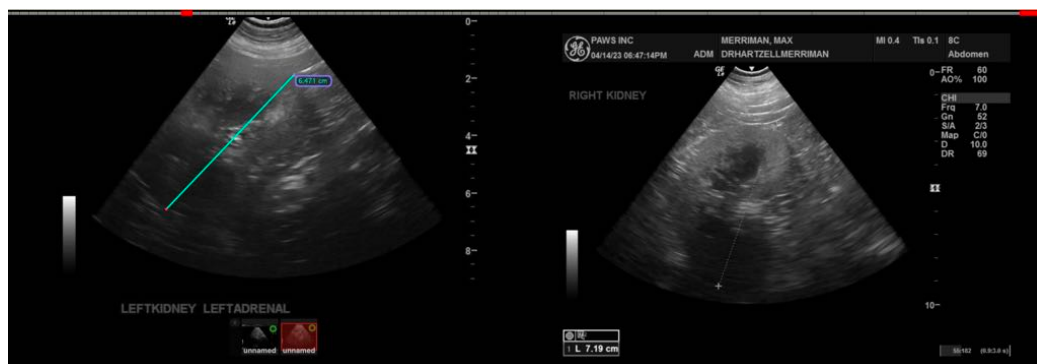
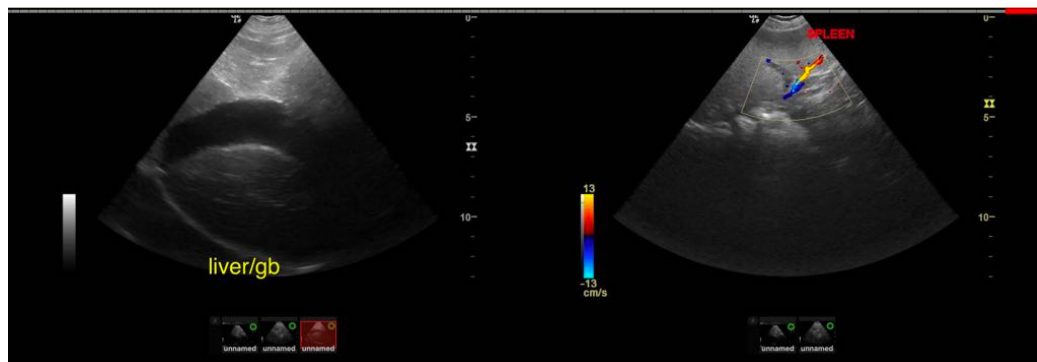
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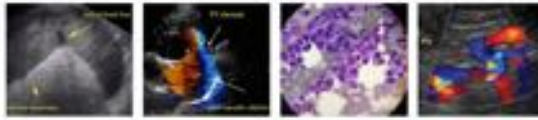
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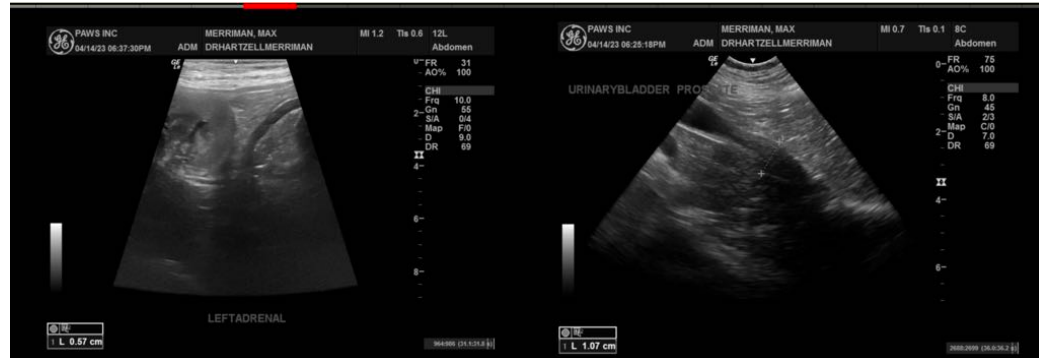
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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance, please contact me.

Kathleen Sennello DVM, MS, Diplomate ACVIM (Small animal Internal Medicine)

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