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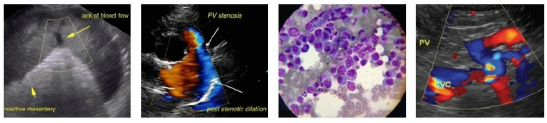


Portable Animal Western Sonography, Inc.
IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Maggie Bagget

SPECIES

Canine

BREED

Lab Ret

SEX

Spayed Female

AGE

7y4m

WEIGHT

64 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, LVT

HOSPITAL NAME

Grass Valley Veterinary Hospital

REFERRING VET

Dr. Michaelis

INVOICE

10063

DATE

2/9/2023

PRESENTING CLINICAL SIGNS

9/23/2022 Presented for ADR (anorexia/lethargy). Started on bland diet. 10/3/2022 No improvement. B/W run. 10/7/2022 Called O with lab results--unknown hepatopathy (ALT 293, Alkphos 233, glucose 66, globulin 4.6). Rec abd u/s. O wanted to try empiric abx (7 days metronidazole, 10 days amoxi) and steroids (12 days tapering prednisone). Responded quickly per O (hindsight).

Abnormal PE/Chem/CBC/UA Results: 2/3/2023:(ALT 210, Alkphos 167, glucose 68, globulin 3.9, mild neutrophilia 12K). Guarded in mid-abd. No overt masses/organomegaly / T: 105.5°. RAD report: Radiograph Findings-Normal abdomen without a definitive source of the reported clinical signs. Abdominal ultrasound could be performed for further evaluation as clinically indicated. Transitional lumbosacral junction with multifocal chronic IVDD. Normal thorax on a single projection.

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 left kidney has a normal shape and size (6.63cm). Overall echogenicity is slightly hyperechoic with poor 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 (6.97cm). Overall echogenicity is slightly hyperechoic with poor 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 0.55cm 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 is visualized.

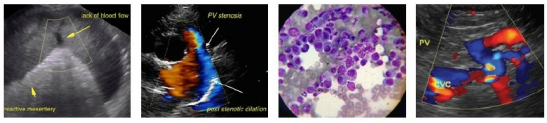
The right adrenal gland is normal in size measuring 0.68cm at the caudal pole. It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect is visualized.

Spleen

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.

Liver

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 are numerous ill-defined hypoechoic nodules



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visualized within the parenchyma, particularly in the left lobe of the liver there is a nodule measuring 2.42 by 3.15 cm and numerous smaller nodules varying from 0.6 to 1 cm. In the right side of the liver there are two hypoechoic nodules visualized, one measuring 1.35 and one 1.17cm in diameter.

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.

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.

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 duodenum measured as normal (0.42cm) and the jejunum measured as normal (0.37cm). Visualized peristalsis appears appropriate. There were no focal lesions consistent with obstruction or a mass effect observed.

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.

Pancreas

The pancreas is mildly prominent and mottled 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.

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 sub lumbar lymph node is measured at 0.53cm. The omentum is of normal uniform echogenicity.

Other-

The uterine remnant is visualized and appears within normal limits.

ULTRASONOGRAPHIC FINDINGS

- Mildly reduced corticomedullary distinction in both kidneys - The bilateral renal findings are consistent with age-related change.

- Mildly heterogenous liver with numerous ill-defined hypoechoic nodules particularly in the left lobe - The diffuse hepatic changes are non-specific and could be consistent with vacuolar hepatopathy, nodular hyperplasia, inflammatory/immune-mediated disease, fibrosis, extramedullary hematopoiesis, toxic hepatopathy (e.g., copper), infiltrative neoplasia (less likely) or other hepatopathy. The significance of the hypoechoic nodules is unclear. These could represent benign or less likely neoplastic legions.

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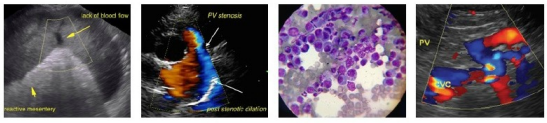

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SECONDARY FINDINGS

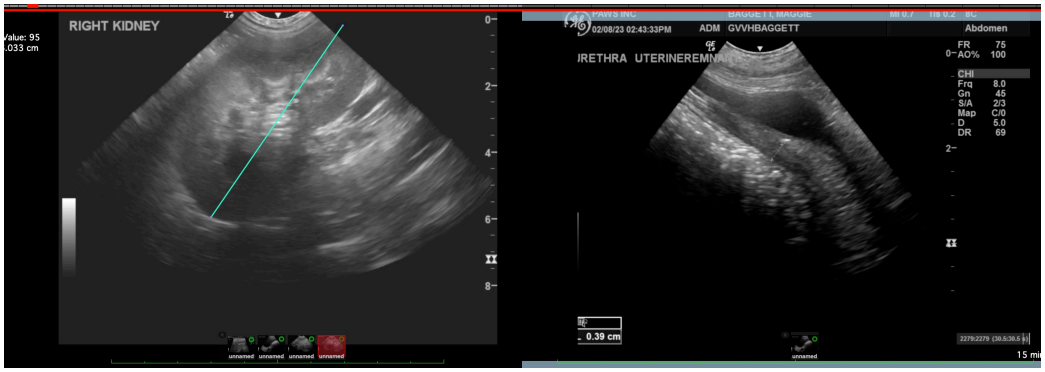
- Mildly prominent mottled pancreas - The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis, or chronic pancreatitis.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious focal lesion responsible for the anorexia and lethargy is not visualized. The liver appears somewhat heterogenous with some ill-defined hypoechoic nodules. This is a nonspecific finding which could be consistent with a primary hepatopathy or even a reactive hepatopathy. Consider the following steps if a primary hepatopathy is suspected.

- 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.
- 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.

If the fever reported is persistent, consider work up for a fever including urinalysis culture, auscultation for a new heart murmur, three view thoracic radiographs, vector borne disease testing, and palpation for neck pain, lumber pain, or joint pain. Screening for Addison's disease with baseline cortisol could also be considered based on the low glucose reported.



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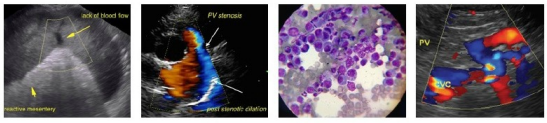

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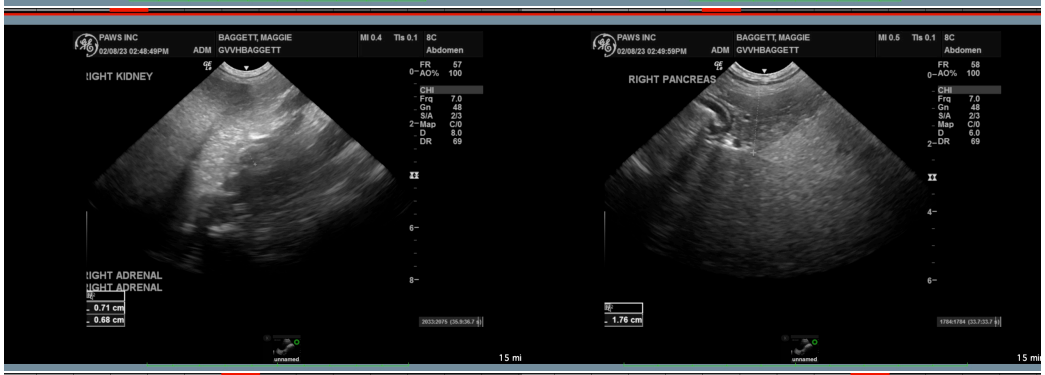

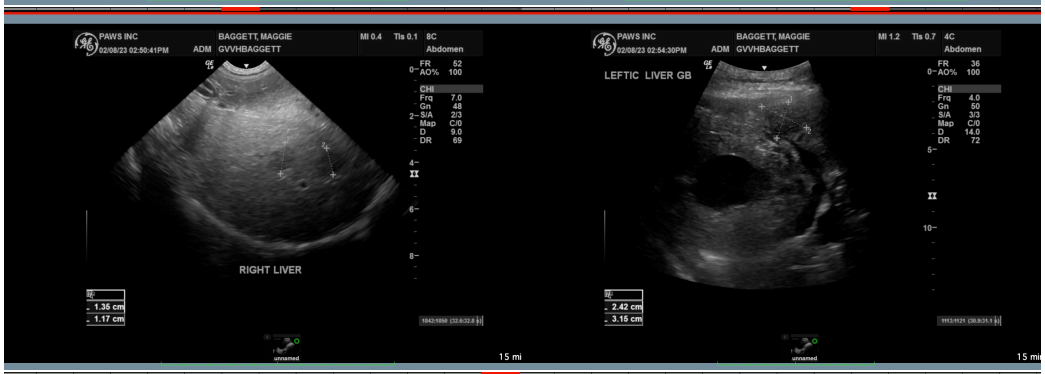

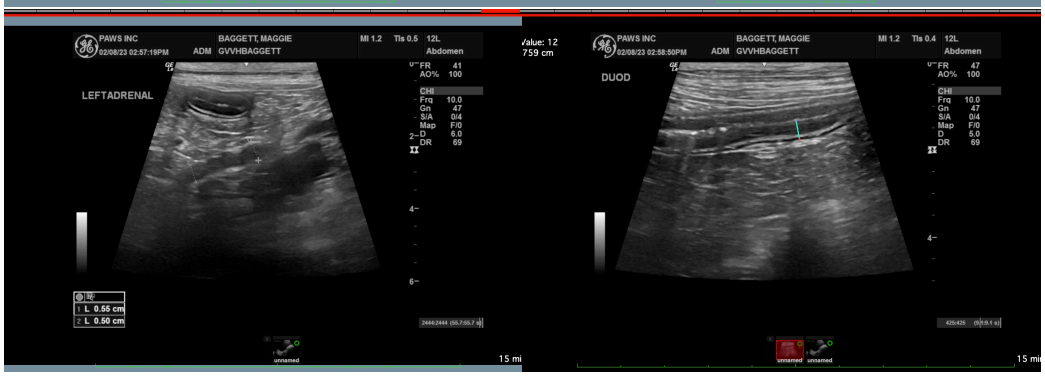

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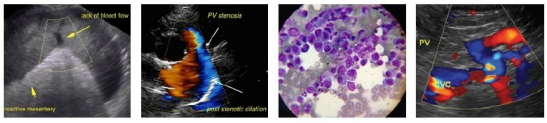

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The information and recommendations provided are based on the images presented by the referring veterinarian/sonographer. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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)

kathleen.sennello@sonopath.com