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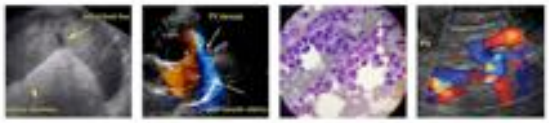


IMAGING PERFORMED BY
pawsonography@gmail.com 530-786-8340

PATIENT

Mattie Bogue

SPECIES

Canine

BREED

Pomeranian

SEX

Spayed Female

AGE

10 years

WEIGHT

10-12 Pounds

INTERPRETED BY

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

IMAGING PERFORMED BY

Loetitia Saint-Jacques, RVT

HOSPITAL NAME

Pleasant Valley VH

REFERRING VET

Dr. Reese

INVOICE

91738

DATE

9/9/21

PRESENTING CLINICAL SIGNS

History: "Mattie" Bogue is a 10 year old female spayed Pomeranian who presented for a pre-dental exam. She has a history of obesity, but other than that has had no major issues. On pre-op bloodwork, she had a markedly elevated ALT 1105 (12-118 IU/L), mod ALP 512 (5-131), AST 641 (15-66 IU/L), a slightly elevated creatinine 1.9 (0.5-1.6), Ca+ 11.7 (8.9-11.4), and a highly elevated WBC 55,600 with neuts 40588 (2060-10500), lymphos 12322 (690-4500) and monos 1668 (0-840). The owner reported no clinical signs of problems, but we were concerned with the magnitude of changes and recommended an U/S before we scheduled a general anesthetic

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 (3.76 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of 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 (3.95 cm). Overall echogenicity is slightly hyperechoic with poor corticomedullary distinction and a typical 1:3 cortex:medulla ratio. There is no evidence of perinephric inflammation or effusion. There is no evidence of pyelectasia, infarcts or hydroureter. Renal vasculature is normal. Pinpoint, non-obstructive nephroliths were noted.

Adrenal Glands

The left adrenal gland is normal in size measuring 0.46 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.

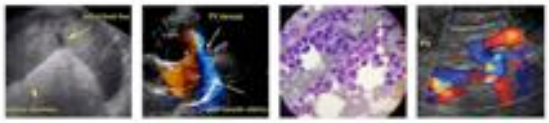
The right adrenal gland is normal in size measuring 0.57 cm at the caudal pole It is observed in its normal position between the cranial aspect of the right kidney and the caudal vena cava. It is normal in appearance (uniformly hypoechoic) and shape with no evidence of a mass effect.

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 large in size, and echogenicity with rounded margins. The parenchyma is heterogenous in echotexture with subtle, indistinct focal mottling. The visible portions of the



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vasculature and biliary tract appear normal. There is a small 0.85 cm hypoechoic nodule visualized. Additionally, the right side of the liver appears somewhat rounded, but there is no change in echogenicity and no distinct mass effect observed. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. Luminal contents are 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 (0.38 cm) and the jejunum measured as normal (0.27 cm). 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 large and hypoechoic to surrounding mesentery. There is no evidence of nodules or cystic lesions. There is evidence of regional mesenteric inflammation. This is consistent with moderate pancreatitis.

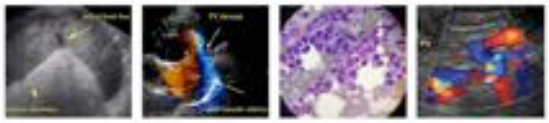
Free Abdomen

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.

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Large, irregular heterogenous liver. 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.
- Mild/moderate pancreatitis.



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SECONDARY FINDINGS:

- Mildly decreased corticomedullary distinction in both kidneys with pinpoint non-obstructive nephroliths. Mild loss of corticomedullary distinction in both kidneys could be consistent with chronic degenerative disease or interstitial nephrosis.

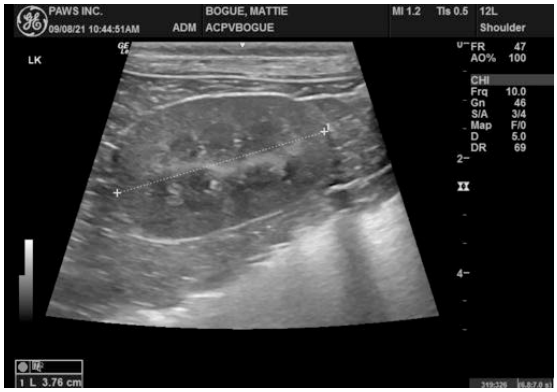
INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

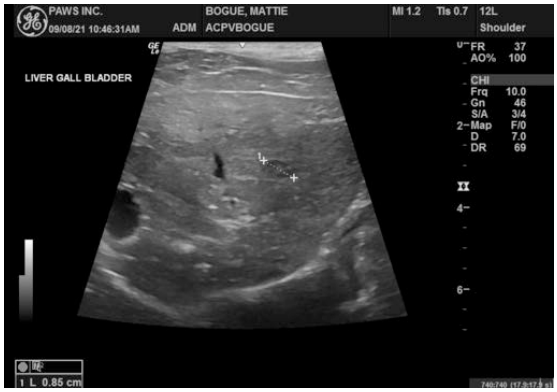
The ultrasonographic changes in the liver were relatively mild. Unfortunately, the sonographic changes do not always reflect the severity or cause of the hepatopathy. The scan today supports a primary hepatopathy as no severe biliary changes were observed.

- 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.

The liver appears somewhat irregular and rounded in shape particularly in the right side. Correlate this with abdominal radiographs. I cannot rule out a very ill-defined, isoechoic mass effect (likely CT would be necessary to differentiate).

Additionally the pancreas is prominent and mottled and the mesentery surrounding the pancreas appears somewhat inflamed. I recommend a quantitative PLI, B12 and folate level to provide additional information regarding the pancreas and small intestine. I recommend symptomatic therapy for pancreatitis and acute liver injury.





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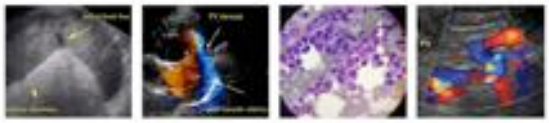

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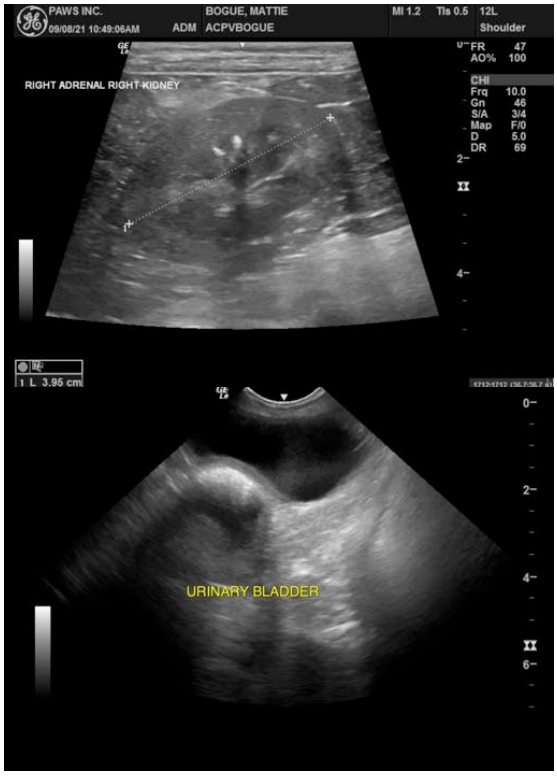

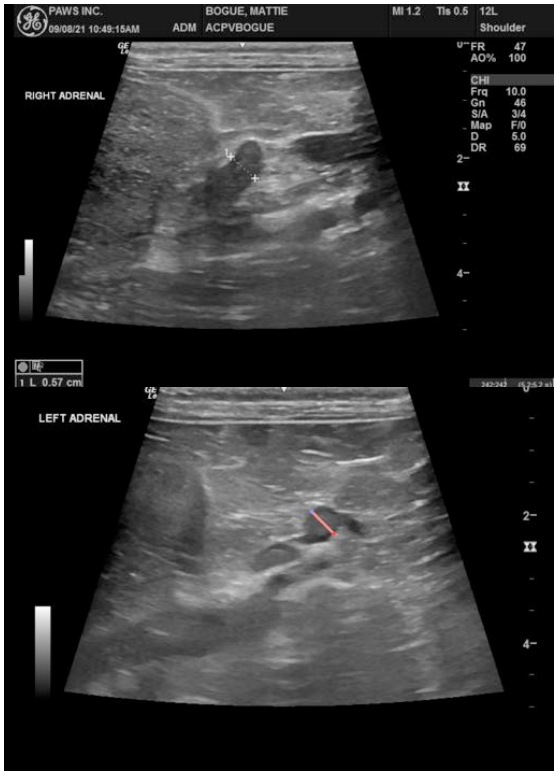

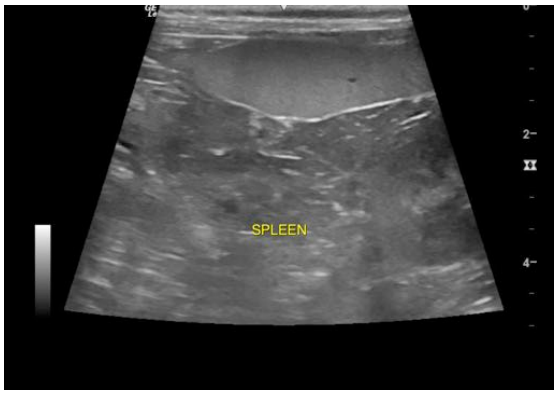

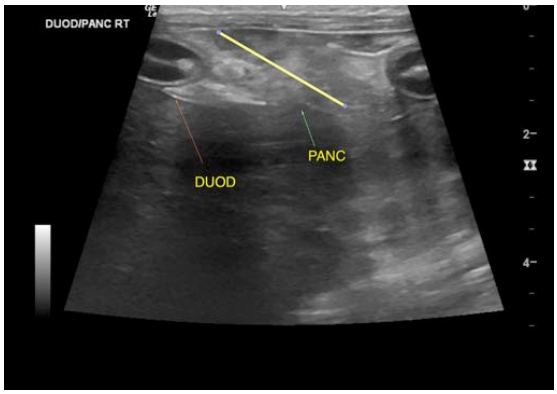

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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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