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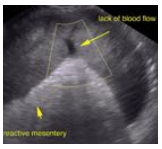
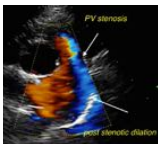
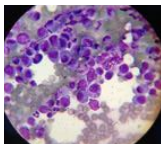
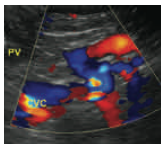

SonoPath.com
1-800-838-4268 info@sonopath.com

PATIENT

Rusty Mitkovski

SPECIES

Canine

BREED

Yorkie

SEX

Neutered male

AGE

11 years

WEIGHT

14.2 lbs

INTERPRETED BY

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

IMAGING PERFORMED BY

Amy Mayhew LVT

HOSPITAL NAME

SVS Imaging Michigan

REFERRING VET

Hidden Spring VC

INVOICE

94497

DATE

12/10/21

PRESENTING CLINICAL SIGNS

History: 12/7/21 Wellness exam. Noted by owner he is not eating as well as before. Abdomen distended noticed by us at exam. X-rays and bloodwork performed. Sent thru email separately. Vaccines are due but delayed until ultrasound results. Takes Heartgard and Simparica. Eats Stella and Chewy freeze dried. Owner reports appetite has decreased in the last 2 weeks and vomited once in the last 2 weeks as well.
Abnormal PE/Chem/CBC/UA Results: Ears/Eyes ok, mm Pink, Stage 2 dental disease, H and L WNL, Abdomen very tense up palpation. Pet seems painful in abdomen. May 2021 BW was WNL. BW from Dec 2021 abnormalities are below. PLT 513,000 ALT 170 ALK 208 CK 211

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 (0.73 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 (4.32 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. Occasional, small cortical cysts were noted. 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 (4.71 cm). Overall echogenicity is normal with adequate corticomedullary distinction and a typical 1:3 cortex:medulla ratio. Small, rare cortical cysts were noted. There is no evidence of 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 0.47 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 0.53 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 and the echotexture is homogenous. The splenic capsule is smooth with no visible irregularities. Rare discrete focal hyperechoic, perivascular parenchymal abnormalities are present. The appearance of these lesions is most consistent with benign splenic myelolipomas. The blood flow through the hilus and splenic parenchyma appears normal.

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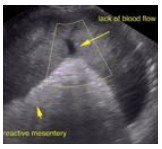
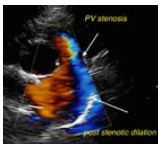
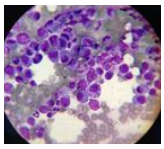
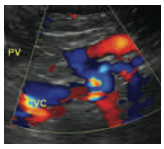

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Liver

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, indistinct, hyperechoic nodules visualized and varied in size from 0.25-1.0 cm. These nodules are poorly defined and given the impression of a benign process, but an underlying neoplastic process cannot be ruled out. The gallbladder lumen is moderately distended. The wall of the gallbladder is not thickened and has a smooth mucosal surface. There is a moderate amount of non-organized echogenic debris. 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 (between 0.3-0.5cm in wall thickness) and the jejunum measured as normal (0.25 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 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 omentum is of normal uniform echogenicity.

ULTRASONOGRAPHIC FINDINGS

PRIMARY FINDINGS:

- Heterogenous liver with ill-defined, hyperechoic nodules. 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. This can be a normal finding in older pets.

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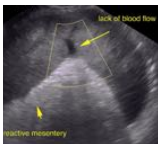
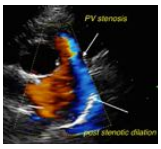
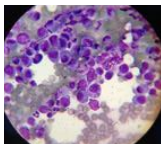
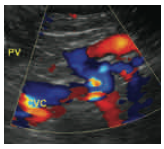

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SECONDARY FINDINGS:

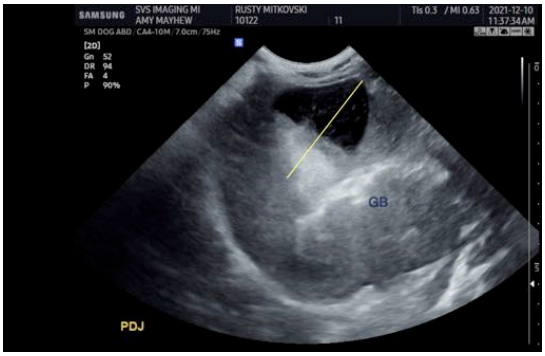
- Prominent, mottled pancreas. The pancreatic changes are most consistent with age-related parenchymal remodeling, potentially secondary to a prior inflammatory episode, early fibrosis or chronic pancreatitis.
- Moderate, hyperechoic, mineralized gallbladder sludge. The significance of the aggregated gallbladder debris is unclear. This could represent an early mucocele, cholestasis, or may be secondary to fasting.

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

An obvious cause for the decreased appetite and lethargy reported is not observed on this scan. No large, focal lesions are identified. There are some subtle, non-specific findigns such as indistinct liver nodules, but this can be seen in some normal older pets. Consider the differential of referred abdominal pain due to back/neck pain. If this is thought unlikely, then consider:

- Liver function test to further evaluate the liver enzyme elevation
- Testing for Leptospirosis
- FNA of the liver
- GI panel to Texas A&M for a qualitative PLI, TLI, cobalamin and folate to screen for possible underlying pancreatic or small intestinal disease, which is not visualized on today's scan
- If GI signs worsen despite supportive care you can consider obtaining GI biopsies.
- Recommend three view thoracic radiographs to look for concurrent intrathoracic disease.

**The history mentions attached blood work and radiographs, unfortunately I was not able to open the files with the radiographs and I did not see additional blood work. I will alert our staff to see how we can make this easier in the future.



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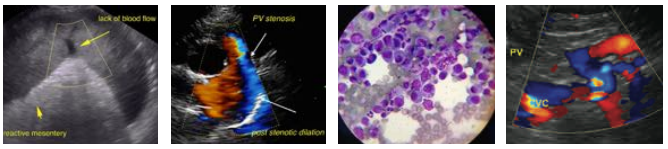

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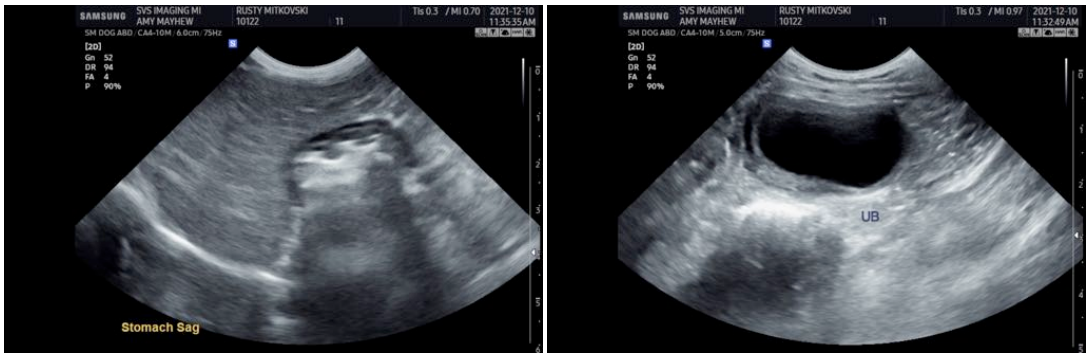

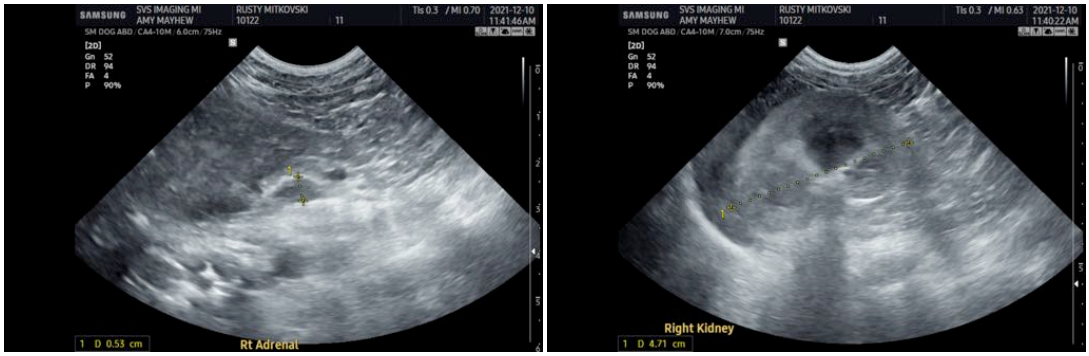

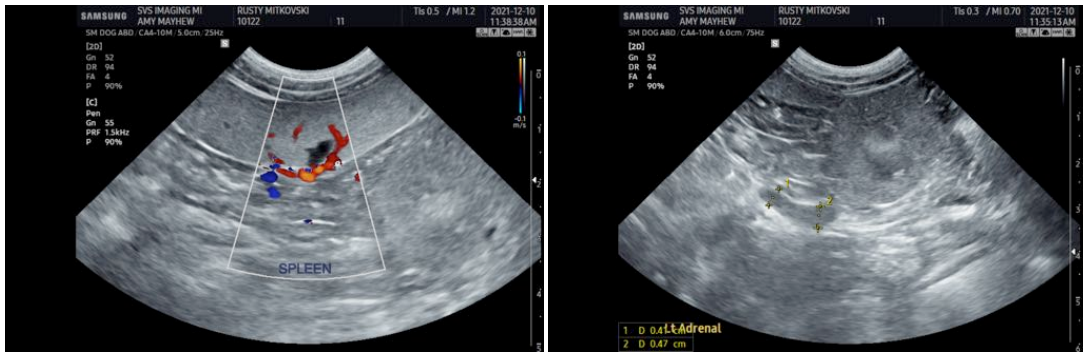

The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

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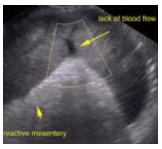

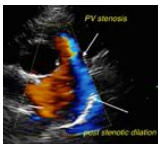

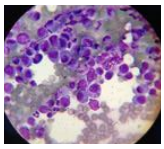
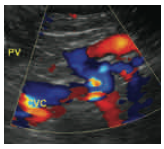

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Thank you for this referral. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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kathleen.sennello@sonopath.com